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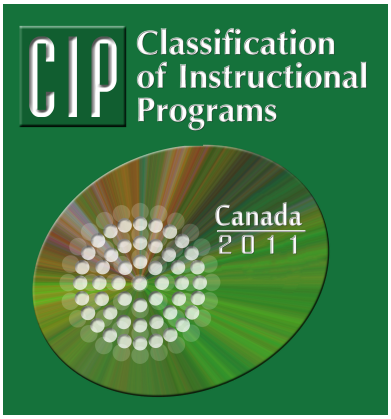
2011



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Classification of Instructional Programs (CIP) Canada

2011

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Preface

CIP Canada 2011 is the first revision of CIP Canada 2000. This revision was accomplished through the joint efforts of Statistics Canada and the National Center for Education Statistics (NCES). NCES is the primary entity in the United States for collecting, analysing and reporting data related to education.

This revision is based on research and consultation conducted separately by Statistics Canada and NCES in their respective countries. The information thus gathered informed the joint decision-making process during which Statistics Canada and NCES agreed on the revisions to be adopted for the common structure, as well as on various additional classes for distinctly Canadian content. Comparability between educational data from the two countries was thus maintained, while continuing to address Canada's distinct needs and circumstances.

The collaborative relationship between Statistics Canada and the National Center for Education Statistics as well as the significant contribution of CIP-users who provided input through the consultation process have made the development of this revised classification possible.

Acknowledgements

This revision of the Classification of Instructional Programs (CIP) was accomplished through the time, effort and co-operation of numerous people in Canada and the United States.

In Canada, CIP was revised under the guidance of Alice Born, Director of Standards Division. CIP Canada could not have been revised without the significant assistance of Statistics Canada's Centre for Education Statistics and the input of provincial ministries of education, educational institutions and others who participated through the consultation process. The contributions of all are gratefully acknowledged.

CIP Canada 2011 is published by Standards Division. The revision was developed by Sandra Mialkowski of Standards Division working closely with Louise Théorèt of the Centre for Education Statistics and supported by Elaine Thomlinson, Anna Morrone, Robert Boucher and Émilie Sénécal of Standards Division. The work was conducted under the supervision of Debra Mair. The Internet version of this publication was created jointly by Sylvain Boucher and Niloufar Zanganeh.

Systems Engineering Division and Administrative and Dissemination Systems Division were responsible for the systems development of the PDF and HTML formats of the classification.

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Abbreviations

The following abbreviations are used in CIP Canada 2011:

AAS	Associate of Applied Science
AC	Air Conditioning
ACH	Air Conditioning and Heating
ACHR	Air Conditioning, Heating and Refrigeration
ACR	Air Conditioning and Refrigeration
AEGD	Advanced Education in General Dentistry
ASL	American Sign Language
ASN	Associate of Science in Nursing
BA	Bachelor of Arts
BArch	Bachelor of Architecture
BCL	Bachelor of Civil Law
Bdiv	Bachelor of Divinity
BLA	Bachelor of Landscape Architecture
BPharm	Bachelor of Pharmacy
BS	Bachelor of Science
BSc	Bachelor of Science
BScN	Bachelor of Science in Nursing
BSLA	Bachelor of Science in Landscape Architecture
BSN	Bachelor of Science in Nursing
CA	Chartered Accountant
CAD	Computer-aided Drafting
CAIB	Canadian Accredited Insurance Broker
CAM	Computer-aided Manufacturing
CCIE	Cisco Certified Internetwork Expert
CCNA	Cisco Certified Network Associate
CCNP	Cisco Certified Network Professional
CDA	Certified Dental Assistant
Cert.	Certificate
CGA	Certified General Accountant
CIS	Commonwealth of Independent States
CMA	Certified Management Accountant
CNC	Computer Numerical Control
CPM	Certified Professional Midwife
CPR	Cardiopulmonary Resuscitation
DC	Doctor of Chiropractic Medicine
DDS	Doctor of Dental Surgery
Dipl.	Diploma
DMD	Doctor of Medical Dentistry

DNP	Doctorate of Nursing Practice
DO	Doctor of Osteopathic Medicine
DPH	Dental Public Health
DPM	Doctor of Podiatric Medicine
DSW	Developmental Services Worker
DTR	Dietetic Technician, Registered
DVM	Doctor of Veterinary Medicine
ECE	Early Childhood Education
ECG	Electrocardiograph
EEG	Electroencephalograph
EKG	Electrocardiograph
EMR	Emergency Medical Responder
EMT	Emergency Medical Technician
EMT-A	Emergency Medical Technician - Ambulance
EMT-P	Emergency Medical Technician - Paramedic
ESL	English as a Second Language
FIIC	Fellow of the Insurance Institute of Canada
FSL	French as a Second Language
GIS	Geographic Information Systems
HAC	Heating and Air Conditioning
HACR	Heating, Air Conditioning and Refrigeration
HRAC	Heating, Refrigeration and Air Conditioning
HVAC	Heating, Ventilation and Air Conditioning
HVACR	Heating, Ventilation, Air Conditioning and Refrigeration
IT	Information Technology
JD	Juris Doctor
JSD/SJD	Doctor of Science of Law
LAN	Local Area Network
LLB	Bachelor of Laws
LLD	Doctor of Laws
LLM	Master of Laws
LM	Licensed Midwife
LPN	Licensed Practical Nurse
LVN	Licensed Vocational Nurse
MA	Master of Arts
MArch	Master of Architecture
MCJ	Master of Criminal Justice
MCL	Master of Comparative Law
MCSA	Microsoft Certified Systems Administrator
MCSE	Microsoft Certified Systems Engineer
MCSE	Microsoft Certified Systems Engineer
MCTS	Microsoft Certified Technology Specialist

MCTS	Microsoft Certified Techhnology Specialist
MD	Medical Doctor
MDiv	Master of Divinity
MJ	Master of Jurisprudence
MLA	Master of Landscape Architecture
MLI	Master of Legal Institutions
MPH	Master of Public Health
MRI	Magnetic Resonance Imaging
MS	Master of Science
MSc	Master of Science
MScN	Master of Science in Nursing
MSL	Master of Studies in Law
MSLA	Master of Science in Landscape Architecture
MSN	Master of Science in Nursing
ND	Naturopathic Doctor
OD	Doctor of Optometry
OR	Operating Room
PharmD	Doctor of Pharmacy
PHCNP	Primary Health Care Nurse Practitioner
PhD	Doctor of Philosophy
PSW	Personal Support Worker
QSL	Quebec Sign Language
RA	Rehabilitation Assistant
RCMP	Royal Canadian Mounted Police
RD	Registered Dietitian
RDA	Registered Dental Assistant
RDH	Registered Dental Hygienist
RETP	Reserve Entry Training Plan
RMT	Registered Massage Therapist
RN	Registered Nurse
ROTP	Regular Officer Training Plan
RPN	Registered Practical Nurse
RV	Recreation Vehicle
SAR	Search and Rescue Technician
SJD	Doctor of Science of Law
TESL	Teaching English as a Second Language
TESOL	Teaching English to Speakers of Other Languages
WAN	Wide Area Network
WHMIS	Workplace Hazardous Materials Information Systems

Introduction

Background

The Classification of Instructional Programs (CIP) was developed in 1980 by the National Center for Education Statistics (NCES) in the United States. NCES released updates in 1985, 1990, 2000 and 2010. CIP Canada 2011 is the second Canadian version of this classification; the first being CIP Canada 2000.

CIP is designed to classify 'instructional programs', which are defined as follows:

A combination of courses and experiences that is designed to accomplish a predetermined objective or set of allied objectives such as preparation for advanced study, qualification for an occupation or range of occupations or simply the increase of knowledge and understanding. (Chismore and Hill, A Classification of Educational Subject Matter, 1978, NCES, p. 165).

Although CIP was specifically designed for the classification of instructional programs, it has also been used to classify courses, and will likely continue to be used for that purpose. CIP can also be used to classify and understand other units. For example, one might use CIP codes to classify institutions by programs offered, students and graduates by programs studied or faculty by programs taught.

The organizing principle behind CIP is 'field of study'. At Statistics Canada, a field of study is defined as a "discipline or area of learning or training" (Statistics Canada, 2006 Census Dictionary, Catalogue no. 92-566-XIE).

Prior to adopting CIP, Statistics Canada had several field of study classifications. CIP was chosen to replace them because it was a detailed and proven classification with a 20-year history, was up to date, had an established mechanism for updates and a track record of regular updates, and had a proper hierarchical coding structure. As an added advantage, it would provide comparability with the United States. CIP is now the Statistics Canada standard for field of study classification.

Structure of the classification

The Classification of Instructional Programs, Canada is a three-tiered hierarchical arrangement of classes with successive levels of disaggregation. Unlike the previous version, CIP and CIP Canada are no longer divided into chapters.

1. The first level is made up of 'series', which are identified using two-digit codes. The series are the most general groupings of related programs. CIP Canada 2011 contains 49 series.
2. The second level is made up of 'subseries', which are identified using four-digit codes. The subseries provide an intermediate grouping of programs that have comparable content and objectives. CIP Canada 2011 contains 387 subseries.
3. The third level is made up of 'instructional program classes', which are identified using six-digit codes. Instructional program classes represent the specific instructional programs and are the most detailed level within CIP. They are the basic unit of analysis used in reporting instructional programs. CIP Canada 2011 contains 1,688 instructional program classes.

The format for class labels at the series level consists of a two-digit code followed by a period, then by the program title. For example: 01. Agriculture, agriculture operations and related sciences.

The format for class labels at the subseries level consists of the two-digit series code, followed by a period, then by a further two digits. The code is followed by the program title. For example: 01.01 Agricultural business and management. There is at least one subseries within every series.

The format for class labels at the instructional program class level consists of the four-digit subseries code, followed by a further two digits. This is followed by the program title. For example: 01.0101 Agricultural business and management, general. There is at least one instructional program class within every subseries.

Program descriptions identify the objectives and content of the instructional programs. Program descriptions using the phrase "any program that focuses on" describes academic and general programs. Program descriptions using phrases such as "program that prepares individuals to" or "program that generally prepares individuals to" describe programs designed to prepare individuals for specific occupations.

Sample program descriptions:

01. Agriculture, agriculture operations and related sciences. This series comprises instructional programs that focus on agriculture and related sciences and that prepare individuals to apply specific knowledge, methods, and techniques to the management and performance of agricultural operations.

01.01 Agricultural business and management. This subseries comprises instructional program classes 01.0101 to 01.0199.

01.0102 Agribusiness/agricultural business operations. This instructional program class comprises any program that prepares individuals to manage agricultural businesses and agriculturally related operations within diversified corporations. These programs include courses in agriculture, agricultural specialization, business management, accounting, finance, marketing, planning, human resources management, and other managerial responsibilities.

Within each subseries, instructional program classes are listed in numerical sequence. Classes with a more general focus appear at the beginning of the sequence. A residual class appears at the end of the sequence to cover instructional programs that belong in the subseries but are not covered by another instructional program class. For example, within subseries 01.01, Agricultural business and management, instructional program class 01.0101 Agricultural business and management, general appears first and instructional program class 01.0199, Agricultural business and management, other appears last.

Occasional gaps may occur in the numerical sequence of classes. They result either from deletions of classes that appeared in previous editions of CIP or from moves of classes to new locations in the classification.

Titles are generally one word or phrase, such as 'Psychology' or 'Civil engineering', that conveys the most commonly used or accepted name describing a program.

In some cases, more than one title may be used for the same instructional program. To reflect this, the title of the corresponding instructional program uses words or phrases separated by slashes. This is done in the following situations:

- two or more commonly accepted names exist for the same program, or
- the same program has different names at different educational levels, or
- the program has undergone a recent name change but many institutions still use the older name for the program.

For example, subseries 26.07. Zoology/animal biology includes programs that focus on the study of zoology and/or animal biology.

CIP Canada 2011 revision methodology

Statistics Canada and the National Center for Education Statistics in the United States worked jointly on this revision of CIP. Separate consultations with users of the classification in the two countries identified areas where updates were required to clarify class boundaries, update information or include new programs. Agreement was reached between the two countries on all revisions: on new classes, on the placement of specific examples and on the restructuring of some series. All new and revised class descriptions were developed jointly, except those for

classes appearing only in CIP Canada. This collaboration allowed the two national versions of CIP to be revised in a way that maintains the high degree of commonality between them and continues to permit close comparability between Canadian and U.S. educational data and to facilitate a common approach to future classification revisions.

Even where no current Canadian programs are known to exist for CIP 2010 classes, these classes were included in CIP Canada 2011. This was done to support the coding of responses received by surveys such as the National Household Survey (NHS) which ask respondents to report the field of study of their highest certificate, degree or diploma. As this qualification may have been obtained outside of Canada, retaining all CIP classes is necessary to support coding. The one exception to this occurred in Series 43. Security and protective services where US CIP classes 43.0301 Homeland security, 43.0303 Critical infrastructure protection, 43.0304 Terrorism and counterterrorism operations, and 43.0399 Homeland security, other were collapsed into CIP Canada 43.0399 Security and protective services, specialized programs, other to better reflect the specificity of instructional programs in Canada.

With the revised structure agreed to, Statistics Canada then proceeded to fully develop CIP Canada by researching appropriate examples and exclusions for all new and revised instructional program classes, ensuring new class descriptions reflected Canadian terminology and adding the classes that had been agreed would be specific to CIP Canada.

As in the 2000 version of CIP Canada, illustrative examples accompany most CIP Canada 2011 instructional program classes. Whereas in CIP Canada 2000 they appeared under the heading "Examples of included programs", in CIP Canada 2011, the heading "Illustrative example(s)" has been used. In addition to these examples, CIP Canada 2011 includes additional illustrative examples for many of its instructional program classes. On the web site, these are found through the link to "all examples" and in the PDF they are included in the alphabetical index. As in the past, the examples were developed based mainly on program names provided in response to the previous Census of Population. The wording used thus reflects the way respondents would typically describe these programs. However, CIP Canada 2011 has also tried to include more program titles actually used at Canadian postsecondary institutions.

Exclusions also accompany most instructional program classes. Exclusions clarify the boundaries of the instructional program class by identifying related instructional program classes and similar programs that are classified elsewhere. They appear under the heading "Exclusion(s)", which replaces the CIP Canada 2000 heading "Examples of excluded programs". The instructional programs cited in the Exclusions were selected from among the examples of related instructional program classes.

The lists of illustrative examples and exclusions are meant to facilitate the use of CIP, not to be exhaustive.

Comparison of CIP 2000 and CIP 2011

Number of classes

To incorporate the new programs and specializations now being offered in postsecondary institutions, 271 new instructional program classes have been added including, for example:

05.0210	Disability studies
16.0105	Applied linguistics
50.0411	Game and interactive media design

To incorporate these additional instructional programs and to restructure certain series, 40 new subseries have also been added, including:

15.16	Nanotechnology
43.03	Security and protective services, specialized programs
51.38	Registered nursing, nursing administration, nursing research and clinical nursing

The full list of new classes and their relationship to the classes of CIP Canada 2000 is shown in the concordance tables. (Concordances are forthcoming)

New Canada-only classes

Among the new classes were the following that relate to Canadian content only and are found only in CIP Canada:

Code	Class
28.08	Military science, leadership and operational art CAN
28.0801	Military science, leadership and operational art CAN
29.05	Military technologies and applied sciences CAN
29.0501	Military technologies and applied sciences CAN
51.0817	Rehabilitation assistant CAN
51.0921	Combined laboratory and X-ray technology CAN
51.3823	Registered psychiatric nurse/nursing CAN
55.13	French rhetoric and composition/writing studies CAN
55.1301	French writing, general CAN
55.1304	French rhetoric and composition CAN
55.1399	French rhetoric and composition/writing studies, other CAN
55.1401	French literature, general CAN
55.1405	Children's and adolescent literature, French CAN
55.1499	French literature, other CAN

Restructuring

Four series, 23. English, 42. Psychology, 55. French language and literature/letters and 60. Dental, medical and veterinary residency programs were restructured, as was the subseries 51.16 Nursing. This was done to better organize the information related to these instructional program areas. These changes are reflected in the increased number of subseries.

The relationship between the organization of these series and subseries in CIP Canada 2011 and their organization in CIP Canada 2000 is shown in the concordance tables. (Concordances are forthcoming)

Title changes

The names of many classes were changed for clarity, accuracy or to reflect terminology changes. For a full list of title changes, see the concordance. (Concordances are forthcoming)

Changes to examples

All examples were reviewed for usefulness and accuracy. This included not only the illustrative examples but all examples associated with each instructional program class, in both English and French. Care was taken to ensure that all content illustrated by the examples in one language was also conveyed by the examples in the other language. The examples used are illustrative of possible survey responses and of actual program names.

Variant of CIP - Primary groupings

A variant of CIP has been developed jointly by Statistics Canada and the National Center for Education Statistics. It is based on work undertaken as a part of the creation of the North American Product Classification System (NAPCS) by Canada, the United States and Mexico.

The variant is comprised of thirteen 'primary groupings' that are a convenient and useful basis for summarizing and analysing more detailed classes. This variant must be used for the presentation or analysis of highly aggregated data.

Two general observations about the primary groupings should be kept in mind:

1. Groupings are based on field of study and are independent of the level at which the study was undertaken. Series 21. Pre-technology education/pre-industrial arts programs and series^{CAN} 53. High school/secondary diploma and certificate programs are exceptions to this rule; these two series are included in the Other category.
2. Primary groupings comprise entire series, with one exception: series 30. Multidisciplinary/interdisciplinary studies has been split into its constituent subseries. Those subseries have then been grouped with the closest equivalent series.

The primary groupings are as follows:

Variant of CIP - Primary groupings

Primary groupings	Constituent series and subseries
00 Personal improvement and leisure	32. Basic skills (not for credit)
	33. Citizenship activities (not for credit)
	34. Health-related knowledge and skills (not for credit)
	35. Interpersonal and social skills (not for credit)
	36. Leisure and recreational activities (not for credit)
	37. Personal awareness and self-improvement (not for credit)
01 Education	13. Education
02 Visual and performing arts, and communications technologies	10. Communications technologies/technicians and support services
	50. Visual and performing arts
03 Humanities	16. Aboriginal and foreign languages, literatures and linguistics
	23. English language and literature/letters
	24. Liberal arts and sciences, general studies and humanities
	30.13 Medieval and renaissance studies
	30.21 Holocaust and related studies
	30.22 Classical and ancient studies
	30.29 Maritime studies
	38. Philosophy and religious studies
	39. Theology and religious vocations
	54. History
	55. French language and literature/letters
04 Social and behavioural sciences and law	05. Area, ethnic, cultural, gender, and group studies

	09. Communication, journalism and related programs
	19. Family and consumer sciences/human sciences
	22. Legal professions and studies
	30.05 Peace studies and conflict resolution
	30.10 Biopsychology
	30.11 Gerontology
	30.14 Museology/museum studies
	30.15 Science, technology and society
	30.17 Behavioural sciences
	30.20 International/global studies
	30.23 Intercultural/multicultural and diversity studies
	30.25 Cognitive science
	30.26 Cultural studies/critical theory and analysis
	30.28 Dispute resolution
	30.31 Human computer interaction
	30.33 Sustainability studies
	42. Psychology
	45. Social sciences
05 Business, management and public administration	30.16 Accounting and computer science
	44. Public administration and social service professions
	52. Business, management, marketing and related support services
06 Physical and life sciences and technologies	26. Biological and biomedical sciences
	30.01 Biological and physical sciences
	30.18 Natural sciences
	30.19 Nutrition sciences
	30.27 Human biology
	30.32 Marine sciences
	40. Physical sciences
	41. Science technologies/technicians
07 Mathematics, computer and information sciences	11. Computer and information sciences and support services
	25. Library science
	27. Mathematics and statistics
	30.06 Systems science and theory
	30.08 Mathematics and computer science
	30.30 Computational science
08 Architecture, engineering, and related technologies	04. Architecture and related services
	14. Engineering
	15. Engineering technologies and engineering-related fields

	30.12 Historic preservation and conservation
	46. Construction trades
	47. Mechanic and repair technologies/technicians
	48. Precision production
09 Agriculture, natural resources and conservation	01. Agriculture, agriculture operations and related sciences
	03. Natural resources and conservation
10 Health and related fields	31. Parks, recreation, leisure and fitness studies
	51. Health professions and related programs
	60. Dental, medical and veterinary residency programs
11 Personal, protective and transportation services	12. Personal and culinary services
	28. Military science, leadership and operational art
	29. Military technologies and applied sciences
	43. Security and protective services
	49. Transportation and materials moving
12 Other	21. Pre-technology education/pre-industrial arts programs
	30.99 Multidisciplinary/interdisciplinary studies, other
	53. High school/secondary diploma and certificate programs

Assigning CIP codes to instructional programs

To ensure consistency at the national level, Statistics Canada codes program data submitted from household surveys and from administrative data in institutions' files. This coding is done with the help of software that has been developed to provide a combination of auto-coding and computer-assisted coding. The basic approach is described below. This will be of particular interest to institutions or organizations that need to do their own CIP coding.

The basic coding tool is the classification manual available in electronic format.

In addition to the manual, those coding programs using CIP should ensure that they also have the following information:

- program title
- program description
- type of institution
- duration of study
- nature of the academic award

With this information at hand, the coding of a single-discipline instructional program is relatively straightforward. The coder selects all likely series and from among those chooses the most applicable. The process is then repeated at the subseries level, and again at the instructional program class level. This top-down process is facilitated by referring to the illustrative examples and exclusions in the manual.

Several examples are presented to show the coding process.

Suppose the coder has the following information:

- program title: Canadian history
- program description: five-credit MA through department of history, faculty of arts and sciences
- type of institution: university
- duration of study: one year postgraduate
- academic award: MA

The academic award confirms that the program is a credit course. The coder will next try to identify the appropriate two-digit series. In this case, from the title and description, series 54. History is the clear choice. Within series 54., only subseries 54.01 History exists. Within 54.01, instructional program class 54.0107 Canadian history is selected. By referring to the illustrative examples, the coder will find that Canadian history is explicitly part of this class. This confirms the results of the top-down process. The institution type and duration of study were not used.

In a second case, the coder has the following information:

- program title: Mathematical physics
- program description: five-credit MSc through department of physics, faculty of science
- type of institution: university
- duration of study: postgraduate
- academic award: MSc

The academic award confirms that the program is a credit course. The coder will next try to identify the appropriate two-digit series-in this case, series 27. Mathematics and statistics, series 40. Physical sciences and series 41. Science technologies/technicians are possibilities. Based on the program title and description, the program is not pure mathematics, nor is it technological in nature. This rules out series 27. and 41. Within series 40., subseries 40.08 Physics is most applicable. Within 40.08, instructional program class 40.0810 Theoretical and mathematical physics is selected. By referring to the illustrative examples, the coder will find that Mathematical physics is part of this class. Use of the illustrative examples in this way confirms the results of the top-down process. The institution type and duration of study were not used.

In a third case, the coder has the following information:

- program title: Film law
- program description: Master of Laws through faculty of law with specialization in film law
- type of institution: university
- duration of study: postgraduate
- academic award: Master of Laws (LLM)

The academic award confirms that the program is a credit course. The coder will next try to identify the appropriate two-digit series. Possible candidates are series 22. Legal professions and studies and series 50. Visual and performing arts. Series 50. focuses on the actual performance. Series 22. prepares individuals for the legal profession and related research. Based on the program title and description, series 22. is the clear choice. This is an advanced law degree and therefore, within series 22., the program belongs in subseries 22.02 Legal research and advanced professional studies (Post-LLB/JD). Within 22.02, instructional program class 22.0212 Intellectural property law (LLM, LLD, JSD/SJD) is selected. Referring to the illustrative examples confirms this.

In a fourth case, the coder has the following information:

- program title: Truck and coach mechanic

- program description: This apprenticeship certificate program completes the in-school requirements for the truck and coach technician apprentices. Students are offered instruction in subjects such as trade practices and auxiliary systems, engine systems, electrical systems, fuel systems, drive trains, and steering, suspension, and brake systems.
- type of institution: community college
- duration of study: one year
- academic award: certificate

The academic award and duration of study, together, confirm that the program is a credit course. The top-down process continues as previously. Using the institution type, program title and program description, the coder will choose series 47. Mechanic and repair technologies/technicians, subseries 47.06 Vehicle maintenance and repair technologies, and then instructional program class 47.0613 Medium/heavy vehicle and truck technology/technician. By referring to the illustrative examples, the coder will find that Truck and coach mechanic is part of this class and thereby confirm the coding choice.

The coding of combined majors, also called 'double majors' or 'joint majors,' and multidisciplinary programs follows the same top-down approach. The difference here involves the choice of residual class in the event that there is no specific class for the combined program. The approach to combined majors and multidisciplinary studies is as follows:

- Proceeding top-down, the coder tries to find an instructional program class that explicitly covers the combined program. If such a class is found, the program can normally be assigned directly to that class. For example, a double major involving 11.0501 Computer systems analysis/analyst and 27.0301 Applied mathematics, general would be coded to 30.0801 Mathematics and computer science.
- Otherwise, if the component disciplines belong to the same subseries-but not the same instructional program class-the program can normally be coded to the residual category (a class ending in 99) within that subseries. For example, a double major involving 14.0902 Computer hardware engineering and 14.0903 Computer software engineering would be coded to 14.0999 Computer engineering, other.
- Otherwise, if the component disciplines belong to the same series-but not the same subseries-the program can normally be coded to the residual category (a class ending in 9999) within that series. For example, a double major involving 14.0902 Computer hardware engineering and 14.1101 Engineering mechanics would be coded to 14.9999 Engineering, other.
- Otherwise, if the component disciplines belong to different series, the program is normally coded to instructional program class 30.9999 Multidisciplinary/interdisciplinary studies, other. For example, a double major involving 14.0902 Computer hardware engineering and 27.0301 Applied mathematics, general would be coded to 30.9999 Multidisciplinary/interdisciplinary studies, other.
- An exception to the use of 30.9999 involves combined/joint language majors. Language studies are covered by series 16. Aboriginal and foreign languages, literatures and linguistics, series 23. English language and literature/letters and series 55. French language and literature/letters. Where programs involve combinations belonging to two or more of these series, the combined programs are coded to residual instructional program classes within series 16. Aboriginal and foreign languages, literatures and linguistics. For example, a combined French/Spanish major is coded to 16.0999 Romance languages, literatures and linguistics, other. For similar reasons, a combined French/German major or a combined French/English major is coded to 16.9999 Aboriginal and foreign languages, literatures and linguistics, other.

Revision cycle

CIP has a 10-year revision cycle. Revising a statistical classification involves a complete review of the conceptual basis of the classification as well as a review of user needs and available tools. Part of that review involves determining whether proposed changes would work better than the current practices and thus warrant a revised version of the classification.

Between revisions, updates can be made to incorporate new instructional programs being offered.

Definition of superscripts

CIP classes which are comparable between Canada and the United States have identical codes. Classes that apply only in Canada use a CIP code not used in the United States and are highlighted by means of a superscript appearing at the end of the class title.

The superscript symbol used is:

CAN	Canadian class only

Classification structure

01. Agriculture, agriculture operations and related sciences

01.00 Agriculture, general
- 01.0000 Agriculture, general

01.01 Agricultural business and management
- 01.0101 Agricultural business and management, general
- 01.0102 Agribusiness/agricultural business operations
- 01.0103 Agricultural economics
- 01.0104 Farm/farm and ranch management
- 01.0105 Agricultural/farm supplies retailing and wholesaling
- 01.0106 Agricultural business technology
- 01.0199 Agricultural business and management, other

01.02 Agricultural mechanization
- 01.0201 Agricultural mechanization, general
- 01.0204 Agricultural power machinery operation
- 01.0205 Agricultural mechanics and equipment/machine technology
- 01.0299 Agricultural mechanization, other

01.03 Agricultural production operations
- 01.0301 Agricultural production operations, general
- 01.0302 Animal/livestock husbandry and production
- 01.0303 Aquaculture
- 01.0304 Crop production
- 01.0306 Dairy husbandry and production
- 01.0307 Horse husbandry/equine science and management
- 01.0308 Agroecology and sustainable agriculture
- 01.0309 Viticulture and enology
- 01.0399 Agricultural production operations, other

01.04 Agricultural and food products processing
- 01.0401 Agricultural and food products processing

01.05 Agricultural and domestic animal services
- 01.0504 Dog/pet/animal grooming
- 01.0505 Animal training
- 01.0507 Equestrian/equine studies
- 01.0508 Taxidermy/taxidermist
- 01.0599 Agricultural and domestic animal services, other

01.06 Applied horticulture/horticultural business services
- 01.0601 Applied horticulture/horticulture operations, general
- 01.0603 Ornamental horticulture
- 01.0604 Greenhouse operations and management
- 01.0605 Landscaping and groundskeeping
- 01.0606 Plant nursery operations and management
- 01.0607 Turf and turfgrass management
- 01.0608 Floriculture/floristry operations and management
- 01.0699 Applied horticulture/horticultural business services, other

01.07 International agriculture
- 01.0701 International agriculture

01.08 Agricultural public services
- 01.0801 Agricultural and extension education services
- 01.0802 Agricultural communication/journalism
- 01.0899 Agricultural public services, other

01.09 Animal sciences
- 01.0901 Animal sciences, general
- 01.0902 Agricultural animal breeding
- 01.0903 Animal health
- 01.0904 Animal nutrition
- 01.0905 Dairy science
- 01.0906 Livestock management
- 01.0907 Poultry science
- 01.0999 Animal sciences, other

01.10 Food science and technology
- 01.1001 Food science
- 01.1002 Food technology and processing
- 01.1099 Food science and technology, other

01.11 Plant sciences
- 01.1101 Plant sciences, general
- 01.1102 Agronomy and crop science
- 01.1103 Horticultural science
- 01.1104 Agricultural and horticultural plant breeding
- 01.1105 Plant protection and integrated pest management
- 01.1106 Range science and management
- 01.1199 Plant sciences, other

01.12 Soil sciences
- 01.1201 Soil science and agronomy, general
- 01.1202 Soil chemistry and physics
- 01.1203 Soil microbiology
- 01.1299 Soil sciences, other

01.99 Agriculture, agriculture operations and related sciences, other
- 01.9999 Agriculture, agriculture operations and related sciences, other

03. Natural resources and conservation

03.01 Natural resources conservation and research
- 03.0101 Natural resources/conservation, general
- 03.0103 Environmental studies
- 03.0104 Environmental science
- 03.0199 Natural resources conservation and research, other

03.02 Natural resources management and policy
- 03.0201 Natural resources management and policy, general
- 03.0204 Natural resource economics
- 03.0205 Water, wetlands and marine resources management
- 03.0206 Land use planning and management/development
- 03.0207 Natural resource recreation and tourism
- 03.0208 Natural resources law enforcement and protective services
- 03.0299 Natural resources management and policy, other

03.03 Fishing and fisheries sciences and management
03.0301 Fishing and fisheries sciences and management

03.05 Forestry
03.0501 Forestry, general
03.0502 Forest sciences and biology
03.0506 Forest management/forest resources management
03.0508 Urban forestry
03.0509 Wood science and wood products/pulp and paper technology
03.0510 Forest resources production and management
03.0511 Forest technology/technician
03.0599 Forestry, other

03.06 Wildlife and wildlands science and management
03.0601 Wildlife, fish and wildlands science and management

03.99 Natural resources and conservation, other
03.9999 Natural resources and conservation, other

04. Architecture and related services

04.02 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)
04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)

04.03 City/urban, community and regional planning
04.0301 City/urban, community and regional planning

04.04 Environmental design/architecture
04.0401 Environmental design/architecture

04.05 Interior architecture
04.0501 Interior architecture

04.06 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD)
04.0601 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD)

04.08 Architectural history and criticism
04.0801 Architectural history and criticism

04.09 Architectural sciences and technology
04.0901 Architectural technology/technician
04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)
04.0999 Architectural sciences and technology, other

04.10 Real estate development
04.1001 Real estate development

04.99 Architecture and related services, other
04.9999 Architecture and related services, other

05. Area, ethnic, cultural, gender, and group studies

05.01 Area studies
05.0101 African studies

05.0102 American/United States studies/civilization
05.0103 Asian studies/civilization
05.0104 East Asian studies
05.0105 Russian, Central European, East European and Eurasian studies
05.0106 European studies/civilization
05.0107 Latin American studies
05.0108 Near and Middle Eastern studies
05.0109 Pacific Area/Pacific Rim studies
05.0110 Russian studies
05.0111 Scandinavian studies
05.0112 South Asian studies
05.0113 Southeast Asian studies
05.0114 Western European studies
05.0115 Canadian studies
05.0116 Balkan studies
05.0117 Baltic studies
05.0118 Slavic studies
05.0119 Caribbean studies
05.0120 Ural-Altaic and Central Asian studies
05.0121 Commonwealth studies
05.0122 Regional studies (U.S., Canadian, foreign)
05.0123 Chinese studies
05.0124 French studies
05.0125 German studies
05.0126 Italian studies
05.0127 Japanese studies
05.0128 Korean studies
05.0129 Polish studies
05.0130 Spanish and Iberian studies
05.0131 Tibetan studies
05.0132 Ukraine studies
05.0133 Irish studies
05.0134 Latin American and Caribbean studies
05.0199 Area studies, other

05.02 Ethnic, cultural minority, gender, and group studies

05.0200 Ethnic studies
05.0201 African American/Black studies
05.0202 Aboriginal studies
05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies
05.0206 Asian American studies
05.0207 Women's studies
05.0208 Gay/lesbian studies
05.0209 Folklore studies
05.0210 Disability studies
05.0211 Deaf studies
05.0299 Ethnic, cultural minority, gender, and group studies, other

05.99 Area, ethnic, cultural, gender, and group studies, other

05.9999 Area, ethnic, cultural, gender, and group studies, other

09. Communication, journalism and related programs

09.01 Communication and media studies

09.0100 Communication, general
09.0101 Speech communication and rhetoric
09.0102 Mass communication/media studies

09.0199 Communication and media studies, other

09.04 Journalism
09.0401 Journalism, general
09.0402 Broadcast journalism
09.0404 Photojournalism
09.0499 Journalism, other

09.07 Radio, television and digital communication
09.0701 Radio and television
09.0702 Digital communication and media/multimedia
09.0799 Radio, television and digital communication, other

09.09 Public relations, advertising and applied communication
09.0900 Public relations, advertising and applied communication, general
09.0901 Organizational communication, general
09.0902 Public relations/image management
09.0903 Advertising
09.0904 Political communication
09.0905 Health communication
09.0906 Sports communication
09.0907 International and intercultural communication
09.0908 Technical and scientific communication
09.0999 Public relations, advertising and applied communication, other

09.10 Publishing
09.1001 Publishing

09.99 Communication, journalism and related programs, other
09.9999 Communication, journalism and related programs, other

10. Communications technologies/technicians and support services

10.01 Communications technology/technician
10.0105 Communications technology/technician

10.02 Audiovisual communications technologies/technicians
10.0201 Photographic and film/video technology/technician and assistant
10.0202 Radio and television broadcasting technology/technician
10.0203 Recording arts technology/technician
10.0299 Audiovisual communications technologies/technicians, other

10.03 Graphic communications
10.0301 Graphic communications, general
10.0302 Printing management
10.0303 Prepress/desktop publishing and digital imaging design
10.0304 Animation, interactive technology, video graphics and special effects
10.0305 Graphic and printing equipment operator, general production
10.0306 Platemaker/imager
10.0307 Printing press operator
10.0308 Computer typography and composition equipment operator
10.0399 Graphic communications, other

10.99 Communications technologies/technicians and support services, other
10.9999 Communications technologies/technicians and support services, other

11. Computer and information sciences and support services

11.01 Computer and information sciences and support services, general
- 11.0101 Computer and information sciences, general
- 11.0102 Artificial intelligence
- 11.0103 Information technology
- 11.0104 Informatics
- 11.0199 Computer and information sciences and support services, general, other

11.02 Computer programming
- 11.0201 Computer programming/programmer, general
- 11.0202 Computer programming, specific applications
- 11.0203 Computer programming, vendor/product certification
- 11.0299 Computer programming, other

11.03 Data processing and data processing technology/technician
- 11.0301 Data processing and data processing technology/technician

11.04 Information science/studies
- 11.0401 Information science/studies

11.05 Computer systems analysis/analyst
- 11.0501 Computer systems analysis/analyst

11.06 Data entry/microcomputer applications
- 11.0601 Data entry/microcomputer applications, general
- 11.0602 Word processing
- 11.0699 Data entry/microcomputer applications, other

11.07 Computer science
- 11.0701 Computer science

11.08 Computer software and media applications
- 11.0801 Web page, digital/multimedia and information resources design
- 11.0802 Data modelling/warehousing and database administration
- 11.0803 Computer graphics
- 11.0804 Modeling, virtual environments and simulation
- 11.0899 Computer software and media applications, other

11.09 Computer systems networking and telecommunications
- 11.0901 Computer systems networking and telecommunications

11.10 Computer/information technology administration and management
- 11.1001 Network and system administration/administrator
- 11.1002 System, networking and LAN/WAN management/manager
- 11.1003 Computer and information systems security/information assurance
- 11.1004 Web/multimedia management and webmaster
- 11.1005 Information technology project management
- 11.1006 Computer support specialist
- 11.1099 Computer/information technology administration and management, other

11.99 Computer and information sciences and support services, other
- 11.9999 Computer and information sciences and support services, other

12. Personal and culinary services

12.03 Funeral service and mortuary science
- 12.0301 Funeral service and mortuary science, general
- 12.0302 Funeral direction/service
- 12.0303 Mortuary science and embalming/embalmer
- 12.0399 Funeral service and mortuary science, other

12.04 Cosmetology and related personal grooming services
- 12.0401 Cosmetology/cosmetologist, general
- 12.0402 Barbering/barber
- 12.0404 Electrolysis/electrology and electrolysis technician
- 12.0406 Makeup artist/specialist
- 12.0407 Hair styling/stylist and hair design
- 12.0408 Facial treatment specialist/facialist
- 12.0409 Aesthetician/esthetician and skin care specialist
- 12.0410 Nail technician/specialist and manicurist
- 12.0411 Permanent cosmetics/makeup and tattooing
- 12.0412 Salon/beauty salon management/manager
- 12.0413 Cosmetology, barber/styling and nail instructor
- 12.0414 Master aesthetician/esthetician
- 12.0499 Cosmetology and related personal grooming services, other

12.05 Culinary arts and related services
- 12.0500 Cooking and related culinary arts, general
- 12.0501 Baking and pastry arts/baker/pastry chef
- 12.0502 Bartending/bartender
- 12.0503 Culinary arts/chef training
- 12.0504 Restaurant, culinary and catering management/manager
- 12.0505 Food preparation/professional cooking/kitchen assistant
- 12.0506 Meat cutting/meat cutter
- 12.0507 Food service, waiter/waitress and dining room management/manager
- 12.0508 Institutional food workers
- 12.0509 Culinary science
- 12.0510 Wine steward/sommelier
- 12.0599 Culinary arts and related services, other

12.99 Personal and culinary services, other
- 12.9999 Personal and culinary services, other

13. Education

13.01 Education, general
- 13.0101 Education, general

13.02 Bilingual, multilingual and multicultural education
- 13.0201 Bilingual and multilingual education
- 13.0202 Multicultural education
- 13.0203 Aboriginal education
- 13.0299 Bilingual, multilingual and multicultural education, other

13.03 Curriculum and instruction
- 13.0301 Curriculum and instruction

13.04 Educational administration and supervision
- 13.0401 Educational leadership and administration, general
- 13.0402 Administration of special education
- 13.0403 Adult and continuing education administration
- 13.0404 Educational, instructional and curriculum supervision
- 13.0406 Higher education/higher education administration
- 13.0407 Community college and general and vocational college (CEGEP) administration
- 13.0408 Elementary and middle school administration/principalship
- 13.0409 Secondary school administration/principalship
- 13.0410 Urban education and leadership
- 13.0411 Superintendency and educational system administration
- 13.0499 Educational administration and supervision, other

13.05 Educational/instructional media design
- 13.0501 Educational/instructional technology

13.06 Educational assessment, evaluation and research
- 13.0601 Educational evaluation and research
- 13.0603 Educational statistics and research methods
- 13.0604 Educational assessment, testing and measurement
- 13.0607 Learning sciences
- 13.0699 Educational assessment, evaluation and research, other

13.07 International and comparative education
- 13.0701 International and comparative education

13.09 Social and philosophical foundations of education
- 13.0901 Social and philosophical foundations of education

13.10 Special education and teaching
- 13.1001 Special education and teaching, general
- 13.1003 Education/teaching of individuals with hearing impairments including deafness
- 13.1004 Education/teaching of the gifted and talented
- 13.1005 Education/teaching of individuals with emotional disturbances
- 13.1006 Education/teaching of intellectually-impaired individuals
- 13.1007 Education/teaching of individuals with multiple disabilities
- 13.1008 Education/teaching of individuals with orthopedic and other physical health impairments
- 13.1009 Education/teaching of individuals with vision impairments including blindness
- 13.1011 Education/teaching of individuals with specific learning disabilities
- 13.1012 Education/teaching of individuals with speech or language impairments
- 13.1013 Education/teaching of individuals with autism
- 13.1014 Education/teaching of individuals who are developmentally delayed
- 13.1015 Education/teaching of individuals in early childhood special education programs
- 13.1016 Education/teaching of individuals with traumatic brain injuries
- 13.1017 Education/teaching of individuals in elementary special education programs
- 13.1018 Education/teaching of individuals in junior high/middle school special education programs
- 13.1019 Education/teaching of individuals in secondary special education programs
- 13.1099 Special education and teaching, other

13.11 Student counselling and personnel services
- 13.1101 Counsellor education/school counselling and guidance services
- 13.1102 College student counselling and personnel services
- 13.1199 Student counselling and personnel services, other

13.12 Teacher education and professional development, specific levels and methods
- 13.1201 Adult and continuing education and teaching

13.1202 Elementary education and teaching
13.1203 Junior high/intermediate/middle school education and teaching
13.1205 Secondary education and teaching
13.1206 Teacher education, multiple levels
13.1207 Montessori teacher education
13.1208 Waldorf/Steiner teacher education
13.1209 Kindergarten/preschool education and teaching
13.1210 Early childhood education and teaching
13.1299 Teacher education and professional development, specific levels and methods, other

13.13 Teacher education and professional development, specific subject areas

13.1301 Agricultural teacher education
13.1302 Art teacher education
13.1303 Business teacher education
13.1304 Driver and safety teacher education
13.1305 English/English language arts teacher education
13.1306 Aboriginal and foreign language teacher education
13.1307 Health teacher education
13.1308 Family and consumer sciences/home economics teacher education
13.1309 Technology teacher education/industrial arts teacher education
13.1310 Sales and marketing operations/marketing and distribution teacher education
13.1311 Mathematics teacher education
13.1312 Music teacher education
13.1314 Physical education teaching and coaching
13.1315 Reading teacher education
13.1316 Science teacher education/general science teacher education
13.1317 Social science teacher education
13.1318 Social studies teacher education
13.1319 Technical teacher education
13.1320 Trade and industrial teacher education
13.1321 Computer teacher education
13.1322 Biology teacher education
13.1323 Chemistry teacher education
13.1324 Drama and dance teacher education
13.1325 French language/French language arts teacher education
13.1326 German language teacher education
13.1327 Health occupations teacher education
13.1328 History teacher education
13.1329 Physics teacher education
13.1330 Spanish language teacher education
13.1331 Speech teacher education
13.1332 Geography teacher education
13.1333 Latin teacher education
13.1334 School librarian/school library media specialist
13.1335 Psychology teacher education
13.1337 Earth science teacher education
13.1338 Environmental teacher education
13.1399 Teacher education and professional development, specific subject areas, other

13.14 Teaching English or French as a second or foreign language

13.1401 Teaching English as a second or foreign language/ESL language instructor
13.1402 Teaching French as a second or foreign language
13.1499 Teaching English or French as a second or foreign language, other

13.15 Teaching assistants/aides

13.1501 Teaching assistants/aides, general
13.1502 Adult literacy tutor/instructor

13.1599 Teaching assistants/aides, other

13.99 Education, other
13.9999 Education, other

14. Engineering

14.01 Engineering, general
14.0101 Engineering, general
14.0102 Pre-engineering

14.02 Aerospace, aeronautical and astronautical/space engineering
14.0201 Aerospace, aeronautical and astronautical/space engineering

14.03 Agricultural engineering
14.0301 Agricultural engineering

14.04 Architectural engineering
14.0401 Architectural engineering

14.05 Bioengineering and biomedical engineering
14.0501 Bioengineering and biomedical engineering

14.06 Ceramic sciences and engineering
14.0601 Ceramic sciences and engineering

14.07 Chemical engineering
14.0701 Chemical engineering
14.0702 Chemical and biomolecular engineering
14.0799 Chemical engineering, other

14.08 Civil engineering
14.0801 Civil engineering, general
14.0802 Geotechnical and geoenvironmental engineering
14.0803 Structural engineering
14.0804 Transportation and highway engineering
14.0805 Water resources engineering
14.0899 Civil engineering, other

14.09 Computer engineering
14.0901 Computer engineering, general
14.0902 Computer hardware engineering
14.0903 Computer software engineering
14.0999 Computer engineering, other

14.10 Electrical, electronics and communications engineering
14.1001 Electrical and electronics engineering
14.1003 Laser and optical engineering
14.1004 Telecommunications engineering
14.1099 Electrical, electronics and communications engineering, other

14.11 Engineering mechanics
14.1101 Engineering mechanics

14.12 Engineering physics/applied physics
14.1201 Engineering physics/applied physics

14.13 Engineering science
14.1301 Engineering science

14.14 Environmental/environmental health engineering
14.1401 Environmental/environmental health engineering

14.18 Materials engineering
14.1801 Materials engineering

14.19 Mechanical engineering
14.1901 Mechanical engineering

14.20 Metallurgical engineering
14.2001 Metallurgical engineering

14.21 Mining and mineral engineering
14.2101 Mining and mineral engineering

14.22 Naval architecture and marine engineering
14.2201 Naval architecture and marine engineering

14.23 Nuclear engineering
14.2301 Nuclear engineering

14.24 Ocean engineering
14.2401 Ocean engineering

14.25 Petroleum engineering
14.2501 Petroleum engineering

14.27 Systems engineering
14.2701 Systems engineering

14.28 Textile sciences and engineering
14.2801 Textile sciences and engineering

14.32 Polymer/plastics engineering
14.3201 Polymer/plastics engineering

14.33 Construction engineering
14.3301 Construction engineering

14.34 Forest engineering
14.3401 Forest engineering

14.35 Industrial engineering
14.3501 Industrial engineering

14.36 Manufacturing engineering
14.3601 Manufacturing engineering

14.37 Operations research
14.3701 Operations research

14.38 Surveying engineering
14.3801 Surveying engineering

14.39 Geological/geophysical engineering
14.3901 Geological/geophysical engineering

14.40 Paper science and engineering
14.4001 Paper science and engineering

14.41 Electromechanical engineering
14.4101 Electromechanical engineering

14.42 Mechatronics, robotics, and automation engineering
14.4201 Mechatronics, robotics, and automation engineering

14.43 Biochemical engineering
14.4301 Biochemical engineering

14.44 Engineering chemistry
14.4401 Engineering chemistry

14.45 Biological/biosystems engineering
14.4501 Biological/biosystems engineering

14.99 Engineering, other
14.9999 Engineering, other

15. Engineering technologies and engineering-related fields

15.00 Engineering technology, general
15.0000 Engineering technology, general

15.01 Architectural engineering technology/technician
15.0101 Architectural engineering technology/technician

15.02 Civil engineering technology/technician
15.0201 Civil engineering technology/technician

15.03 Electrical and electronic engineering technologies/technicians
15.0303 Electrical, electronic and communications engineering technology/technician
15.0304 Laser and optical technology/technician
15.0305 Telecommunications technology/technician
15.0306 Integrated circuit design
15.0399 Electrical and electronic engineering technologies/technicians, other

15.04 Electromechanical and instrumentation and maintenance technologies/technicians
15.0401 Biomedical technology/technician
15.0403 Electromechanical technology/electromechanical engineering technology
15.0404 Instrumentation technology/technician
15.0405 Robotics technology/technician
15.0406 Automation engineer technology/technician
15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other

15.05 Environmental control technologies/technicians
15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician

15.0503 Energy management and systems technology/technician
15.0505 Solar energy technology/technician
15.0506 Water quality and wastewater treatment management and recycling technology/technician
15.0507 Environmental engineering technology/environmental technology
15.0508 Hazardous materials management and waste technology/technician
15.0599 Environmental control technologies/technicians, other

15.06 Industrial production technologies/technicians
15.0607 Plastics and polymer engineering technology/technician
15.0611 Metallurgical technology/technician
15.0612 Industrial technology/technician
15.0613 Manufacturing engineering technology/technician
15.0614 Welding engineering technology/technician
15.0615 Chemical engineering technology/technician
15.0616 Semiconductor manufacturing technology
15.0699 Industrial production technologies/technicians, other

15.07 Quality control and safety technologies/technicians
15.0701 Occupational safety and health technology/technician
15.0702 Quality control technology/technician
15.0703 Industrial safety technology/technician
15.0704 Hazardous materials information systems technology/technician
15.0799 Quality control and safety technologies/technicians, other

15.08 Mechanical engineering related technologies/technicians
15.0801 Aeronautical/aerospace engineering technology/technician
15.0803 Automotive engineering technology/technician
15.0805 Mechanical engineering/mechanical technology/technician
15.0899 Mechanical engineering related technologies/technicians, other

15.09 Mining and petroleum technologies/technicians
15.0901 Mining technology/technician
15.0903 Petroleum technology/technician
15.0999 Mining and petroleum technologies/technicians, other

15.10 Construction engineering technology/technician
15.1001 Construction engineering technology/technician

15.11 Engineering-related technologies
15.1102 Surveying technology/surveying
15.1103 Hydraulics and fluid power technology/technician
15.1199 Engineering-related technologies, other

15.12 Computer engineering technologies/technicians
15.1201 Computer engineering technology/technician, general
15.1202 Computer technology/computer systems technology
15.1203 Computer hardware technology/technician
15.1204 Computer software technology/technician
15.1299 Computer engineering technologies/technicians, other

15.13 Drafting/design engineering technologies/technicians
15.1301 Drafting and design technology/technician, general
15.1302 CAD/CADD drafting and/or design technology/technician
15.1303 Architectural drafting and architectural CAD/CADD
15.1304 Civil drafting and civil engineering CAD/CADD
15.1305 Electrical/electronics drafting and electrical/electronics CAD/CADD
15.1306 Mechanical drafting and mechanical drafting CAD/CADD

15.1399 Drafting/design engineering technologies/technicians, other

15.14 Nuclear engineering technology/technician
15.1401 Nuclear engineering technology/technician

15.15 Engineering-related fields
15.1501 Engineering/industrial management
15.1502 Engineering design
15.1503 Packaging science
15.1599 Engineering-related fields, other

15.16 Nanotechnology
15.1601 Nanotechnology

15.99 Engineering technologies and engineering-related fields, other
15.9999 Engineering technologies and engineering-related fields, other

16. Aboriginal and foreign languages, literatures and linguistics

16.01 Linguistic, comparative and related language studies and services
16.0101 Aboriginal and foreign languages and literatures, general
16.0102 Linguistics
16.0103 Language interpretation and translation
16.0104 Comparative literature
16.0105 Applied linguistics
16.0199 Linguistic, comparative and related language studies and services, other

16.02 African languages, literatures and linguistics
16.0201 African languages, literatures and linguistics

16.03 East Asian languages, literatures and linguistics
16.0300 East Asian languages, literatures and linguistics, general
16.0301 Chinese language and literature
16.0302 Japanese language and literature
16.0303 Korean language and literature
16.0304 Tibetan language and literature
16.0399 East Asian languages, literatures and linguistics, other

16.04 Slavic, Baltic and Albanian languages, literatures and linguistics
16.0400 Slavic languages, literatures and linguistics, general
16.0401 Baltic languages, literatures and linguistics
16.0402 Russian language and literature
16.0404 Albanian language and literature
16.0405 Bulgarian language and literature
16.0406 Czech language and literature
16.0407 Polish language and literature
16.0408 Bosnian, Serbian, and Croatian languages and literatures
16.0409 Slovak language and literature
16.0410 Ukrainian language and literature
16.0499 Slavic, Baltic and Albanian languages, literatures and linguistics, other

16.05 Germanic languages, literatures and linguistics
16.0500 Germanic languages, literatures and linguistics, general
16.0501 German language and literature
16.0502 Scandinavian languages, literatures and linguistics
16.0503 Danish language and literature
16.0504 Dutch/Flemish language and literature

16.0505 Norwegian language and literature
16.0506 Swedish language and literature
16.0599 Germanic languages, literatures and linguistics, other

16.06 Modern Greek language and literature
16.0601 Modern Greek language and literature

16.07 South Asian languages, literatures and linguistics
16.0700 South Asian languages, literatures and linguistics, general
16.0701 Hindi language and literature
16.0702 Sanskrit and classical Indian languages, literatures and linguistics
16.0704 Bengali language and literature
16.0705 Punjabi language and literature
16.0706 Tamil language and literature
16.0707 Urdu language and literature
16.0799 South Asian languages, literatures and linguistics, other

16.08 Iranian languages, literatures and linguistics
16.0801 Iranian languages, literatures and linguistics

16.09 Romance languages, literatures and linguistics
16.0900 Romance languages, literatures and linguistics, general
16.0902 Italian language and literature
16.0904 Portuguese language and literature
16.0905 Spanish language and literature
16.0906 Romanian language and literature
16.0907 Catalan language and literature
16.0908 Hispanic and Latin American languages, literatures and linguistics, general
16.0999 Romance languages, literatures and linguistics, other

16.10 Aboriginal languages, literatures and linguistics
16.1001 Aboriginal languages, literatures and linguistics

16.11 Middle/Near Eastern and Semitic languages, literatures and linguistics
16.1100 Middle/Near Eastern and Semitic languages, literatures and linguistics, general
16.1101 Arabic language and literature
16.1102 Hebrew language and literature
16.1103 Ancient Near Eastern and Biblical languages, literatures and linguistics
16.1199 Middle/Near Eastern and Semitic languages, literatures and linguistics, other

16.12 Classics and classical languages, literatures and linguistics
16.1200 Classics and classical languages, literatures and linguistics, general
16.1202 Ancient/classical Greek language and literature
16.1203 Latin language and literature
16.1299 Classics and classical languages, literatures and linguistics, other

16.13 Celtic languages, literatures and linguistics
16.1301 Celtic languages, literatures and linguistics

16.14 Southeast Asian and Australasian/Pacific languages, literatures and linguistics
16.1400 Southeast Asian languages, literatures and linguistics, general
16.1401 Australian/Oceanic/Pacific languages, literatures and linguistics
16.1402 Indonesian/Malay languages and literatures
16.1403 Burmese language and literature
16.1404 Philippine/Tagalog language and literature
16.1405 Khmer/Cambodian language and literature
16.1406 Lao language and literature

16.1407 Thai language and literature
16.1408 Vietnamese language and literature
16.1499 Southeast Asian and Australasian/Pacific languages, literatures and linguistics, other

16.15 Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics
16.1501 Turkish language and literature
16.1502 Uralic languages, literatures and linguistics
16.1503 Hungarian/Magyar language and literature
16.1504 Mongolian language and literature
16.1599 Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics, other

16.16 Sign language
16.1601 American Sign Language (ASL)/Langue des signes québécoise (LSQ)
16.1602 Linguistics of sign language
16.1603 Sign language interpretation and translation
16.1699 Sign language, other

16.17 Second language learning CAN
16.1701 English as a second language CAN
16.1702 French as a second language CAN
16.1799 Second language learning, other CAN

16.99 Aboriginal and foreign languages, literatures and linguistics, other
16.9999 Aboriginal and foreign languages, literatures and linguistics, other

19. Family and consumer sciences/human sciences

19.00 Work and family studies
19.0000 Work and family studies

19.01 Family and consumer sciences/human sciences, general
19.0101 Family and consumer sciences/human sciences, general

19.02 Family and consumer sciences/human sciences business services
19.0201 Business, family and consumer sciences/human sciences
19.0202 Family and consumer sciences/human sciences communication
19.0203 Consumer merchandising/retailing management
19.0299 Family and consumer sciences/human sciences business services, other

19.04 Family and consumer economics and related services
19.0401 Family resource management studies, general
19.0402 Consumer economics
19.0403 Consumer services and advocacy
19.0499 Family and consumer economics and related services, other

19.05 Foods, nutrition and related services
19.0501 Foods, nutrition and wellness studies, general
19.0504 Human nutrition
19.0505 Foodservice systems administration/management
19.0599 Foods, nutrition and related services, other

19.06 Housing and human environments
19.0601 Housing and human environments, general
19.0604 Facilities planning and management
19.0605 Home furnishings and equipment installers

19.0699 Housing and human environments, other

19.07 Human development, family studies and related services
19.0701 Human development and family studies, general
19.0702 Adult development and aging
19.0704 Family systems
19.0706 Child development
19.0707 Family and community services
19.0708 Child care and support services management
19.0709 Child care provider/assistant
19.0710 Developmental services worker
19.0799 Human development, family studies and related services, other

19.09 Apparel and textiles
19.0901 Apparel and textiles, general
19.0902 Apparel and textile manufacture
19.0904 Textile science
19.0905 Apparel and textile marketing management
19.0906 Fashion and fabric consultant
19.0999 Apparel and textiles, other

19.99 Family and consumer sciences/human sciences, other
19.9999 Family and consumer sciences/human sciences, other

21. Pre-technology education/pre-industrial arts programs CAN

21.01 Pre-technology education/pre-industrial arts programs CAN
21.0101 Pre-technology education/pre-industrial arts programs CAN

22. Legal professions and studies

22.00 Non-professional general legal studies (undergraduate)
22.0000 Legal studies, general
22.0001 Pre-law studies

22.01 Law (LLB, JD, BCL)
22.0101 Law (LLB, JD, BCL)

22.02 Legal research and advanced professional studies (post-LLB/JD)
22.0201 Advanced legal research/studies, general (LLM, MCL, MLI, MSL, LLD, JSD/SJD)
22.0202 Programs for foreign lawyers (LLM, MCL)
22.0203 American/US law/legal studies/jurisprudence (LLM, MCJ, LLD, JSD/SJD)
22.0204 Canadian law/legal studies/jurisprudence (LLM, MCJ, LLD, JSD/SJD)
22.0205 Banking, corporate, finance and securities law (LLM, LLD, JSD/SJD)
22.0206 Comparative law (LLM, MCJ, LLD, JSD/SJD)
22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD)
22.0208 Health law (LLM, MJ, LLD, JSD/SJD)
22.0209 International law and legal studies (LLM, LLD, JSD/SJD)
22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD)
22.0211 Tax law/taxation (LLM, LLD, JSD/SJD)
22.0212 Intellectual property law (LLM, LLD, JSD/SJD)
22.0299 Legal research and advanced professional studies (post-LLB/JD), other

22.03 Legal support services
22.0301 Legal administrative assistant/secretary
22.0302 Legal assistant/paralegal

22.0303 Court reporting/court reporter
22.0399 Legal support services, other

22.99 Legal professions and studies, other
22.9999 Legal professions and studies, other

23. English language and literature/letters

23.01 English language and literature, general
23.0101 English language and literature, general

23.13 English rhetoric and composition/writing studies
23.1301 English writing, general
23.1302 English creative writing
23.1303 English professional, technical, business, and scientific writing
23.1304 English rhetoric and composition
23.1399 English rhetoric and composition/writing studies, other

23.14 English literature
23.1401 English literature, general
23.1402 American literature
23.1403 Canadian literature, English
23.1404 British and Commonwealth literature, English
23.1405 Children's and adolescent literature, English
23.1499 English literature, other

23.99 English language and literature/letters, other
23.9999 English language and literature/letters, other

24. Liberal arts and sciences, general studies and humanities

24.01 Liberal arts and sciences, general studies and humanities
24.0101 Liberal arts and sciences/liberal studies
24.0102 General studies
24.0103 Humanities/humanistic studies
24.0199 Liberal arts and sciences, general studies and humanities, other

25. Library science

25.01 Library science and administration
25.0101 Library and information science
25.0102 Children and youth library services
25.0103 Archives/archival administration
25.0199 Library science and administration, other

25.03 Library and archives assisting
25.0301 Library and archives assisting

25.99 Library science, other
25.9999 Library science, other

26. Biological and biomedical sciences

26.01 Biology, general
26.0101 Biology/biological sciences, general
26.0102 Biomedical sciences, general

26.02 Biochemistry/biophysics and molecular biology
- 26.0202 Biochemistry
- 26.0203 Biophysics
- 26.0204 Molecular biology
- 26.0205 Molecular biochemistry
- 26.0206 Molecular biophysics
- 26.0207 Structural biology
- 26.0208 Photobiology
- 26.0209 Radiation biology/radiobiology
- 26.0210 Biochemistry and molecular biology
- 26.0299 Biochemistry/biophysics and molecular biology, other

26.03 Botany/plant biology
- 26.0301 Botany/plant biology, general
- 26.0305 Plant pathology/phytopathology
- 26.0307 Plant physiology
- 26.0308 Plant molecular biology
- 26.0399 Botany/plant biology, other

26.04 Cell/cellular biology and anatomical sciences
- 26.0401 Cell/cellular biology and histology
- 26.0403 Anatomy
- 26.0404 Developmental biology and embryology
- 26.0406 Cell/cellular and molecular biology
- 26.0407 Cell biology and anatomy
- 26.0499 Cell/cellular biology and anatomical sciences, other

26.05 Microbiological sciences and immunology
- 26.0502 Microbiology, general
- 26.0503 Medical microbiology and bacteriology
- 26.0504 Virology
- 26.0505 Parasitology
- 26.0506 Mycology
- 26.0507 Immunology
- 26.0508 Microbiology and immunology
- 26.0599 Microbiological sciences and immunology, other

26.07 Zoology/animal biology
- 26.0701 Zoology/animal biology, general
- 26.0702 Entomology
- 26.0707 Animal physiology
- 26.0708 Animal behaviour and ethology
- 26.0709 Wildlife biology
- 26.0799 Zoology/animal biology, other

26.08 Genetics
- 26.0801 Genetics, general
- 26.0802 Molecular genetics
- 26.0803 Microbial and eukaryotic genetics
- 26.0804 Animal genetics
- 26.0805 Plant genetics
- 26.0806 Human/medical genetics
- 26.0807 Genome sciences/genomics
- 26.0899 Genetics, other

26.09 Physiology, pathology and related sciences

26.0901 Physiology, general
26.0902 Molecular physiology
26.0903 Cell physiology
26.0904 Endocrinology
26.0905 Reproductive biology
26.0907 Cardiovascular science
26.0908 Exercise physiology
26.0909 Vision science/physiological optics
26.0910 Pathology/experimental pathology
26.0911 Oncology and cancer biology
26.0912 Aerospace physiology and medicine
26.0999 Physiology, pathology and related sciences, other

26.10 Pharmacology and toxicology

26.1001 Pharmacology
26.1002 Molecular pharmacology
26.1003 Neuropharmacology
26.1004 Toxicology
26.1005 Molecular toxicology
26.1006 Environmental toxicology
26.1007 Pharmacology and toxicology, integrated
26.1099 Pharmacology and toxicology, other

26.11 Biomathematics, bioinformatics, and computational biology

26.1101 Biometry/biometrics
26.1102 Biostatistics
26.1103 Bioinformatics
26.1104 Computational biology
26.1199 Biomathematics, bioinformatics, and computational biology, other

26.12 Biotechnology

26.1201 Biotechnology

26.13 Ecology, evolution, systematics and population biology

26.1301 Ecology
26.1302 Marine biology and biological oceanography
26.1303 Evolutionary biology
26.1304 Aquatic biology/limnology
26.1305 Environmental biology
26.1306 Population biology
26.1307 Conservation biology
26.1308 Systematic biology/biological systematics
26.1309 Epidemiology
26.1310 Ecology and evolutionary biology
26.1399 Ecology, evolution, systematics and population biology, other

26.14 Molecular medicine

26.1401 Molecular medicine

26.15 Neurobiology and neurosciences

26.1501 Neuroscience
26.1502 Neuroanatomy
26.1503 Neurobiology and anatomy
26.1504 Neurobiology and behaviour
26.1599 Neurobiology and neurosciences, other

26.99 Biological and biomedical sciences, other
26.9999 Biological and biomedical sciences, other

27. Mathematics and statistics

27.01 Mathematics
27.0101 Mathematics, general
27.0102 Algebra and number theory
27.0103 Analysis and functional analysis
27.0104 Geometry/geometric analysis
27.0105 Topology and foundations
27.0199 Mathematics, other

27.03 Applied mathematics
27.0301 Applied mathematics, general
27.0303 Computational mathematics
27.0304 Computational and applied mathematics
27.0305 Financial mathematics
27.0306 Mathematical biology
27.0399 Applied mathematics, other

27.05 Statistics
27.0501 Statistics, general
27.0502 Mathematical statistics and probability
27.0503 Mathematics and statistics
27.0599 Statistics, other

27.99 Mathematics and statistics, other
27.9999 Mathematics and statistics, other

28. Military science, leadership and operational art

28.08 Military science, leadership and operational art CAN
28.0801 Military science, leadership and operational art CAN

29. Military technologies and applied sciences

29.05 Military technologies and applied sciences CAN
29.0501 Military technologies and applied sciences CAN

30. Multidisciplinary/interdisciplinary studies

30.01 Biological and physical sciences
30.0101 Biological and physical sciences

30.05 Peace studies and conflict resolution
30.0501 Peace studies and conflict resolution

30.06 Systems science and theory
30.0601 Systems science and theory

30.08 Mathematics and computer science
30.0801 Mathematics and computer science

30.10 Biopsychology
30.1001 Biopsychology

30.11 Gerontology
30.1101 Gerontology

30.12 Historic preservation and conservation
30.1201 Historic preservation and conservation, general
30.1202 Cultural resource management and policy analysis
30.1299 Historic preservation and conservation, other

30.13 Medieval and renaissance studies
30.1301 Medieval and renaissance studies

30.14 Museology/museum studies
30.1401 Museology/museum studies

30.15 Science, technology and society
30.1501 Science, technology and society

30.16 Accounting and computer science
30.1601 Accounting and computer science

30.17 Behavioural sciences
30.1701 Behavioural sciences

30.18 Natural sciences
30.1801 Natural sciences

30.19 Nutrition sciences
30.1901 Nutrition sciences

30.20 International/global studies
30.2001 International/global studies

30.21 Holocaust and related studies
30.2101 Holocaust and related studies

30.22 Classical and ancient studies
30.2201 Ancient studies/civilization
30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology

30.23 Intercultural/multicultural and diversity studies
30.2301 Intercultural/multicultural and diversity studies

30.25 Cognitive science
30.2501 Cognitive science

30.26 Cultural studies/critical theory and analysis
30.2601 Cultural studies/critical theory and analysis

30.27 Human biology
30.2701 Human biology

30.28 Dispute resolution
30.2801 Dispute resolution

30.29 Maritime studies
30.2901 Maritime studies

30.30 Computational science
30.3001 Computational science

30.31 Human computer interaction
30.3101 Human computer interaction

30.32 Marine sciences
30.3201 Marine sciences

30.33 Sustainability studies
30.3301 Sustainability studies

30.99 Multidisciplinary/interdisciplinary studies, other
30.9999 Multidisciplinary/interdisciplinary studies, other

31. Parks, recreation, leisure and fitness studies

31.01 Parks, recreation and leisure studies
31.0101 Parks, recreation and leisure studies

31.03 Parks, recreation and leisure facilities management
31.0301 Parks, recreation and leisure facilities management, general
31.0302 Golf course operation and grounds management
31.0399 Parks, recreation and leisure facilities management, other

31.05 Health and physical education/fitness
31.0501 Health and physical education/fitness, general
31.0504 Sport and fitness administration/management
31.0505 Kinesiology and exercise science
31.0507 Physical fitness technician
31.0508 Sports studies
31.0599 Health and physical education/fitness, other

31.06 Outdoor education
31.0601 Outdoor education

31.99 Parks, recreation, leisure and fitness studies, other
31.9999 Parks, recreation, leisure and fitness studies, other

32. Basic skills (not for credit)

32.01 Basic skills (not for credit)
32.0101 Basic skills, general (not for credit)
32.0104 Numeracy and computational skills (not for credit)
32.0105 Job-seeking/changing skills (not for credit)
32.0107 Career exploration/awareness skills (not for credit)
32.0108 Literacy and communication skills (not for credit)
32.0109 Second language learning (not for credit)
32.0110 Basic computer skills (not for credit)

32.0111 Workforce development and training (not for credit)
32.0199 Basic skills, other (not for credit)

33. Citizenship activities (not for credit)

33.01 Citizenship activities (not for credit)

33.0101 Citizenship activities, general (not for credit)
33.0102 American citizenship education (not for credit)
33.0103 Community awareness (not for credit)
33.0104 Community involvement (not for credit)
33.0105 Canadian citizenship education (not for credit)
33.0199 Citizenship activities, other (not for credit)

34. Health-related knowledge and skills (not for credit)

34.01 Health-related knowledge and skills (not for credit)

34.0102 Birthing and parenting knowledge and skills (not for credit)
34.0103 Personal health improvement and maintenance (not for credit)
34.0104 Addiction prevention and treatment (not for credit)
34.0199 Health-related knowledge and skills, other (not for credit)

35. Interpersonal and social skills (not for credit)

35.01 Interpersonal and social skills (not for credit)

35.0101 Interpersonal and social skills, general (not for credit)
35.0102 Interpersonal relationships skills (not for credit)
35.0103 Business and social skills (not for credit)
35.0199 Interpersonal and social skills, other (not for credit)

36. Leisure and recreational activities (not for credit)

36.01 Leisure and recreational activities (not for credit)

36.0101 Leisure and recreational activities, general (not for credit)
36.0102 Handicrafts and model-making (not for credit)
36.0103 Board, card and role-playing games (not for credit)
36.0105 Home maintenance and improvement (not for credit)
36.0106 Nature appreciation (not for credit)
36.0107 Pet ownership and care (not for credit)
36.0108 Sports and exercise (not for credit)
36.0109 Travel and exploration (not for credit)
36.0110 Art (not for credit)
36.0111 Collecting (not for credit)
36.0112 Cooking and other domestic skills (not for credit)
36.0113 Computer games and programming skills (not for credit)
36.0114 Dancing (not for credit)
36.0115 Music (not for credit)
36.0116 Reading (not for credit)
36.0117 Theatre (not for credit)
36.0118 Writing (not for credit)
36.0119 Aircraft pilot (private) (not for credit)
36.0199 Leisure and recreational activities, other (not for credit)

37. Personal awareness and self-improvement (not for credit)

37.01 Personal awareness and self-improvement (not for credit)

37.0101 Self-awareness and personal assessment (not for credit)

37.0102 Stress management and coping skills (not for credit)
37.0103 Personal decision-making skills (not for credit)
37.0104 Self-esteem and values clarification (not for credit)
37.0199 Personal awareness and self-improvement, other (not for credit)

38. Philosophy and religious studies

38.00 Philosophy and religious studies, general
38.0001 Philosophy and religious studies, general

38.01 Philosophy, logic and ethics
38.0101 Philosophy
38.0102 Logic
38.0103 Ethics
38.0104 Applied and professional ethics
38.0199 Philosophy, logic and ethics, other

38.02 Religion/religious studies
38.0201 Religion/religious studies, general
38.0202 Buddhist studies
38.0203 Christian studies
38.0204 Hindu studies
38.0205 Islamic studies
38.0206 Jewish/Judaic studies
38.0299 Religion/religious studies, other

38.99 Philosophy and religious studies, other
38.9999 Philosophy and religious studies, other

39. Theology and religious vocations

39.02 Bible/Biblical studies
39.0201 Bible/Biblical studies

39.03 Missions/missionary studies and missiology
39.0301 Missions/missionary studies and missiology

39.04 Religious education
39.0401 Religious education

39.05 Religious/sacred music
39.0501 Religious/sacred music

39.06 Theological and ministerial studies
39.0601 Theology/theological studies
39.0602 Divinity/ministry (BDiv, MDiv)
39.0604 Pre-theology/pre-ministerial studies
39.0605 Rabbinical studies (MHL/Rav)
39.0606 Talmudic studies
39.0699 Theological and ministerial studies, other

39.07 Pastoral counselling and specialized ministries
39.0701 Pastoral studies/counselling
39.0702 Youth ministry
39.0703 Urban ministry
39.0704 Women's ministry

39.0705 Lay ministry
39.0799 Pastoral counselling and specialized ministries, other

39.99 Theology and religious vocations, other
39.9999 Theology and religious vocations, other

40. Physical sciences

40.01 Physical sciences, general
40.0101 Physical sciences, general

40.02 Astronomy and astrophysics
40.0201 Astronomy
40.0202 Astrophysics
40.0203 Planetary astronomy and science
40.0299 Astronomy and astrophysics, other

40.04 Atmospheric sciences and meteorology
40.0401 Atmospheric sciences and meteorology, general
40.0402 Atmospheric chemistry and climatology
40.0403 Atmospheric physics and dynamics
40.0404 Meteorology
40.0499 Atmospheric sciences and meteorology, other

40.05 Chemistry
40.0501 Chemistry, general
40.0502 Analytical chemistry
40.0503 Inorganic chemistry
40.0504 Organic chemistry
40.0506 Physical chemistry
40.0507 Polymer chemistry
40.0508 Chemical physics
40.0509 Environmental chemistry
40.0510 Forensic chemistry
40.0511 Theoretical chemistry
40.0599 Chemistry, other

40.06 Geological and Earth sciences/geosciences
40.0601 Geology/Earth science, general
40.0602 Geochemistry
40.0603 Geophysics and seismology
40.0604 Paleontology
40.0605 Hydrology and water resources science
40.0606 Geochemistry and petrology
40.0607 Oceanography, chemical and physical
40.0699 Geological and Earth sciences/geosciences, other

40.08 Physics
40.0801 Physics, general
40.0802 Atomic/molecular physics
40.0804 Elementary particle physics
40.0805 Plasma and high-temperature physics
40.0806 Nuclear physics
40.0807 Optics/optical sciences
40.0808 Condensed matter and materials physics
40.0809 Acoustics
40.0810 Theoretical and mathematical physics

40.0899 Physics, other

40.10 Materials sciences
40.1001 Materials science
40.1002 Materials chemistry
40.1099 Materials sciences, other

40.99 Physical sciences, other
40.9999 Physical sciences, other

41. Science technologies/technicians

41.00 Science technologies/technicians, general
41.0000 Science technologies/technicians, general

41.01 Biology technician/biotechnology laboratory technician
41.0101 Biology technician/biotechnology laboratory technician

41.02 Nuclear and industrial radiologic technologies/technicians
41.0204 Industrial radiologic technology/technician
41.0205 Nuclear/nuclear power technology/technician
41.0299 Nuclear and industrial radiologic technologies/technicians, other

41.03 Physical science technologies/technicians
41.0301 Chemical technology/technician
41.0303 Chemical process technology
41.0399 Physical science technologies/technicians, other

41.99 Science technologies/technicians, other
41.9999 Science technologies/technicians, other

42. Psychology

42.01 Psychology, general
42.0101 Psychology, general

42.27 Research and experimental psychology
42.2701 Cognitive psychology and psycholinguistics
42.2702 Comparative psychology
42.2703 Developmental and child psychology
42.2704 Experimental psychology
42.2705 Personality psychology
42.2706 Physiological psychology/psychobiology
42.2707 Social psychology
42.2708 Psychometrics and quantitative psychology
42.2709 Psychopharmacology
42.2799 Research and experimental psychology, other

42.28 Clinical, counselling and applied psychology
42.2801 Clinical psychology
42.2802 Community psychology
42.2803 Counselling psychology
42.2804 Industrial and organizational psychology
42.2805 School psychology
42.2806 Educational psychology
42.2807 Clinical child psychology

42.2808 Environmental psychology
42.2809 Geropsychology
42.2810 Health/medical psychology
42.2811 Family psychology
42.2812 Forensic psychology
42.2813 Applied psychology
42.2814 Applied behaviour analysis
42.2899 Clinical, counselling and applied psychology, other

42.99 Psychology, other
42.9999 Psychology, other

43. Security and protective services

43.01 Criminal justice and corrections
43.0102 Corrections
43.0103 Criminal justice/law enforcement administration
43.0104 Criminal justice/safety studies
43.0106 Forensic science and technology
43.0107 Criminal justice/police science
43.0109 Security and loss prevention services
43.0110 Juvenile corrections
43.0111 Criminalistics and criminal science
43.0112 Securities services administration/management
43.0113 Corrections administration
43.0114 Law enforcement investigation and interviewing
43.0115 Law enforcement record keeping and evidence management
43.0116 Cyber/computer forensics and counterterrorism
43.0117 Financial forensics and fraud investigation
43.0118 Law enforcement intelligence analysis
43.0119 Critical incident response/special police operations
43.0120 Protective services operations
43.0121 Suspension and debarment investigation
43.0122 Maritime law enforcement
43.0123 Cultural/archaeological resources protection
43.0199 Criminal justice and corrections, other

43.02 Fire protection
43.0201 Fire prevention and safety technology/technician
43.0202 Fire services administration
43.0203 Fire science/firefighting
43.0204 Fire systems technology
43.0205 Fire/arson investigation and prevention
43.0206 Wildland/forest firefighting and investigation
43.0299 Fire protection, other

43.03 Security and protective services, specialized programs
43.0302 Crisis/emergency/disaster management
43.0399 Security and protective services, specialized programs, other

43.99 Security and protective services, other
43.9999 Security and protective services, other

44. Public administration and social service professions

44.00 Human services, general
44.0000 Human services, general

44.02 Community organization and advocacy
- 44.0201 Community organization and advocacy

44.04 Public administration
- 44.0401 Public administration

44.05 Public policy analysis
- 44.0501 Public policy analysis, general
- 44.0502 Education policy analysis
- 44.0503 Health policy analysis
- 44.0504 International public policy analysis
- 44.0599 Public policy analysis, other

44.07 Social work
- 44.0701 Social work, general
- 44.0702 Youth services/administration
- 44.0799 Social work, other

44.99 Public administration and social service professions, other
- 44.9999 Public administration and social service professions, other

45. Social sciences

45.01 Social sciences, general
- 45.0101 Social sciences, general
- 45.0102 Research methodology and quantitative methods

45.02 Anthropology
- 45.0201 Anthropology, general
- 45.0202 Physical and biological anthropology
- 45.0203 Medical anthropology
- 45.0204 Cultural anthropology
- 45.0299 Anthropology, other

45.03 Archaeology
- 45.0301 Archaeology

45.04 Criminology
- 45.0401 Criminology

45.05 Demography and population studies
- 45.0501 Demography and population studies

45.06 Economics
- 45.0601 Economics, general
- 45.0602 Applied economics
- 45.0603 Econometrics and quantitative economics
- 45.0604 Development economics and international development
- 45.0605 International economics
- 45.0699 Economics, other

45.07 Geography and cartography
- 45.0701 Geography
- 45.0702 Geographic information science and cartography
- 45.0799 Geography and cartography, other

45.09 International relations and national security studies
- 45.0901 International relations and affairs
- 45.0902 National security policy studies
- 45.0999 International relations and national security studies, other

45.10 Political science and government
- 45.1001 Political science and government, general
- 45.1002 American government and politics (United States)
- 45.1003 Canadian government and politics
- 45.1004 Political economy
- 45.1099 Political science and government, other

45.11 Sociology
- 45.1101 Sociology

45.12 Urban studies/affairs
- 45.1201 Urban studies/affairs

45.13 Sociology and anthropology
- 45.1301 Sociology and anthropology

45.14 Rural sociology
- 45.1401 Rural sociology

45.99 Social sciences, other
- 45.9999 Social sciences, other

46. Construction trades

46.00 Construction trades, general
- 46.0000 Construction trades, general

46.01 Masonry/mason
- 46.0101 Masonry/mason

46.02 Carpentry/carpenter
- 46.0201 Carpentry/carpenter

46.03 Electrical and power transmission installers
- 46.0301 Electrical and power transmission installation/installer, general
- 46.0302 Electrician
- 46.0303 Lineworker
- 46.0399 Electrical and power transmission installers, other

46.04 Building/construction finishing, management and inspection
- 46.0401 Building/property maintenance
- 46.0402 Concrete finishing/concrete finisher
- 46.0403 Building/home/construction inspection/inspector
- 46.0404 Drywall installation/drywaller
- 46.0406 Glazier
- 46.0408 Painting/painter and wall coverer
- 46.0410 Roofer
- 46.0411 Metal building assembly/assembler
- 46.0412 Building/construction site management/manager
- 46.0413 Carpet, floor, and tile worker

46.0414 Insulator
46.0415 Building construction technology
46.0499 Building/construction finishing, management and inspection, other

46.05 Plumbing and related water supply services
46.0502 Pipefitting/pipefitter and sprinkler fitter
46.0503 Plumbing technology/plumber
46.0504 Well drilling/driller
46.0505 Blasting/blaster
46.0599 Plumbing and related water supply services, other

46.99 Construction trades, other
46.9999 Construction trades, other

47. Mechanic and repair technologies/technicians

47.00 Mechanics and repairers, general
47.0000 Mechanics and repairers, general

47.01 Electrical/electronics maintenance and repair technology
47.0101 Electrical/electronics equipment installation and repair, general
47.0102 Business machine repair
47.0103 Communications systems installation and repair technology
47.0104 Computer installation and repair technology/technician
47.0105 Industrial electronics technology/technician
47.0106 Appliance installation and repair technology/technician
47.0110 Security system installation, repair and inspection technology/technician
47.0199 Electrical/electronics maintenance and repair technology, other

47.02 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician
47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician

47.03 Heavy/industrial equipment maintenance technologies
47.0302 Heavy equipment maintenance technology/technician
47.0303 Industrial mechanics and maintenance technology
47.0399 Heavy/industrial equipment maintenance technologies, other

47.04 Precision systems maintenance and repair technologies
47.0402 Gunsmithing/gunsmith
47.0403 Locksmithing and safe repair
47.0404 Musical instrument fabrication and repair
47.0408 Watchmaking and jewellery making
47.0409 Parts and warehousing operations and maintenance technology/technician
47.0499 Precision systems maintenance and repair technologies, other

47.05 Stationary energy sources installer and operator **CAN**
47.0501 Stationary energy sources installer and operator CAN

47.06 Vehicle maintenance and repair technologies
47.0600 Vehicle maintenance and repair technologies, general
47.0603 Autobody/collision and repair technology/technician
47.0604 Automobile/automotive mechanics technology/technician
47.0605 Diesel mechanics technology/technician
47.0606 Small engine mechanics and repair technology/technician
47.0607 Airframe mechanics and aircraft maintenance technology/technician
47.0608 Aircraft powerplant technology/technician

47.0609 Avionics maintenance technology/technician
47.0610 Bicycle mechanics and repair technology/technician
47.0611 Motorcycle maintenance and repair technology/technician
47.0612 Vehicle emissions inspection and maintenance technology/technician
47.0613 Medium/heavy vehicle and truck technology/technician
47.0614 Alternative fuel vehicle technology/technician
47.0615 Engine machinist
47.0616 Marine maintenance/fitter and ship repair technology/technician
47.0617 High performance and custom engine technician/mechanic
47.0618 Recreation vehicle (RV) service technician
47.0699 Vehicle maintenance and repair technologies, other

47.99 Mechanic and repair technologies/technicians, other
47.9999 Mechanic and repair technologies/technicians, other

48. Precision production

48.00 Precision production trades, general
48.0000 Precision production trades, general

48.03 Leatherworking and upholstery
48.0303 Upholstery/upholsterer
48.0304 Shoe, boot and leather repair
48.0399 Leatherworking and upholstery, other

48.05 Precision metal working
48.0501 Machine tool technology/machinist
48.0503 Machine shop technology/assistant
48.0506 Sheet metal technology/sheetworking
48.0507 Tool and die technology/technician
48.0508 Welding technology/welder
48.0509 Ironworking/ironworker
48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist
48.0511 Metal fabricator
48.0599 Precision metal working, other

48.07 Woodworking
48.0701 Woodworking, general
48.0702 Furniture design and manufacturing
48.0703 Cabinetmaking and millwork
48.0799 Woodworking, other

48.08 Boilermaking/boilermaker
48.0801 Boilermaking/boilermaker

48.99 Precision production, other
48.9999 Precision production, other

49. Transportation and materials moving

49.01 Air transportation
49.0101 Aeronautics/aviation/aerospace science and technology, general
49.0102 Airline/commercial/professional pilot and flight crew
49.0104 Aviation/airway management and operations
49.0105 Air traffic controller
49.0106 Airline flight attendant

49.0108 Flight instructor
49.0199 Air transportation, other

49.02 Ground transportation
49.0202 Construction/heavy equipment/earthmoving equipment operation
49.0205 Truck and bus driver/commercial vehicle operator and instructor
49.0206 Mobile crane operation/operator
49.0207 Flagging and traffic control
49.0208 Railroad and railway transportation
49.0299 Ground transportation, other

49.03 Marine transportation
49.0303 Commercial fishing
49.0304 Diver, professional and instructor
49.0309 Nautical science/merchant marine officer
49.0399 Marine transportation, other

49.99 Transportation and materials moving, other
49.9999 Transportation and materials moving, other

50. Visual and performing arts

50.01 Visual, digital and performing arts, general
50.0101 Visual and performing arts, general
50.0102 Digital arts, general

50.02 Crafts/craft design, folk art and artisanry
50.0201 Crafts/craft design, folk art and artisanry

50.03 Dance
50.0301 Dance, general
50.0302 Ballet
50.0399 Dance, other

50.04 Design and applied arts
50.0401 Design and visual communications, general
50.0402 Commercial and advertising art
50.0404 Industrial and product design
50.0406 Commercial photography
50.0407 Fashion/apparel design
50.0408 Interior design
50.0409 Graphic design
50.0410 Illustration
50.0411 Game and interactive media design
50.0499 Design and applied arts, other

50.05 Drama/theatre arts and stagecraft
50.0501 Drama and dramatics/theatre arts, general
50.0502 Technical theatre/theatre design and technology
50.0504 Playwriting and screenwriting
50.0505 Theatre literature, history and criticism
50.0506 Acting
50.0507 Directing and theatrical production
50.0509 Musical theatre
50.0510 Costume design
50.0599 Drama/theatre arts and stagecraft, other

50.06 Film/video and photographic arts

50.0601 Film/cinema/video studies
50.0602 Cinematography and film/video production
50.0605 Photography
50.0607 Documentary production
50.0699 Film/video and photographic arts, other

50.07 Fine arts and art studies

50.0701 Art/art studies, general
50.0702 Fine/studio arts, general
50.0703 Art history, criticism and conservation
50.0705 Drawing
50.0706 Intermedia/multimedia
50.0708 Painting
50.0709 Sculpture
50.0710 Printmaking
50.0711 Ceramic arts and ceramics
50.0712 Fibre, textile and weaving arts
50.0713 Metal and jewellery arts
50.0799 Fine arts and art studies, other

50.09 Music

50.0901 Music, general
50.0902 Music history, literature and theory
50.0903 Music performance, general
50.0904 Music theory and composition
50.0905 Musicology and ethnomusicology
50.0906 Conducting
50.0907 Keyboard instruments
50.0908 Voice and opera
50.0910 Jazz/jazz studies
50.0911 Stringed instruments
50.0912 Music pedagogy
50.0913 Music technology
50.0914 Brass instruments
50.0915 Woodwind instruments
50.0916 Percussion instruments
50.0999 Music, other

50.10 Arts, entertainment, and media management

50.1001 Arts, entertainment, and media management, general
50.1002 Fine and studio arts management
50.1003 Music management
50.1004 Theatre/theatre arts management
50.1099 Arts, entertainment, and media management, other

50.99 Visual and performing arts, other

50.9999 Visual and performing arts, other

51. Health professions and related programs

51.00 Health services/allied health/health sciences, general

51.0000 Health services/allied health/health sciences, general
51.0001 Health and wellness, general

51.01 Chiropractic (DC)
- 51.0101 Chiropractic (DC)

51.02 Communication disorders sciences and services
- 51.0201 Communication sciences and disorders, general
- 51.0202 Audiology/audiologist
- 51.0203 Speech-language pathology/pathologist
- 51.0204 Audiology/audiologist and speech-language pathology/pathologist
- 51.0299 Communication disorders sciences and services, other

51.04 Dentistry (DDS, DMD)
- 51.0401 Dentistry (DDS, DMD)

51.05 Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD)
- 51.0501 Dental clinical sciences, general (MS, MSc, PhD)
- 51.0502 Advanced general dentistry (Cert., MS, MSc, PhD)
- 51.0503 Oral biology and oral and maxillofacial pathology (MS, MSc, PhD)
- 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH)
- 51.0505 Dental materials (MS, MSc, PhD)
- 51.0506 Endodontics/endodontology (Cert., MS, MSc, PhD)
- 51.0507 Oral/maxillofacial surgery (Cert., MS, MSc, PhD)
- 51.0508 Orthodontics/orthodontology (Cert., MS, MSc, PhD)
- 51.0509 Pediatric dentistry/pedodontics (Cert., MS, MSc, PhD)
- 51.0510 Periodontics/periodontology (Cert., MS, MSc, PhD)
- 51.0511 Prosthodontics/prosthodontology (Cert., MS, MSc, PhD)
- 51.0599 Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD), other

51.06 Dental support services and allied professions
- 51.0601 Dental assisting/assistant
- 51.0602 Dental hygiene/hygienist
- 51.0603 Dental laboratory technology/technician
- 51.0699 Dental support services and allied professions, other

51.07 Health and medical administrative services
- 51.0701 Health/health care administration/management
- 51.0702 Hospital and health care facilities administration/management
- 51.0703 Health unit coordinator/ward clerk
- 51.0704 Health unit manager/ward supervisor
- 51.0705 Medical office management/administration
- 51.0706 Health information/medical records administration/administrator
- 51.0707 Health information/medical records technology/technician
- 51.0708 Medical transcription/transcriptionist
- 51.0709 Medical office computer specialist/assistant
- 51.0710 Medical office assistant/specialist
- 51.0711 Medical/health management and clinical assistant/specialist
- 51.0712 Medical reception/receptionist
- 51.0713 Medical insurance coding specialist/coder
- 51.0714 Medical insurance specialist/medical biller
- 51.0715 Health/medical claims examiner
- 51.0716 Medical administrative/executive assistant and medical secretary
- 51.0717 Medical staff services technology/technician
- 51.0718 Long term care administration/management
- 51.0719 Clinical research coordinator
- 51.0799 Health and medical administrative services, other

51.08 Allied health and medical assisting services

51.0801 Medical/clinical assistant
51.0802 Clinical/medical laboratory assistant
51.0803 Occupational therapist assistant
51.0805 Pharmacy technician/assistant
51.0806 Physical therapy technician/assistant
51.0808 Veterinary/animal health technology/technician and veterinary assistant
51.0809 Anesthesiologist assistant
51.0810 Emergency care attendant (EMT ambulance)
51.0811 Pathology/pathologist assistant
51.0812 Respiratory therapy technician/assistant
51.0813 Chiropractic assistant/technician
51.0814 Radiologist assistant
51.0815 Lactation consultant
51.0816 Speech-language pathology assistant
51.0817 Rehabilitation assistant CAN
51.0899 Allied health and medical assisting services, other

51.09 Allied health diagnostic, intervention and treatment professions

51.0901 Cardiovascular technology/technologist
51.0902 Electrocardiograph technology/technician
51.0903 Electroneurodiagnostic/electroencephalographic technology/technologist
51.0904 Emergency medical technology/technician (EMT paramedic)
51.0905 Nuclear medical technology/technologist
51.0906 Perfusion technology/perfusionist
51.0907 Medical radiologic technology/science – radiation therapist
51.0908 Respiratory care therapy/therapist
51.0909 Surgical technology/technologist
51.0910 Diagnostic medical sonography/sonographer and ultrasound technician
51.0911 Radiologic technology/science – radiographer
51.0912 Physician assistant
51.0913 Athletic training/trainer
51.0914 Gene/genetic therapy
51.0915 Cardiopulmonary technology/technologist
51.0916 Radiation protection/health physics technician
51.0917 Polysomnography
51.0918 Hearing instrument specialist
51.0919 Mammography technician/technology
51.0920 Magnetic resonance imaging (MRI) technology/technician
51.0921 Combined laboratory and X-ray technology CAN
51.0999 Allied health diagnostic, intervention and treatment professions, other

51.10 Clinical/medical laboratory science/research and allied professions

51.1001 Blood bank technology specialist
51.1002 Cytotechnology/cytotechnologist
51.1003 Hematology technology/technician
51.1004 Clinical/medical laboratory technician
51.1005 Clinical laboratory science/medical technology/technologist
51.1006 Ophthalmic laboratory technology/technician
51.1007 Histologic technology/histotechnologist
51.1008 Histologic technician
51.1009 Phlebotomy technician/phlebotomist
51.1010 Cytogenetics/genetics/clinical genetics technology/technologist
51.1011 Renal/dialysis technologist/technician
51.1012 Sterile processing technology/technician
51.1099 Clinical/medical laboratory science and allied professions, other

51.11 Health/medical preparatory programs
- 51.1101 Pre-dentistry studies
- 51.1102 Pre-medicine/pre-medical studies
- 51.1103 Pre-pharmacy studies
- 51.1104 Pre-veterinary studies
- 51.1105 Pre-nursing studies
- 51.1106 Pre-chiropractic studies
- 51.1107 Pre-occupational therapy studies
- 51.1108 Pre-optometry studies
- 51.1109 Pre-physical therapy studies
- 51.1199 Health/medical preparatory programs, other

51.12 Medicine (MD)
- 51.1201 Medicine (MD)

51.14 Medical scientist (MS, MSc, PhD)
- 51.1401 Medical scientist (MS, MSc, PhD)

51.15 Mental and social health services and allied professions
- 51.1501 Substance abuse/addiction counselling
- 51.1502 Psychiatric/mental health services technician
- 51.1503 Clinical/medical social work
- 51.1504 Community health services/liaison/counselling
- 51.1505 Marriage and family therapy/counselling
- 51.1506 Clinical pastoral counselling/patient counselling
- 51.1507 Psychoanalysis and psychotherapy
- 51.1508 Mental health counselling/counsellor
- 51.1509 Genetic counselling/counsellor
- 51.1599 Mental and social health services and allied professions, other

51.17 Optometry (OD)
- 51.1701 Optometry (OD)

51.18 Ophthalmic and optometric support services and allied professions
- 51.1801 Opticianry/ophthalmic dispensing optician
- 51.1802 Optometric technician/assistant
- 51.1803 Ophthalmic technician/technologist
- 51.1804 Orthoptics/orthoptist
- 51.1899 Ophthalmic and optometric support services and allied professions, other

51.19 Osteopathic medicine/osteopathy (DO)
- 51.1901 Osteopathic medicine/osteopathy (DO)

51.20 Pharmacy, pharmaceutical sciences and administration
- 51.2001 Pharmacy (PharmD, BS, BSc, BPharm)
- 51.2002 Pharmacy administration and pharmacy policy and regulatory affairs (MS, MSc, PhD)
- 51.2003 Pharmaceutics and drug design (MS, MSc, PhD)
- 51.2004 Medicinal and pharmaceutical chemistry (MS, MSc, PhD)
- 51.2005 Natural products chemistry and pharmacognosy (MS, MSc, PhD)
- 51.2006 Clinical and industrial drug development (MS, MSc, PhD)
- 51.2007 Pharmacoeconomics/pharmaceutical economics (MS, MSc, PhD)
- 51.2008 Clinical, hospital and managed care pharmacy (MS, MSc, PhD)
- 51.2009 Industrial and physical pharmacy and cosmetic sciences (MS, MSc, PhD)
- 51.2010 Pharmaceutical sciences
- 51.2011 Pharmaceutical marketing and management
- 51.2099 Pharmacy, pharmaceutical sciences and administration, other

51.21 Podiatric medicine/podiatry (DPM)

51.2101 Podiatric medicine/podiatry (DPM)

51.22 Public health

51.2201 Public health, general (MPH, DPH)
51.2202 Environmental health
51.2205 Health/medical physics
51.2206 Occupational health and industrial hygiene
51.2207 Public health education and promotion
51.2208 Community health and preventive medicine
51.2209 Maternal and child health
51.2210 International public health/international health
51.2211 Health services administration
51.2212 Behavioural aspects of health
51.2299 Public health, other

51.23 Rehabilitation and therapeutic professions

51.2301 Art therapy/therapist
51.2302 Dance therapy/therapist
51.2305 Music therapy/therapist
51.2306 Occupational therapy/therapist
51.2307 Orthotist/prosthetist
51.2308 Physical therapy/therapist
51.2309 Therapeutic recreation/recreational therapy
51.2310 Vocational rehabilitation counselling/counsellor
51.2311 Kinesiotherapy/kinesiotherapist
51.2312 Assistive/augmentative technology and rehabilitation engineering
51.2313 Animal-assisted therapy
51.2314 Rehabilitation science
51.2399 Rehabilitation and therapeutic professions, other

51.24 Veterinary medicine (DVM)

51.2401 Veterinary medicine (DVM)

51.25 Veterinary biomedical and clinical sciences (Cert., MS, MSc, PhD)

51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD)
51.2502 Veterinary anatomy (Cert., MS, MSc, PhD)
51.2503 Veterinary physiology (Cert., MS, MSc, PhD)
51.2504 Veterinary microbiology and immunobiology (Cert., MS, MSc, PhD)
51.2505 Veterinary pathology and pathobiology (Cert., MS, MSc, PhD)
51.2506 Veterinary toxicology and pharmacology (Cert., MS, MSc, PhD)
51.2507 Large animal/food animal and equine surgery and medicine (Cert., MS, MSc, PhD)
51.2508 Small/companion animal surgery and medicine (Cert., MS, MSc, PhD)
51.2509 Comparative and laboratory animal medicine (Cert., MS, MSc, PhD)
51.2510 Veterinary preventive medicine, epidemiology and public health (Cert., MS, MSc, PhD)
51.2511 Veterinary infectious diseases (Cert., MS, MSc, PhD)
51.2599 Veterinary biomedical and clinical sciences (Cert., MS, MSc, PhD), other

51.26 Health aides/attendants/orderlies

51.2601 Health aide
51.2602 Home health aide/home attendant
51.2603 Medication aide
51.2604 Rehabilitation aide
51.2699 Health aides/attendants/orderlies, other

51.27 Medical illustration and informatics
- 51.2703 Medical illustration/medical illustrator
- 51.2706 Medical informatics
- 51.2799 Medical illustration and informatics, other

51.31 Dietetics and clinical nutrition services
- 51.3101 Dietetics/dietitian (RD)
- 51.3102 Clinical nutrition/nutritionist
- 51.3103 Dietetic technician (DTR)
- 51.3104 Dietitian assistant
- 51.3199 Dietetics and clinical nutrition services, other

51.32 Bioethics/medical ethics
- 51.3201 Bioethics/medical ethics

51.33 Alternative and complementary medicine and medical systems
- 51.3300 Alternative and complementary medicine and medical systems, general
- 51.3301 Acupuncture and oriental medicine
- 51.3302 Traditional Chinese medicine and Chinese herbology
- 51.3303 Naturopathic medicine/naturopathy (ND)
- 51.3304 Homeopathic medicine/homeopathy
- 51.3305 Ayurvedic medicine/Ayurveda
- 51.3306 Holistic health
- 51.3399 Alternative and complementary medicine and medical systems, other

51.34 Alternative and complementary medical support services
- 51.3401 Direct entry midwifery (LM, CPM)
- 51.3499 Alternative and complementary medical support services, other

51.35 Somatic bodywork and related therapeutic services
- 51.3501 Massage therapy/therapeutic massage
- 51.3502 Asian bodywork therapy
- 51.3503 Somatic bodywork
- 51.3599 Somatic bodywork and related therapeutic services, other

51.36 Movement and mind-body therapies
- 51.3601 Movement therapy
- 51.3602 Yoga teacher training/yoga therapy
- 51.3603 Hypnotherapy/hypnotherapist
- 51.3699 Movement and mind-body therapies, other

51.37 Energy-based and biologically-based therapies
- 51.3701 Aromatherapy
- 51.3702 Herbalism/herbalist
- 51.3703 Polarity therapy
- 51.3704 Reiki
- 51.3799 Energy-based and biologically-based therapies, other

51.38 Registered nursing, nursing administration, nursing research and clinical nursing
- 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN)
- 51.3802 Nursing administration (MSN, MS, MScN, MSc, PhD)
- 51.3803 Adult health nurse/nursing
- 51.3804 Nurse anesthetist
- 51.3805 Primary health care nurse/nursing and family practice nurse/nursing
- 51.3806 Maternal/child health and neonatal nurse/nursing
- 51.3807 Nurse midwife/nursing midwifery

51.3808 Nursing science (MS, MSc, PhD)
51.3809 Pediatric nurse/nursing
51.3810 Psychiatric/mental health nurse/nursing
51.3811 Public health/community nurse/nursing
51.3812 Perioperative/operating room and surgical nurse/nursing
51.3813 Clinical nurse specialist
51.3814 Critical care nurse/nursing
51.3815 Occupational and environmental health nurse/nursing
51.3816 Emergency room/trauma nurse/nursing
51.3817 Nursing education
51.3818 Nursing practice
51.3819 Palliative care nurse/nursing
51.3820 Clinical nurse leader
51.3821 Geriatric nurse/nursing
51.3822 Women's health nurse/nursing
51.3823 Registered psychiatric nurse/nursing CAN
51.3899 Registered nursing, nursing administration, nursing research and clinical nursing, other

51.39 Practical nursing, vocational nursing and nursing assistants
51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS)
51.3902 Nursing assistant/aide and patient care assistant/aide
51.3999 Practical nursing, vocational nursing and nursing assistants, other

51.99 Health professions and related clinical sciences, other
51.9999 Health professions and related clinical sciences, other

52. Business, management, marketing and related support services

52.01 Business/commerce, general
52.0101 Business/commerce, general

52.02 Business administration, management and operations
52.0201 Business administration and management, general
52.0202 Purchasing, procurement/acquisitions and contracts management
52.0203 Logistics, materials, and supply chain management
52.0204 Office management and supervision
52.0205 Operations management and supervision
52.0206 Non-profit/public/organizational management
52.0207 Customer service management
52.0208 E-commerce/electronic commerce
52.0209 Transportation/mobility management
52.0210 Research and development management
52.0211 Project management
52.0212 Retail management
52.0213 Organizational leadership
52.0299 Business administration, management and operations, other

52.03 Accounting and related services
52.0301 Accounting
52.0302 Accounting technology/technician and bookkeeping
52.0303 Auditing
52.0304 Accounting and finance
52.0305 Accounting and business/management
52.0399 Accounting and related services, other

52.04 Business operations support and assistant services
52.0401 Administrative assistant and secretarial science, general

52.0402 Executive assistant/executive secretary
52.0406 Receptionist
52.0407 Business/office automation/technology/data entry
52.0408 General office occupations and clerical services
52.0409 Parts, warehousing and inventory management operations
52.0410 Traffic, customs and transportation clerk/technician
52.0411 Customer service support/call centre/teleservice operation
52.0499 Business operations support and assistant services, other

52.05 Business/corporate communications
52.0501 Business/corporate communications

52.06 Business/managerial economics
52.0601 Business/managerial economics

52.07 Entrepreneurial and small business operations
52.0701 Entrepreneurship/entrepreneurial studies
52.0702 Franchising and franchise operations
52.0703 Small business administration/management
52.0799 Entrepreneurial and small business operations, other

52.08 Finance and financial management services
52.0801 Finance, general
52.0803 Banking and financial support services
52.0804 Financial planning and services
52.0806 International finance
52.0807 Investments and securities
52.0808 Public finance
52.0809 Credit management
52.0899 Finance and financial management services, other

52.09 Hospitality administration/management
52.0901 Hospitality administration/management, general
52.0903 Tourism and travel services management
52.0904 Hotel/motel administration/management
52.0905 Restaurant/food services management
52.0906 Resort management
52.0907 Meeting and event planning
52.0908 Casino management
52.0909 Hotel, motel, and restaurant management
52.0999 Hospitality administration/management, other

52.10 Human resources management and services
52.1001 Human resources management/personnel administration, general
52.1002 Labour and industrial relations
52.1003 Organizational behaviour studies
52.1004 Labour studies
52.1005 Human resources development
52.1099 Human resources management and services, other

52.11 International business/trade/commerce
52.1101 International business/trade/commerce

52.12 Management information systems and services
52.1201 Management information systems, general
52.1206 Information resources management
52.1207 Knowledge management

52.1299 Management information systems and services, other

52.13 Management sciences and quantitative methods
52.1301 Management science
52.1302 Business statistics
52.1304 Actuarial science
52.1399 Management sciences and quantitative methods, other

52.14 Marketing
52.1401 Marketing/marketing management, general
52.1402 Marketing research
52.1403 International marketing
52.1499 Marketing, other

52.15 Real estate
52.1501 Real estate

52.16 Taxation
52.1601 Taxation

52.17 Insurance
52.1701 Insurance

52.18 General sales, merchandising and related marketing operations
52.1801 Sales, distribution and marketing operations, general
52.1802 Merchandising and buying operations
52.1803 Retailing and retail operations
52.1804 Selling skills and sales operations
52.1899 General sales, merchandising and related marketing operations, other

52.19 Specialized sales, merchandising and marketing operations
52.1901 Auctioneering
52.1902 Fashion merchandising
52.1903 Fashion modelling
52.1904 Apparel and accessories marketing operations
52.1905 Tourism and travel services marketing operations
52.1906 Tourism promotion operations
52.1907 Vehicle and vehicle parts and accessories marketing operations
52.1908 Business and personal/financial services marketing operations
52.1909 Special products marketing operations
52.1910 Hospitality and recreation marketing operations
52.1999 Specialized sales, merchandising and marketing operations, other

52.20 Construction management
52.2001 Construction management

52.21 Telecommunications management
52.2101 Telecommunications management

52.99 Business, management, marketing and related support services, other
52.9999 Business, management, marketing and related support services, other

53. High school/secondary diploma and certificate programs

53.01 High school/secondary diploma programs
53.0101 Regular/general high school/secondary diploma programs

53.0102 College/university preparatory programs
53.0103 Vocational high school and secondary business/vocational-industrial/occupational diploma programs
53.0104 Honours/regents high school/secondary diploma programs
53.0105 Adult high school/secondary diploma programs
53.0199 High school/secondary diploma programs, other

53.02 High school/secondary certificate programs
53.0201 High school equivalence certificate programs
53.0202 High school certificate of competence programs
53.0203 Certificate of IEP completion programs
53.0299 High school/secondary certificate programs, other

54. History

54.01 History
54.0101 History, general
54.0102 American history (United States)
54.0103 European history
54.0104 History and philosophy of science and technology
54.0105 Public/applied history
54.0106 Asian history
54.0107 Canadian history
54.0108 Military history
54.0199 History, other

55. French language and literature/letters CAN

55.01 French language and literature, general CAN
55.0101 French language and literature, general CAN

55.13 French rhetoric and composition/writing studies CAN
55.1301 French writing, general CAN
55.1302 French creative writing CAN
55.1303 French professional, technical, business, and scientific writing CAN
55.1304 French rhetoric and composition CAN
55.1399 French rhetoric and composition/writing studies, other CAN

55.14 French literature CAN
55.1401 French literature, general CAN
55.1403 Canadian literature, French CAN
55.1404 Literature of France and the French community, French CAN
55.1405 Children's and adolescent literature, French CAN
55.1499 French literature, other CAN

55.99 French language and literature/letters, other CAN
55.9999 French language and literature/letters, other CAN

60. Dental, medical and veterinary residency programs

60.01 Dental residency programs
60.0101 Oral and maxillofacial surgery residency programs
60.0102 Dental public health residency programs
60.0103 Endodontics residency programs

60.0104 Oral and maxillofacial pathology residency programs
60.0105 Orthodontics residency programs
60.0106 Pediatric dentistry residency programs
60.0107 Periodontology residency programs
60.0108 Prosthodontics residency programs
60.0109 Oral and maxillofacial radiology residency programs
60.0199 Dental residency programs, other

60.03 Veterinary residency programs

60.0301 Veterinary anesthesiology residency programs
60.0302 Veterinary dentistry residency programs
60.0303 Veterinary dermatology residency programs
60.0304 Veterinary emergency and critical care medicine residency programs
60.0305 Veterinary internal medicine residency programs
60.0306 Laboratory animal medicine residency programs
60.0307 Veterinary microbiology residency programs
60.0308 Veterinary nutrition residency programs
60.0309 Veterinary ophthalmology residency programs
60.0310 Veterinary pathology residency programs
60.0311 Veterinary practice residency programs
60.0312 Veterinary preventive medicine residency programs
60.0313 Veterinary radiology residency programs
60.0314 Veterinary surgery residency programs
60.0315 Theriogenology residency programs
60.0316 Veterinary toxicology residency programs
60.0317 Zoological medicine residency programs
60.0318 Poultry veterinarian residency programs
60.0319 Veterinary behaviourist residency programs
60.0320 Veterinary clinical pharmacology residency programs
60.0399 Veterinary residency programs, other

60.04 Medical residency programs - general certificates

60.0401 Aerospace medicine residency programs
60.0402 Allergy and immunology residency programs
60.0403 Anesthesiology residency programs
60.0404 Child neurology residency programs
60.0405 Clinical biochemical genetics residency programs
60.0406 Clinical cytogenetics residency programs
60.0407 Clinical genetics residency programs
60.0408 Clinical molecular genetics residency programs
60.0409 Colon and rectal surgery residency programs
60.0410 Dermatology residency programs
60.0411 Diagnostic radiology residency programs
60.0412 Emergency medicine residency programs
60.0413 Family medicine residency programs
60.0414 General surgery residency programs
60.0415 Internal medicine residency programs
60.0416 Neurological surgery residency programs
60.0417 Neurology residency programs
60.0418 Nuclear medicine residency programs
60.0419 Obstetrics and gynecology residency programs
60.0420 Occupational medicine residency programs
60.0421 Ophthalmology residency programs
60.0422 Orthopedic surgery residency programs
60.0423 Otolaryngology residency programs
60.0424 Pathology residency programs
60.0425 Pediatrics residency programs
60.0426 Physical medicine and rehabilitation residency programs

60.0427 Plastic surgery residency programs
60.0428 Psychiatry residency programs
60.0429 Public health and general preventive medicine residency programs
60.0430 Radiation oncology residency programs
60.0431 Radiologic physics residency programs
60.0432 Thoracic surgery residency programs
60.0433 Urology residency programs
60.0434 Vascular surgery residency programs
60.0499 Medical residency programs - general certificates, other

60.05 Medical residency programs - subspecialty certificates

60.0501 Addiction psychiatry residency programs
60.0502 Adolescent medicine residency programs
60.0503 Blood banking/transfusion medicine residency programs
60.0504 Cardiovascular disease residency programs
60.0505 Chemical pathology residency programs
60.0506 Child abuse pediatrics residency programs
60.0507 Child and adolescent psychiatry residency programs
60.0508 Clinical cardiac electrophysiology residency programs
60.0509 Clinical neurophysiology residency programs
60.0510 Congenital cardiac surgery residency programs
60.0511 Critical care medicine residency programs
60.0512 Cytopathology residency programs
60.0513 Dermatopathology residency programs
60.0514 Developmental-behavioural pediatrics residency programs
60.0515 Diagnostic radiologic physics residency programs
60.0516 Endocrinology, diabetes and metabolism residency programs
60.0517 Forensic pathology residency programs
60.0518 Forensic psychiatry residency programs
60.0519 Gastroenterology residency programs
60.0520 Geriatric medicine residency programs
60.0521 Geriatric psychiatry residency programs
60.0522 Gynecologic oncology residency programs
60.0523 Hematological pathology residency programs
60.0524 Hematology residency programs
60.0525 Hospice and palliative medicine residency programs
60.0526 Immunopathology residency programs
60.0527 Infectious disease residency programs
60.0528 Interventional cardiology residency programs
60.0529 Laboratory medicine residency programs
60.0530 Maternal and fetal medicine residency programs
60.0531 Medical biochemical genetics residency programs
60.0532 Medical microbiology residency programs
60.0533 Medical nuclear physics residency programs
60.0534 Medical oncology residency programs
60.0535 Medical toxicology residency programs
60.0536 Molecular genetic pathology residency programs
60.0537 Musculoskeletal oncology residency programs
60.0538 Neonatal-perinatal medicine residency programs
60.0539 Nephrology residency programs
60.0540 Neurodevelopmental disabilities residency programs
60.0541 Neuromuscular medicine residency programs
60.0542 Neuropathology residency programs
60.0543 Neuroradiology residency programs
60.0544 Neurotology residency programs
60.0545 Nuclear radiology residency programs
60.0546 Orthopaedic sports medicine residency programs
60.0547 Orthopedic surgery of the spine residency programs

60.0548 Pain medicine residency programs
60.0549 Pediatric cardiology residency programs
60.0550 Pediatric critical care medicine residency programs
60.0551 Pediatric dermatology residency programs
60.0552 Pediatric emergency medicine residency programs
60.0553 Pediatric endocrinology residency programs
60.0554 Pediatric gastroenterology residency programs
60.0555 Pediatric hematology-oncology residency programs
60.0556 Pediatric infectious diseases residency programs
60.0557 Pediatric nephrology residency programs
60.0558 Pediatric orthopedics residency programs
60.0559 Pediatric otolaryngology residency programs
60.0560 Pediatric pathology residency programs
60.0561 Pediatric pulmonology residency programs
60.0562 Pediatric radiology residency programs
60.0563 Pediatric rehabilitation medicine residency programs
60.0564 Pediatric rheumatology residency programs
60.0565 Pediatric surgery residency programs
60.0566 Pediatric transplant hepatology residency programs
60.0567 Pediatric urology residency programs
60.0568 Physical medicine and rehabilitation, psychiatric residency programs
60.0569 Plastic surgery within the head and neck residency programs
60.0570 Psychosomatic medicine residency programs
60.0571 Pulmonary disease residency programs
60.0572 Radioisotopic pathology residency programs
60.0573 Reproductive endocrinology/infertility residency programs
60.0574 Rheumatology residency programs
60.0575 Sleep medicine residency programs
60.0576 Spinal cord injury medicine residency programs
60.0577 Sports medicine residency programs
60.0578 Surgery of the hand residency programs
60.0579 Surgical critical care residency programs
60.0580 Therapeutic radiologic physics residency programs
60.0581 Transplant hepatology residency programs
60.0582 Undersea and hyperbaric medicine residency programs
60.0583 Vascular and interventional radiology residency programs
60.0584 Vascular neurology residency programs
60.0599 Medical residency programs - subspecialty certificates, other

60.06 Podiatric medicine residency programs

60.0601 Podiatric medicine and surgery residency programs - 24
60.0602 Podiatric medicine and surgery residency programs - 36
60.0699 Podiatric medicine residency programs, other

60.99 Dental, medical and veterinary residency programs, other

60.9999 Dental, medical and veterinary residency programs, other

Descriptions

01. Agriculture, agriculture operations and related sciences

This series comprises instructional programs that focus on agriculture and related sciences and that prepare individuals to apply specific knowledge, methods, and techniques to the management and performance of agricultural operations.

01.00 Agriculture, general

This subseries comprises instructional program class 01.0000.

01.0000 Agriculture, general

This instructional program class comprises any program that focuses on the general principles and practice of agricultural research and production and that prepares individuals to apply this knowledge to the solution of practical agricultural problems. These programs include courses in basic animal, plant, and soil science; animal husbandry and plant cultivation; soil conservation; and agricultural operations such as farming, ranching, and agricultural business.

Illustrative example(s)
- agricultural science
- agricultural technology

Exclusion(s)
- agricultural engineering (see 14.0301 Agricultural engineering)
- international agriculture (see 01.0701 International agriculture)

01.01 Agricultural business and management

This subseries comprises instructional program classes 01.0101 to 01.0199.

01.0101 Agricultural business and management, general

This instructional program class comprises any general program that focuses on modern business and economic principles involved in the organization, operation, and management of agricultural enterprises.

Illustrative example(s)
- agricultural business
- agricultural business management
- agricultural management

Exclusion(s)
- agribusiness (see 01.0102 Agribusiness/agricultural business operations)
- agricultural business technology (see 01.0106 Agricultural business technology)
- business management (see 52.0201 Business administration and management, general)
- farm business management (see 01.0301 Agricultural production operations, general)
- farm management (see 01.0104 Farm/farm and ranch management)
- small business management (see 52.0703 Small business administration/management)

01.0102 Agribusiness/agricultural business operations

This instructional program class comprises any program that prepares individuals to manage agricultural businesses and agriculturally related operations within diversified corporations. These programs include courses in agriculture, agricultural specialization, business management, accounting, finance, marketing, planning, human resources management, and other managerial responsibilities.

Illustrative example(s)
- agribusiness
- agribusiness operations
- agricultural business operations
- agricultural food business management
- agricultural systems management
- food and agribusiness management

Exclusion(s)
- agricultural business management (see 01.0101 Agricultural business and management, general)
- agricultural business technology (see 01.0106 Agricultural business technology)
- agricultural production management (see 01.0301 Agricultural production operations, general)
- operations management (see 52.0205 Operations management and supervision)
- small business management (see 52.0703 Small business administration/management)

01.0103 Agricultural economics

This instructional program class comprises any program that focuses on the application of economics to the analysis of resource allocation, productivity, investment, and trends in the agricultural sector, both domestically and internationally. These programs include courses in economics and related subfields as well as applicable agricultural fields.

Illustrative example(s)
- agricultural economics
- agroeconomics
- rural economy

Exclusion(s)
- agricultural finance (see 01.0199 Agricultural business and management, other)
- economics (see 45.0601 Economics, general)
- international economics (see 45.0605 International economics)
- natural resource economics (see 03.0204 Natural resource economics)
- social economics (see 45.0699 Economics, other)

01.0104 Farm/farm and ranch management

This instructional program class comprises any program that prepares individuals to manage farms, ranches, and similar enterprises. These programs include courses in applicable agricultural specialization, business management, accounting, taxation, capitalization, purchasing, government programs and regulations, operational planning and budgeting, contracts and negotiation, and estate planning.

Illustrative example(s)
- farm and ranch management
- farm management
- ranch management

Exclusion(s)
- agricultural business management (see 01.0101 Agricultural business and management, general)
- agricultural business technology (see 01.0106 Agricultural business technology)

- agricultural systems management (see 01.0102 Agribusiness/agricultural business operations)
- business management (see 52.0201 Business administration and management, general)
- farm business management (see 01.0301 Agricultural production operations, general)
- small business management (see 52.0703 Small business administration/management)

01.0105 Agricultural/farm supplies retailing and wholesaling

This instructional program class comprises any program that prepares individuals to sell agricultural products and supplies, provide support services to agricultural enterprises, and purchase and market agricultural products. These programs include courses in basic business management, marketing, retailing and wholesaling operations, and applicable principles of agriculture and agricultural operations.

Illustrative example(s)
- agricultural supplies retailing and wholesaling
- agricultural supplies sales
- farm supplies retailing and wholesaling

Exclusion(s)
- auctioneering (see 52.1901 Auctioneering)
- procurement (see 52.0202 Purchasing, procurement/acquisitions and contracts management)
- retailing (see 52.1803 Retailing and retail operations)

01.0106 Agricultural business technology

This instructional program class comprises any program that prepares individuals to perform specialized support functions related to agricultural business offices and operations and to operate agricultural office equipment, software, and information systems. These programs include courses in basic agricultural business principles, office management, equipment operation, standard software, and database management.

Illustrative example(s)
- agricultural business technology

Exclusion(s)
- agribusiness (see 01.0102 Agribusiness/agricultural business operations)
- agricultural business (see 01.0101 Agricultural business and management, general)
- business administration (see 52.0201 Business administration and management, general)
- farm management (see 01.0104 Farm/farm and ranch management)
- office management (see 52.0204 Office management and supervision)

01.0199 Agricultural business and management, other

This instructional program class comprises any program not listed above that relates to Agricultural business and management.

Illustrative example(s)
- agricultural finance

Exclusion(s)
- agricultural business management (see 01.0101 Agricultural business and management, general)
- agricultural systems management (see 01.0102 Agribusiness/agricultural business operations)

01.02 Agricultural mechanization

This subseries comprises instructional program classes 01.0201 to 01.0299.

01.0201 Agricultural mechanization, general

This instructional program class comprises any program that generally prepares individuals to sell, select, and service agricultural or agribusiness technical equipment, and facilities, including computers, specialized software, power units, machinery, equipment structures, and utilities. These programs include courses in agricultural power systems; planning and selecting materials for the construction of support facilities; mechanical practices associated with irrigation and water conservation; erosion control; and agricultural data processing systems.

Illustrative example(s)
- agricultural mechanization

Exclusion(s)
- agricultural engineering (see 14.0301 Agricultural engineering)
- agricultural mechanics (see 01.0205 Agricultural mechanics and equipment/machine technology)
- agricultural technology (see 01.0000 Agriculture, general)
- farm equipment operator (see 01.0204 Agricultural power machinery operation)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)

01.0204 Agricultural power machinery operation

This instructional program class comprises any program that prepares individuals to operate specialized farm, ranch, and agribusiness power equipment of a stationary, mobile, and/or hand-operated nature. These programs include courses in operating specialized equipment such as terrestrial and airborne crop spraying equipment; tractors and hauling equipment; planting and harvesting equipment; cutting equipment; power sources and systems for silos, irrigation, pumping, and applications such as dairy, feeding and shearing operations; processing equipment; and applicable electrical, mechanical, and safety principles.

Illustrative example(s)
- agricultural machinery operator
- agricultural power machinery operation
- farm equipment operator

Exclusion(s)
- heavy machinery operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)

01.0205 Agricultural mechanics and equipment/machine technology

This instructional program class comprises any program that prepares individuals to maintain and repair specialized farm, ranch, and agribusiness power equipment and vehicles. These programs include courses in the principles of diesel, combustion, electrical, steam, hydraulic, and mechanical systems and their application to the maintenance of terrestrial and airborne crop spraying equipment; tractors and hauling equipment; planting and harvesting equipment; cutting equipment; power sources and systems for silos; irrigation and pumping equipment; dairy, feeding and shearing operations; and processing systems.

Illustrative example(s)
- agricultural equipment mechanic
- agricultural equipment technician
- agricultural machinery technician
- agricultural mechanics
- farm equipment mechanic
- farm equipment service technician
- farm equipment technician
- farm machinery mechanic
- farm machinery repair
- farm machinery technician

Exclusion(s)
- agricultural engineering (see 14.0301 Agricultural engineering)
- agricultural mechanization (see 01.0201 Agricultural mechanization, general)
- agricultural power machinery operation (see 01.0204 Agricultural power machinery operation)
- agricultural technology (see 01.0000 Agriculture, general)
- heavy equipment mechanic (see 47.0302 Heavy equipment maintenance technology/technician)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)

01.0299 Agricultural mechanization, other

This instructional program class comprises any program not listed above that relates to Agricultural mechanization.

Illustrative example(s)
- agricultural irrigation
- irrigation
- irrigation technology

01.03 Agricultural production operations

This subseries comprises instructional program classes 01.0301 to 01.0399.

01.0301 Agricultural production operations, general

This instructional program class comprises any program that focuses on the general planning, economics, and use of facilities, natural resources, equipment, labour, and capital to produce plant and animal products, and that prepares individuals for work in farming, ranching, and agribusiness.

Illustrative example(s)
- agricultural production
- agricultural production management
- farm business
- farm business management
- farming

Exclusion(s)
- agribusiness (see 01.0102 Agribusiness/agricultural business operations)
- agricultural business (see 01.0101 Agricultural business and management, general)
- animal production (see 01.0302 Animal/livestock husbandry and production)
- crop production (see 01.0304 Crop production)
- farm management (see 01.0104 Farm/farm and ranch management)
- horticulture operations (see 01.0601 Applied horticulture/horticulture operations, general)
- milk production (see 01.0306 Dairy husbandry and production)
- organic farming (see 01.0308 Agroecology and sustainable agriculture)
- production management (see 52.0205 Operations management and supervision)
- viticulture (see 01.0309 Viticulture and enology)

01.0302 Animal/livestock husbandry and production

This instructional program class comprises any program that prepares individuals to select, breed, care for, process, and market livestock and small farm animals. These programs include courses in basic animal science, animal nutrition, and animal health as applied to various species and breeds; design and operation of housing, feeding, and processing facilities; and related issues of safety, applicable regulations, logistics, and supply.

Illustrative example(s)
- animal husbandry
- animal production

- animal production technology
- beef production
- livestock production
- poultry husbandry
- swine production
- swine technician
- swine technology

Exclusion(s)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal health (see 01.0903 Animal health)
- animal sciences (see 01.0901 Animal sciences, general)
- livestock management (see 01.0906 Livestock management)
- milk production (see 01.0306 Dairy husbandry and production)
- organic farming (see 01.0308 Agroecology and sustainable agriculture)

01.0303 Aquaculture

This instructional program class comprises any program that prepares individuals to select, culture, propagate, harvest, and market domesticated fish, shellfish, and marine plants, both freshwater and saltwater. These programs include courses in the basic principles of aquatic and marine biology; health and nutrition of aquatic and marine life; design and operation of fish farms, breeding facilities, culture beds, and related enterprises; and related issues of safety, applicable regulations, logistics, and supply.

Illustrative example(s)
- aquaculture
- aquaculture technician
- aquaculture technology
- fish culture
- fish farming
- pisciculture
- salmon farm technician
- sustainable aquaculture

Exclusion(s)
- aquatic biology (see 26.1304 Aquatic biology/limnology)
- fisheries management (see 03.0301 Fishing and fisheries sciences and management)
- fishing (see 49.0303 Commercial fishing)
- marine biology (see 26.1302 Marine biology and biological oceanography)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)
- sustainability studies (see 30.3301 Sustainability studies)

01.0304 Crop production

This instructional program class comprises any program that prepares individuals to cultivate grain, fibre, forage, oilseed, fruits and nuts, vegetables, and other domesticated plant products. These programs include courses in basic principles of plant science, health, and nutrition as applied to particular species and breeds; soil preparation and irrigation; pest management; planting and harvesting operations; product marketing; and applicable issues of safety, regulation, logistics, and supply.

Illustrative example(s)
- aromatic and medicinal plant production
- crop production
- crop technology
- field crop production

Exclusion(s)
- agricultural production (see 01.0301 Agricultural production operations, general)
- botany (see 26.0301 Botany/plant biology, general)
- crop science (see 01.1102 Agronomy and crop science)
- organic farming (see 01.0308 Agroecology and sustainable agriculture)
- pest management (see 01.1105 Plant protection and integrated pest management)
- plant sciences (see 01.1101 Plant sciences, general)
- viticulture (see 01.0309 Viticulture and enology)

01.0306 Dairy husbandry and production

This instructional program class comprises any program that prepares individuals to manage the selection and care of dairy animals and associated dairy farm and processing facilities and operations. These programs include courses in basic animal and dairy science; dairy animal nutrition and health; design and operation of dairy housing, feeding, and processing facilities and equipment; and related issues of safety, sanitation, shipping and handling, and applicable regulations.

Illustrative example(s)
- butter making
- cheese making
- dairy farming
- dairy herd management
- dairy herdsperson
- dairy husbandry
- dairy production
- dairy technology
- milk grading
- milk production

Exclusion(s)
- butcher (see 12.0506 Meat cutting/meat cutter)
- dairy science (see 01.0905 Dairy science)
- livestock production (see 01.0302 Animal/livestock husbandry and production)
- organic farming (see 01.0308 Agroecology and sustainable agriculture)

01.0307 Horse husbandry/equine science and management

This instructional program class comprises any program that prepares individuals to manage the selection, breeding, care, and maintenance of work, athletic, and show horses; and horse farms, stables, tracks and related equipment and operations. These programs include courses in applicable principles of animal science, care, and health; stable and track management; design and operation of facilities and equipment; and related issues such as regulations, business management; and logistics.

Illustrative example(s)
- equine management
- equine science
- equine technology
- horse breeding
- horse husbandry

Exclusion(s)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- blacksmith (see 48.0599 Precision metal working, other)
- equine care (see 01.0507 Equestrian/equine studies)
- equine massage therapy (see 01.0504 Dog/pet/animal grooming)

- horseshoeing (see 01.0599 Agricultural and domestic animal services, other)
- livestock management (see 01.0906 Livestock management)

01.0308 Agroecology and sustainable agriculture

This instructional program class comprises any program that focuses on agricultural principles and practices that, over the long term, enhance environmental quality, make efficient use of nonrenewable resources, integrate natural biological cycles and controls, and are economically viable and socially responsible; and that may prepare individuals to apply this knowledge to the solution of agricultural and environmental problems. These programs include courses in principles of agroecology, crop and soil sciences, entomology, horticulture, animal science, weed science and management, soil fertility and nutrient cycling, applied ecology, agricultural economics, and rangeland ecology and watershed management.

Illustrative example(s)
- agroecology
- organic agriculture
- organic farming
- organic farming inspection
- sustainable agriculture

Exclusion(s)
- agricultural biology (see 01.9999 Agriculture, agriculture operations and related sciences, other)
- agricultural production (see 01.0301 Agricultural production operations, general)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- apiculture (see 01.0399 Agricultural production operations, other)
- crop production (see 01.0304 Crop production)
- dairy production (see 01.0306 Dairy husbandry and production)
- sustainability studies (see 30.3301 Sustainability studies)

01.0309 Viticulture and enology

This instructional program class comprises any program that focuses on the application of scientific and agribusiness principles to the production of grapes, the making of wine, and the wine business. These programs include courses in grapes and wines of the world; grape production; winemaking technology; plant biology; chemistry; food science, safety, and packaging; soil science; pest management; and marketing and business management.

Illustrative example(s)
- enology
- oenology
- viticulture
- wine technology

Exclusion(s)
- agricultural production (see 01.0301 Agricultural production operations, general)
- crop production (see 01.0304 Crop production)
- food technology (see 01.1002 Food technology and processing)
- sommelier (see 12.0510 Wine steward/sommelier)

01.0399 Agricultural production operations, other

This instructional program class comprises any program not listed above that relates to Agricultural production operations.

Illustrative example(s)
- apiculture

- beekeeping
- maple production

Exclusion(s)
- agricultural biology (see 01.9999 Agriculture, agriculture operations and related sciences, other)
- agricultural production (see 01.0301 Agricultural production operations, general)
- animal production (see 01.0302 Animal/livestock husbandry and production)
- crop production (see 01.0304 Crop production)
- dairy production (see 01.0306 Dairy husbandry and production)
- organic agriculture (see 01.0308 Agroecology and sustainable agriculture)

01.04 Agricultural and food products processing

This subseries comprises instructional program class 01.0401.

01.0401 Agricultural and food products processing

This instructional program class comprises any program that prepares individuals to receive, inspect, store, process, and package agricultural products in the form of human food consumables, animal or plant food, or other industrial products. These programs include courses in the nutrient and industrial properties of various agricultural products; logistics and storage procedures; chemical and mechanical processing operations; packaging; safety and health requirements; and related technical and business principles.

Illustrative example(s)
- flour milling
- food inspection
- food products processing
- grain inspection
- seafood processing

Exclusion(s)
- agrifood technology (see 01.1002 Food technology and processing)
- dairy production (see 01.0306 Dairy husbandry and production)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- maple production (see 01.0399 Agricultural production operations, other)

01.05 Agricultural and domestic animal services

This subseries comprises instructional program classes 01.0504 to 01.0599.

01.0504 Dog/pet/animal grooming

This instructional program class comprises any program that prepares individuals to provide cosmetic services for household pets, show animals, work animals and animal athletes. These programs include courses in skin, coat and pelt grooming and styling; skin care; hoof, nail, and claw care; animal massage; minor first aid and veterinary referral; animal grooming products and applications; health and safety; and applicable regulations.

Illustrative example(s)
- animal grooming
- dog grooming
- equine massage therapy
- horse grooming
- pet grooming
- pet stylist

Exclusion(s)
- cosmetologist (see 12.0401 Cosmetology/cosmetologist, general)
- equine care (see 01.0507 Equestrian/equine studies)
- hairstyling (see 12.0407 Hair styling/stylist and hair design)
- horse breeding (see 01.0307 Horse husbandry/equine science and management)
- pedicure (see 12.0410 Nail technician/specialist and manicurist)

01.0505 Animal training

This instructional program class comprises any program that prepares individuals to teach and exercise animals for leisure, sport, show, and professional purposes. These programs include courses in animal psychology, health, and safety; human animal interaction; learning and behaviour styles associated with different breeds and species; and the technical and pedagogical aspects of training animals for such specific functions as obedient household pets, performing show animals, animal athletes, care-giving (e.g., seeing-eye dogs), search and rescue, and police/security work.

Illustrative example(s)
- animal training
- dog training

Exclusion(s)
- animal behaviour (see 26.0708 Animal behaviour and ethology)
- equine-assisted therapy (see 51.2313 Animal-assisted therapy)
- horse training (see 01.0507 Equestrian/equine studies)

01.0507 Equestrian/equine studies

This instructional program class comprises any program that focuses on the horse, horsemanship, and related subjects and prepares individuals to care for horses and horse equipment; ride and drive horses for leisure, sport, show, and professional purposes; and manage the training of horses and riders. These programs include courses in horse breeding, nutrition, health, and safety; history of the horse and horsemanship; horse development and training; riding and equestrian technique; stable, paddock, and track management; and equipment maintenance and repair.

Illustrative example(s)
- equestrian coaching
- equestrian sports
- equestrian studies
- equestrian training
- equine care
- equine studies
- horse dressage
- horse training
- horseback riding
- riding instruction

Exclusion(s)
- animal care technology (see 51.0808 Veterinary/animal health technology/technician and veterinary assistant)
- animal training (see 01.0505 Animal training)
- athletic trainer (see 51.0913 Athletic training/trainer)
- equine management (see 01.0307 Horse husbandry/equine science and management)
- equine-assisted therapy (see 51.2313 Animal-assisted therapy)
- horse grooming (see 01.0504 Dog/pet/animal grooming)
- physical education teaching (see 13.1314 Physical education teaching and coaching)

01.0508 Taxidermy/taxidermist

This instructional program class comprises any program that prepares individuals to reproduce life-like three-dimensional representations of living animals for permanent display using elements of the deceased specimen(s) as well as artificial materials, and to manage taxidermy services and businesses. These programs include courses in specimen grading and selection, capping and fleshing, preservation procedures, tanning, drying, measurements, form and armature construction, carpentry and woodworking, moulding and casting, drawing, sculptural techniques, painting and finishing techniques, basic business operations, customer communications, and applicable laws and regulations.

Illustrative example(s)
- taxidermist
- taxidermy

Exclusion(s)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- museum technology (see 30.1401 Museology/museum studies)

01.0599 Agricultural and domestic animal services, other

This instructional program class comprises any program not listed above that relates to Agricultural and domestic animal services.

Illustrative example(s)
- farrier
- farrier science
- horseshoeing

01.06 Applied horticulture/horticultural business services

This subseries comprises instructional program classes 01.0601 to 01.0699.

01.0601 Applied horticulture/horticulture operations, general

This instructional program class comprises any program that focuses on the general production and processing of domesticated plants, shrubs, flowers, foliage, trees, groundcovers, and related plant materials; the management of technical and business operations connected with horticultural services; and the basic scientific principles needed to understand plants and their management and care.

Illustrative example(s)
- applied horticulture
- environmental horticulture technology
- horticultural technology
- horticulture
- horticulture operations
- horticulturist

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- greenhouse operations and management (see 01.0604 Greenhouse operations and management)
- horticultural landscaping (see 01.0605 Landscaping and groundskeeping)
- horticultural science (see 01.1103 Horticultural science)
- landscaping architecture (see 04.0601 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD))
- ornamental horticulture (see 01.0603 Ornamental horticulture)
- plant nursery operations and management (see 01.0606 Plant nursery operations and management)
- plant sciences (see 01.1101 Plant sciences, general)

01.0603 Ornamental horticulture

This instructional program class comprises any program that focuses on domesticated plants and plant materials used for decorative and recreational applications and prepares individuals to breed, grow, and utilize ornamental plant varieties for commercial and aesthetic purposes. These programs include courses in applicable plant science subjects, the environmental design and artistic aspects of horticultural product usage, and the management of horticultural operations.

Illustrative example(s)
- ornamental horticulture
- ornamental horticulture production

Exclusion(s)
- environmental design (see 04.0401 Environmental design/architecture)
- floristry (see 01.0608 Floriculture/floristry operations and management)
- greenhouse operations and management (see 01.0604 Greenhouse operations and management)
- horticultural science (see 01.1103 Horticultural science)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- landscape design (see 01.0605 Landscaping and groundskeeping)
- plant nursery operations (see 01.0606 Plant nursery operations and management)

01.0604 Greenhouse operations and management

This instructional program class comprises any program that prepares individuals to produce, store, and deliver plant species in controlled indoor environments for wholesale, commercial, research, or other purposes. These programs include courses in applicable principles of plant science; climate, irrigation, and nutrition control equipment operation and maintenance; facilities management; inventory control; safety procedures; and personnel supervision.

Illustrative example(s)
- greenhouse management
- greenhouse operations and management
- greenhouse production technology

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- floristry operations and management (see 01.0608 Floriculture/floristry operations and management)
- horticulture operations (see 01.0601 Applied horticulture/horticulture operations, general)
- plant breeding (see 01.1104 Agricultural and horticultural plant breeding)
- plant nursery operations (see 01.0606 Plant nursery operations and management)

01.0605 Landscaping and groundskeeping

This instructional program class comprises any program that prepares individuals to manage and maintain indoor and/or outdoor ornamental and recreational plants and groundcovers and related conceptual designs established by landscape architects, interior designers, enterprise owners or managers, and individual clients. These programs include courses in applicable principles of horticulture, gardening, plant and soil irrigation and nutrition, turf maintenance, plant maintenance, equipment operation and maintenance, personnel supervision, and purchasing.

Illustrative example(s)
- greenspace
- groundskeeping
- horticultural landscaping
- landscape and gardening
- landscape construction
- landscape design

- landscape gardener
- landscape management
- landscape technology
- landscaping

Exclusion(s)
- environmental design (see 04.0401 Environmental design/architecture)
- greenskeeping (see 31.0302 Golf course operation and grounds management)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- landscape architecture (see 04.0601 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD))
- turf and turfgrass (see 01.0607 Turf and turfgrass management)

01.0606 Plant nursery operations and management

This instructional program class comprises any program that prepares individuals to operate and manage outdoor plant farms, tree and shrub nurseries, and related facilities that develop domesticated plant products for propagation, harvesting, and transplantation. These programs include courses in applicable principles of plant science; farm and business management; nursery operations; equipment operation and maintenance; safety procedures; and personnel supervision.

Illustrative example(s)
- nursery technology
- plant nursery management
- plant nursery operations
- plant nursery operations and management

Exclusion(s)
- floristry operations and management (see 01.0608 Floriculture/floristry operations and management)
- greenhouse operations and management (see 01.0604 Greenhouse operations and management)
- horticulture operations (see 01.0601 Applied horticulture/horticulture operations, general)
- plant sciences (see 01.1101 Plant sciences, general)

01.0607 Turf and turfgrass management

This instructional program class comprises any program that focuses on turf grasses and related groundcover plants and prepares individuals to develop ornamental or recreational grasses and related products; plant, transplant, and manage grassed areas; and to produce and store turf used for transplantation. These programs include courses in applicable plant sciences, genetics of grasses, turf science, use analysis, turf management, and related economics.

Illustrative example(s)
- golf and sports turf management
- turf and turfgrass
- turf maintenance
- turf management
- turf science
- turf technician
- turfgrass management
- turfgrass technology

Exclusion(s)
- greenskeeping (see 31.0302 Golf course operation and grounds management)
- groundskeeping (see 01.0605 Landscaping and groundskeeping)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- leisure and recreation services management (see 31.0504 Sport and fitness administration/management)
- ornamental horticulture (see 01.0603 Ornamental horticulture)

01.0608 Floriculture/floristry operations and management

This instructional program class comprises any program that prepares individuals to operate and manage commercial and contract florist enterprises, supply and delivery services, and flower catering services. These programs include courses in the applicable principles of plant science; purchasing, storage, and delivery systems; floral design and arranging; and principles of business management.

Illustrative example(s)
- floral arrangement
- floral design
- floriculture
- florist
- floristry
- floristry operations and management
- retail floristry

Exclusion(s)
- horticultural science (see 01.1103 Horticultural science)
- horticulture operations (see 01.0601 Applied horticulture/horticulture operations, general)
- ornamental horticulture (see 01.0603 Ornamental horticulture)
- plant nursery operations and management (see 01.0606 Plant nursery operations and management)
- plant sciences (see 01.1101 Plant sciences, general)
- retailing (see 52.1803 Retailing and retail operations)

01.0699 Applied horticulture/horticultural business services, other

This instructional program class comprises any program not listed above that relates to Applied horticulture/horticultural business services.

Illustrative example(s)
- arboriculture
- arborist
- urban arboriculture
- utility arborist

Exclusion(s)
- floristry operations and management (see 01.0608 Floriculture/floristry operations and management)
- forest resources production and management (see 03.0510 Forest resources production and management)
- greenhouse operations and management (see 01.0604 Greenhouse operations and management)
- greenspace management (see 01.0605 Landscaping and groundskeeping)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- plant nursery operations (see 01.0606 Plant nursery operations and management)
- turf and turfgrass (see 01.0607 Turf and turfgrass management)

01.07 International agriculture

This subseries comprises instructional program class 01.0701.

01.0701 International agriculture

This instructional program class comprises any program that focuses on the application of agricultural management and scientific principles to the problems of global food production and distribution, and to the study of the agricultural systems of other countries. These programs include courses in agricultural economics; comparative

agricultural systems; international agribusiness and law; third-world development studies and economic development; and global applications of climate, soil, water resources, ecological and environmental studies, and animal and plant sciences.

Illustrative example(s)
- international agriculture

Exclusion(s)
- agribusiness (see 01.0102 Agribusiness/agricultural business operations)
- agricultural economics (see 01.0103 Agricultural economics)
- agricultural science (see 01.0000 Agriculture, general)
- international development (see 45.0604 Development economics and international development)
- international public policy (see 44.0504 International public policy analysis)
- sustainable agriculture (see 01.0308 Agroecology and sustainable agriculture)

01.08 Agricultural public services

This subseries comprises instructional program classes 01.0801 to 01.0899.

01.0801 Agricultural and extension education services

This instructional program class comprises any program that prepares individuals to provide referral, consulting, technical assistance, and educational services to gardeners, farmers, ranchers, agribusinesses, and other organizations. These programs include courses in basic agricultural sciences, agricultural business operations, pest control, adult education methods, public relations, applicable laws and regulations, and communication skills.

Illustrative example(s)
- agricultural consulting services
- agricultural extension
- rural extension
- rural extension studies

Exclusion(s)
- agricultural teacher education (see 13.1301 Agricultural teacher education)

01.0802 Agricultural communication/journalism

This instructional program class comprises any program that prepares individuals to apply journalistic, communication, and broadcasting principles to the development, production, and transmittal of agricultural information. These programs include courses in basic journalism, broadcasting, film/video, and communication techniques; the production of technically specialized information products for agricultural audiences; and the principles of agricultural sciences and business operations needed to develop and communicate agricultural subject matter in effective ways.

Illustrative example(s)
- agricultural communications
- agricultural journalism

Exclusion(s)
- broadcast journalism (see 09.0402 Broadcast journalism)
- communications (see 09.0100 Communication, general)
- journalism (see 09.0401 Journalism, general)
- photojournalism (see 09.0404 Photojournalism)
- public relations (see 09.0902 Public relations/image management)

01.0899 Agricultural public services, other

This instructional program class comprises any program not listed above that relates to Agricultural public services.

01.09 Animal sciences

This subseries comprises instructional program classes 01.0901 to 01.0999.

01.0901 Animal sciences, general

This instructional program class comprises any general program that focuses on the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. These programs include courses in the animal sciences, animal husbandry and production, and agricultural and food products processing.

Illustrative example(s)
- animal sciences

Exclusion(s)
- agricultural production (see 01.0301 Agricultural production operations, general)
- animal biology (see 26.0701 Zoology/animal biology, general)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal genetics (see 26.0804 Animal genetics)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- animal physiology (see 26.0707 Animal physiology)

01.0902 Agricultural animal breeding

This instructional program class comprises any program that focuses on the application of genetics and genetic engineering to the improvement of agricultural animal health, the development of new animal breeds, and the selective improvement of agricultural animal populations. These programs include courses in genetics, genetic engineering, population genetics, animal health, animal husbandry, and biotechnology.

Illustrative example(s)
- animal breeding
- artificial insemination

Exclusion(s)
- animal genetics (see 26.0804 Animal genetics)
- animal health (see 01.0903 Animal health)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- horse breeding (see 01.0307 Horse husbandry/equine science and management)
- reproductive biology (see 26.0905 Reproductive biology)

01.0903 Animal health

This instructional program class comprises any program that focuses on the application of biological and chemical principles to the study, prevention, and control of diseases in agricultural animal populations. These programs include courses in environmental science, pharmacology, animal population studies, genetics, animal physiology and diet, disease prevention, treatment methodologies, and laboratory and testing procedures.

Illustrative example(s)
- animal health

Exclusion(s)
- animal biology (see 26.0701 Zoology/animal biology, general)

- animal health technician (see 51.0808 Veterinary/animal health technology/technician and veterinary assistant)
- animal physiology (see 26.0707 Animal physiology)
- animal sciences (see 01.0901 Animal sciences, general)
- immunology (see 26.0507 Immunology)
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)
- veterinary sciences (Cert., MS, MSc, PhD) (see 51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD))

01.0904 Animal nutrition

This instructional program class comprises any program that focuses on the biology and chemistry of proteins, fats, carbohydrates, water, vitamins, and feed additives as related to animal health and the production of improved animal products. These programs include courses in nutrition science, animal health and physiology, biochemistry, cellular and molecular biology, animal husbandry, and food science.

Illustrative example(s)
- animal nutrition

Exclusion(s)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- animal physiology (see 26.0707 Animal physiology)
- clinical nutrition (see 51.3102 Clinical nutrition/nutritionist)
- food, nutrition and health (see 19.0501 Foods, nutrition and wellness studies, general)
- nutrition science (see 30.1901 Nutrition sciences)
- veterinary nutrition - residency (see 60.0308 Veterinary nutrition residency programs)

01.0905 Dairy science

This instructional program class comprises any program that focuses on the application of biological and chemical principles to the production and management of dairy animals and the production and handling of dairy products. These programs include courses in animal sciences, nutrition sciences, food science and technology, biochemistry, and related aspects of human and animal health and safety.

Illustrative example(s)
- dairy science

Exclusion(s)
- dairy technology (see 01.0306 Dairy husbandry and production)
- food inspection (see 01.0401 Agricultural and food products processing)
- food processing technology (see 01.1002 Food technology and processing)
- food science (see 01.1001 Food science)
- organic farming inspection (see 01.0308 Agroecology and sustainable agriculture)

01.0906 Livestock management

This instructional program class comprises any program that focuses on the application of biological and chemical principles to the production and management of livestock animals and the production and handling of meat and other products. These programs include courses in animal sciences, range science, nutrition sciences, food science and technology, biochemistry, and related aspects of human and animal health and safety.

Illustrative example(s)
- beef management
- beef production management
- livestock management
- meat science

Exclusion(s)
- agricultural management (see 01.0101 Agricultural business and management, general)
- agricultural production management (see 01.0301 Agricultural production operations, general)
- farm management (see 01.0104 Farm/farm and ranch management)
- livestock production (see 01.0302 Animal/livestock husbandry and production)

01.0907 Poultry science

This instructional program class comprises any program that focuses on the application of biological and chemical principles to the production and management of poultry animals and the production and handling of poultry products. These programs include courses in avian sciences, nutrition sciences, food science and technology, biochemistry, hatchery design, and related aspects of human and animal health and safety.

Illustrative example(s)
- poultry science

Exclusion(s)
- animal nutrition (see 01.0904 Animal nutrition)
- animal sciences (see 01.0901 Animal sciences, general)
- food processing technology (see 01.1002 Food technology and processing)
- food science (see 01.1001 Food science)
- poultry veterinarian - residency (see 60.0318 Poultry veterinarian residency programs)

01.0999 Animal sciences, other

This instructional program class comprises any program not listed above that relates to Animal sciences.

01.10 Food science and technology

This subseries comprises instructional program classes 01.1001 to 01.1099.

01.1001 Food science

This instructional program class comprises any program that focuses on the application of biological, chemical, and physical principles to the study of converting raw agricultural products into processed forms suitable for direct human consumption, and the storage of such products. These programs include courses in applicable aspects of the agricultural sciences, human physiology and nutrition, food chemistry, agricultural products processing, food additives, food preparation and packaging, food storage and shipment, and related aspects of human health and safety including toxicology and pathology.

Illustrative example(s)
- food chemistry
- food safety
- food science

Exclusion(s)
- cooking (see 12.0500 Cooking and related culinary arts, general)
- culinary science (see 12.0509 Culinary science)
- food engineering (see 14.0301 Agricultural engineering)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- food processing technology (see 01.1002 Food technology and processing)
- foodsafe (see 12.0599 Culinary arts and related services, other)
- human nutritional sciences (see 30.1901 Nutrition sciences)

01.1002 Food technology and processing

This instructional program class comprises any program that focuses on the application of chemical, physical, and engineering principles to the development and implementation of manufacturing, packaging, storage, and distribution technologies and processes for food products. These programs include courses in food engineering, food preservation and handling, food preparation, food packaging and display, food storage and shipment, and related equipment and facilities design, operation, and maintenance.

Illustrative example(s)
- agrifood technology
- bio-food technology
- brewing technology
- food processing technology
- food technology

Exclusion(s)
- butcher (see 12.0506 Meat cutting/meat cutter)
- butter making (see 01.0306 Dairy husbandry and production)
- cooking (see 12.0500 Cooking and related culinary arts, general)
- flour milling (see 01.0401 Agricultural and food products processing)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- food processing engineering (see 14.0301 Agricultural engineering)
- wine technology (see 01.0309 Viticulture and enology)

01.1099 Food science and technology, other

This instructional program class comprises any program not listed above that relates to Food science and technology.

01.11 Plant sciences

This subseries comprises instructional program classes 01.1101 to 01.1199.

01.1101 Plant sciences, general

This instructional program class comprises any general program that focuses on the scientific principles that underlie the breeding, cultivation, and production of agricultural plants, and the production, processing, and distribution of agricultural plant products. These programs include courses in the plant sciences, crop cultivation and production, and agricultural and food products processing.

Illustrative example(s)
- plant sciences

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- crop science (see 01.1102 Agronomy and crop science)
- crop technology (see 01.0304 Crop production)
- horticultural science (see 01.1103 Horticultural science)

01.1102 Agronomy and crop science

This instructional program class comprises any program that focuses on the chemical, physical, and biological relationships of crops and the soils nurturing them. These programs include courses in the growth and behaviour of agricultural crops, the development of new plant varieties, and the scientific management of soils and nutrients for maximum plant nutrition, health, and productivity.

Illustrative example(s)
- agronomy and crop science
- crop science

Exclusion(s)
- agriculture soil science (see 01.1201 Soil science and agronomy, general)
- botany (see 26.0301 Botany/plant biology, general)
- crop technology (see 01.0304 Crop production)
- plant sciences (see 01.1101 Plant sciences, general)

01.1103 Horticultural science

This instructional program class comprises any program that focuses on the scientific principles related to the cultivation of garden and ornamental plants, including fruits, vegetables, flowers, and landscape and nursery crops. These programs include courses in specific types of plants, such as citrus; breeding horticultural varieties; physiology of horticultural species; and the scientific management of horticultural plant development and production through the life cycle.

Illustrative example(s)
- horticultural science

Exclusion(s)
- floristry (see 01.0608 Floriculture/floristry operations and management)
- greenhouse operations and management (see 01.0604 Greenhouse operations and management)
- horticultural landscaping (see 01.0605 Landscaping and groundskeeping)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- nursery technology (see 01.0606 Plant nursery operations and management)
- ornamental horticulture (see 01.0603 Ornamental horticulture)
- plant science (see 01.1101 Plant sciences, general)

01.1104 Agricultural and horticultural plant breeding

This instructional program class comprises any program that focuses on the application of genetics and genetic engineering to the improvement of agricultural plant health, the development of new plant varieties, and the selective improvement of agricultural plant populations. These programs include courses in genetics, genetic engineering, population genetics, agronomy, plant protection, and biotechnology.

Illustrative example(s)
- agricultural plant breeding
- genetics and plant breeding
- horticultural plant breeding
- plant breeding
- plant breeding genetics

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- horticultural science (see 01.1103 Horticultural science)
- horticultural technology (see 01.0601 Applied horticulture/horticulture operations, general)
- nursery technology (see 01.0606 Plant nursery operations and management)
- ornamental horticulture production (see 01.0603 Ornamental horticulture)
- plant biotechnology (see 26.1201 Biotechnology)
- plant genetics (see 26.0805 Plant genetics)

01.1105 Plant protection and integrated pest management

This instructional program class comprises any program that focuses on the application of scientific principles to the control of animal, insect and weed infestation of domesticated plant populations and other settings, including agricultural crops; the prevention/reduction of attendant economic loss; and the control of environmental pollution and degradation related to pest infestation and pest control measures. These programs include courses in entomology, applicable animal sciences, plant pathology and physiology, weed science, crop science, and environmental toxicology.

Illustrative example(s)
- agriculture plant protection
- pest extermination
- pest management
- plant protection

Exclusion(s)
- crop technology (see 01.0304 Crop production)
- entomology (see 26.0702 Entomology)
- environmental and conservation science (see 03.0101 Natural resources/conservation, general)
- environmental toxicology (see 26.1006 Environmental toxicology)
- plant physiology (see 26.0307 Plant physiology)

01.1106 Range science and management

This instructional program class comprises any program that focuses on the scientific study of rangelands, arid regions, grasslands, and other areas of low productivity, as well as the principles of managing such resources for maximum benefit and environmental balance. These programs include courses in livestock management, wildlife biology, plant sciences, ecology, soil science, and hydrology.

Illustrative example(s)
- range and pasture management
- range management
- range science

Exclusion(s)
- ecology (see 26.1301 Ecology)
- environmental biology (see 26.1305 Environmental biology)
- hydrology (see 40.0605 Hydrology and water resources science)
- livestock management (see 01.0906 Livestock management)
- plant sciences (see 01.1101 Plant sciences, general)
- wildlife management (see 03.0601 Wildlife, fish and wildlands science and management)

01.1199 Plant sciences, other

This instructional program class comprises any program not listed above that relates to Plant sciences.

Illustrative example(s)
- crop and horticultural science
- plant science technology

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- crop production (see 01.0304 Crop production)
- greenhouse operations and management (see 01.0606 Plant nursery operations and management)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- plant biotechnology (see 26.1201 Biotechnology)

- plant breeding (see 01.1104 Agricultural and horticultural plant breeding)
- plant physiology (see 26.0307 Plant physiology)
- plant sciences (see 01.1101 Plant sciences, general)

01.12 Soil sciences

This subseries comprises instructional program classes 01.1201 to 01.1299.

01.1201 Soil science and agronomy, general

This instructional program class comprises any program that generally focuses on the scientific classification of soils, soil properties, and their relationship to agricultural crops. These programs include courses in soil chemistry, soil physics, soil biology, soil fertility, morphogenesis, mineralogy, hydrology, agronomy, and soil conservation and management.

Illustrative example(s)
- agricultural soils
- agriculture soil science
- agrology
- soil science
- soil science and agronomy

Exclusion(s)
- agricultural science (see 01.0000 Agriculture, general)
- agronomy and crop science (see 01.1102 Agronomy and crop science)
- Earth science (see 40.0601 Geology/Earth science, general)

01.1202 Soil chemistry and physics

This instructional program class comprises any program that focuses on the application of chemical and physical principles to research and analysis concerning the nature and properties of soils and the conservation and management of soils. These programs include courses in soil and fluid mechanics, mineralogy, sedimentology, thermodynamics, geomorphology, environmental systems, analytical methods, and organic and inorganic chemistry.

Illustrative example(s)
- soil chemistry
- soil physics

Exclusion(s)
- agrology (see 01.1201 Soil science and agronomy, general)
- agronomy and crop science (see 01.1102 Agronomy and crop science)
- Earth science (see 40.0601 Geology/Earth science, general)
- environmental chemistry (see 40.0509 Environmental chemistry)
- organic chemistry (see 40.0504 Organic chemistry)
- soil microbiology (see 01.1203 Soil microbiology)

01.1203 Soil microbiology

This instructional program class comprises any program that focuses on the application of microbiological theory and methods to the study of the organismic properties of soils, soil-plant and soil-animal interactions, and the biological components and effects of soil management strategies. These programs include courses in microbiology and related biological sciences, applicable animal and plant sciences, soil chemistry and physics as related to biological characteristics, and environmental science.

Illustrative example(s)
- soil microbiology

Exclusion(s)
- agricultural biology (see 01.9999 Agriculture, agriculture operations and related sciences, other)
- agrology (see 01.1201 Soil science and agronomy, general)
- agronomy and crop science (see 01.1102 Agronomy and crop science)
- environmental science (see 03.0104 Environmental science)
- microbiology (see 26.0502 Microbiology, general)

01.1299 Soil sciences, other

This instructional program class comprises any program not listed above that relates to Soil sciences.

Illustrative example(s)
- environmental soil science
- farm drainage
- soil conservation
- soil technology

Exclusion(s)
- soil microbiology (see 01.1203 Soil microbiology)
- soil physics (see 01.1202 Soil chemistry and physics)
- soil science (see 01.1201 Soil science and agronomy, general)

01.99 Agriculture, agriculture operations and related sciences, other

This subseries comprises instructional program class 01.9999.

01.9999 Agriculture, agriculture operations and related sciences, other

This instructional program class comprises any program not listed above that relates to Agriculture, agriculture operations and related sciences.

Illustrative example(s)
- agricultural biology
- agricultural chemistry
- agricultural microbiology

Exclusion(s)
- agricultural engineering (see 14.0301 Agricultural engineering)
- apiculture (see 01.0399 Agricultural production operations, other)
- ecology (see 26.1301 Ecology)
- organic agriculture (see 01.0308 Agroecology and sustainable agriculture)
- organic chemistry (see 40.0504 Organic chemistry)
- soil microbiology (see 01.1203 Soil microbiology)

03. Natural resources and conservation

This series comprises instructional programs that focus on the various natural resources and conservation fields and prepare individuals for related occupations.

03.01 Natural resources conservation and research

This subseries comprises instructional program classes 03.0101 to 03.0199.

03.0101 Natural resources/conservation, general

This instructional program class comprises any general program that focuses on the studies and activities relating to the natural environment and its conservation, use, and improvement. These programs include courses in subjects such as climate, air, soil, water, land, fish and wildlife, and plant resources; in the basic principles of environmental science and natural resources management; and the recreational and economic uses of renewable and non-renewable natural resources.

Illustrative example(s)
- environmental and conservation science
- environmental conservation
- environmental systems
- natural resource science
- natural resources
- natural resources conservation
- natural resources technology

Exclusion(s)
- conservation officer (see 03.0208 Natural resources law enforcement and protective services)
- natural resource management (see 03.0201 Natural resources management and policy, general)
- natural resources interpretation (see 03.0207 Natural resource recreation and tourism)
- natural resources law (graduate level) (see 22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD))

03.0103 Environmental studies

This instructional program class comprises any program that focuses on environment-related issues using scientific, social scientific, and/or humanistic approaches. These programs include courses in the basic principles of ecology and environmental science and related subjects such as policy, politics, law, economics, social aspects, planning, pollution control, natural resources, and the interactions of human beings and nature.

Illustrative example(s)
- ecosystem studies
- environmental resource studies
- environmental studies

Exclusion(s)
- environmental education (see 13.1338 Environmental teacher education)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental law (graduate level) (see 22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD))
- environmental science (see 03.0104 Environmental science)
- environmental technology (see 15.0507 Environmental engineering technology/environmental technology)

03.0104 Environmental science

This instructional program class comprises any program that focuses on the application of biological, chemical, and physical principles to the study of the physical environment and the solution of environmental problems, including subjects such as abating or controlling environmental pollution and degradation; the interaction between human society and the natural environment; and natural resources management. These programs include courses in biology, chemistry, physics, geosciences, climatology, statistics, and mathematical modelling.

Illustrative example(s)
- bioenvironmental sciences
- environmental science

Exclusion(s)
- environmental biology (see 26.1305 Environmental biology)
- environmental education (see 13.1338 Environmental teacher education)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental engineering technology (see 15.0507 Environmental engineering technology/environmental technology)
- environmental health (see 51.2202 Environmental health)
- environmental studies (see 03.0103 Environmental studies)
- environmental toxicology (see 26.1006 Environmental toxicology)

03.0199 Natural resources conservation and research, other

This instructional program class comprises any program not listed above that relates to Natural resources conservation and research.

Illustrative example(s)
- environmental conservation and reclamation
- renewable resources
- renewable resources technology

Exclusion(s)
- conservation biology (see 26.1307 Conservation biology)

03.02 Natural resources management and policy

This subseries comprises instructional program classes 03.0201 to 03.0299.

03.0201 Natural resources management and policy, general

This instructional program class comprises any program that prepares individuals to plan, develop, manage, and evaluate programs to protect and regulate natural habitats and renewable natural resources. These programs include courses in the principles of wildlife and conservation biology, environmental science, animal population surveying, natural resource economics, management techniques for various habitats, applicable law and policy, administrative and communications skills, and public relations.

Illustrative example(s)
- conservation management
- ecosystem management
- environmental management
- natural resource management
- natural resources management technology
- renewable resource management

Exclusion(s)
- ecotourism (see 03.0207 Natural resource recreation and tourism)
- natural resources conservation (see 03.0101 Natural resources/conservation, general)

03.0204 Natural resource economics

This instructional program class comprises any program that focuses on the application of economic concepts and methods to the analysis of issues such as air and water pollution, land use planning, waste disposal, invasive species and pest control, conservation policies, and related environmental problems. These programs include courses in cost-benefit analysis; environmental impact assessment; evaluation and assessment of alternative resource management strategies; policy evaluation and monitoring; and descriptive and analytic tools for studying how environmental developments affect the economic system.

Illustrative example(s)
- environmental economics
- forest economics
- mineral economics
- natural resource economics

Exclusion(s)
- agricultural economics (see 01.0103 Agricultural economics)
- applied economics (see 45.0602 Applied economics)
- development economics (see 45.0604 Development economics and international development)
- economics (see 45.0601 Economics, general)
- ecotourism (see 03.0207 Natural resource recreation and tourism)
- international economics (see 45.0605 International economics)

03.0205 Water, wetlands and marine resources management

This instructional program class comprises any program that prepares individuals to apply the principles of marine/aquatic biology, oceanography, natural resource economics, and natural resources management to the development, conservation, and management of freshwater and saltwater environments. These programs include courses in subjects such as wetlands, riverine, lacustrian, coastal, and oceanic water resources; water conservation and use; flood control; pollution control; water supply logistics; wastewater management; aquatic and marine ecology; aquatic and marine life conservation; and the economic and recreational uses of water resources.

Illustrative example(s)
- marine resources management
- water resources technology

Exclusion(s)
- hydrological engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- marine environment technology (see 15.0507 Environmental engineering technology/environmental technology)
- marine sciences (see 30.3201 Marine sciences)
- maritime studies (see 30.2901 Maritime studies)
- water quality technology (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)
- water resources engineering (see 14.0805 Water resources engineering)
- water resources science (see 40.0605 Hydrology and water resources science)

03.0206 Land use planning and management/development

This instructional program class comprises any program that focuses on how public and/or private land and associated resources can be preserved, developed, and used for maximum social, economic, and environmental benefit. These programs include courses in natural resources management, natural resource economics, public policy, regional and land use planning, environmental impact assessment, applicable laws and regulations, government and politics, principles of business and real estate land use, statistical and analytical tools, computer applications, mapping and report preparation, site analysis, cost analysis, and communications skills.

Illustrative example(s)
- integrated land management
- land management
- land use planning

Exclusion(s)
- economic development (see 45.0604 Development economics and international development)
- real property development (see 04.1001 Real estate development)
- regional and urban development (see 04.0301 City/urban, community and regional planning)

03.0207 Natural resource recreation and tourism

This instructional program class comprises any program that prepares individuals to plan, develop, and manage tourism in a natural resource setting, with an emphasis on applying environmentally sound, culturally sensitive, and economically sustainable principles. These programs include courses in environmental studies; natural resource management and interpretation; tourism planning, management, and policies; public land use management and policies; communications; marketing; and public relations.

Illustrative example(s)
- ecotourism
- forest recreation technician
- hunting and fishing guide
- natural resources interpretation
- nature-based tourism
- resource recreation and tourism
- sustainable outdoor recreation
- wildland recreation

Exclusion(s)
- natural resource economics (see 03.0204 Natural resource economics)
- natural resource management (see 03.0201 Natural resources management and policy, general)
- natural resources conservation (see 03.0101 Natural resources/conservation, general)
- outdoor recreation leadership (see 31.0101 Parks, recreation and leisure studies)
- parks management (see 31.0301 Parks, recreation and leisure facilities management, general)
- sustainability studies (see 30.3301 Sustainability studies)

03.0208 Natural resources law enforcement and protective services

This instructional program class comprises any program that prepares individuals to enforce natural resource and environmental protection regulations and laws; and to perform emergency duties to protect human life, property and natural resources, including fire prevention and control measures, and emergency and rescue procedures. These programs include courses in natural and physical sciences, natural resource management, outdoor field skills, firearms and outdoor equipment and vehicle operation, evidence collection and environmental sampling and monitoring, natural resource legislation, environmental compliance techniques, patrol procedures, investigation and report writing, interpersonal skills and crisis intervention, community liaison, public safety, public education, and public relations.

Illustrative example(s)
- conservation enforcement
- conservation officer
- environmental law enforcement
- environmental monitoring and enforcement
- fish and wildlife law enforcement
- forest ranger
- forestry law enforcement
- game warden
- natural resources law enforcement
- wildlife officer

Exclusion(s)
- natural resources law (graduate level) (see 22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD))
- parks management (see 31.0301 Parks, recreation and leisure facilities management, general)

03.0299 Natural resources management and policy, other

This instructional program class comprises any program not listed above that relates to Natural resources management and policy.

Exclusion(s)
- environmental technology (see 15.0507 Environmental engineering technology/environmental technology)
- natural resources conservation (see 03.0101 Natural resources/conservation, general)

03.03 Fishing and fisheries sciences and management

This subseries comprises instructional program class 03.0301.

03.0301 Fishing and fisheries sciences and management

This instructional program class comprises any program that focuses on the scientific study of the husbandry and production of non-domesticated fish and shellfish populations for recreational and commercial purposes and the management of fishing and marine/aquatic product processing to ensure adequate conservation and efficient utilization. These programs include courses in the principles of marine/aquatic biology, freshwater and saltwater ecosystems, water resources, fishing production operations and management, fishing policy and regulation, and the management of recreational and commercial fishing activities.

Illustrative example(s)
- fisheries development
- fisheries management
- fisheries science

Exclusion(s)
- fish farming (see 01.0303 Aquaculture)
- fisheries biology (see 26.1304 Aquatic biology/limnology)
- fishing (see 49.0303 Commercial fishing)

03.05 Forestry

This subseries comprises instructional program classes 03.0501 to 03.0599.

03.0501 Forestry, general

This instructional program class comprises any program that generally prepares individuals to manage and develop forest areas for economic, recreational, and ecological purposes. These programs include courses in forest-related sciences, mapping, statistics, harvesting and production technology, natural resources management and economics, wildlife sciences, administration, and public relations.

Illustrative example(s)
- forester
- forestry

Exclusion(s)
- forest engineering (see 14.3401 Forest engineering)
- forest ranger (see 03.0208 Natural resources law enforcement and protective services)
- hunting and fishing guide (see 03.0207 Natural resource recreation and tourism)

03.0502 Forest sciences and biology

This instructional program class comprises any program that focuses on the application of one or more forest-related sciences to the study of environmental factors affecting forests and the growth and management of forest resources. These programs include courses in forest biology, forest hydrology, forest mensuration, silviculture, forest soils, water resources, environmental science, forest resources management, and wood science.

Illustrative example(s)
- forest biology
- forest ecology
- forest entomology
- forest genetics
- forest pathology
- forest science

Exclusion(s)
- conservation biology (see 26.1307 Conservation biology)
- forest engineering (see 14.3401 Forest engineering)
- plant biology (see 26.0301 Botany/plant biology, general)
- urban forestry (see 03.0508 Urban forestry)

03.0506 Forest management/forest resources management

This instructional program class comprises any program that prepares individuals to apply principles of forestry and natural resources management to the administration of forest lands and related resources. These programs include courses in silviculture, forest mensuration, forest protection, inventorying, biometrics, geographic information systems, remote sensing, photogrammetry, forest policy and economics, forest land use planning, fire protection and management, and related administrative skills.

Illustrative example(s)
- forest management
- forest resource management
- forestry management
- forestry resource management
- silviculture
- sustainable management of forest resources
- sylviculture

Exclusion(s)
- forest engineering (see 14.3401 Forest engineering)
- forest resources production and management (see 03.0510 Forest resources production and management)
- parks management (see 31.0301 Parks, recreation and leisure facilities management, general)
- sustainability studies (see 30.3301 Sustainability studies)

03.0508 Urban forestry

This instructional program class comprises any program that prepares individuals to apply the principles of forestry and related sciences to the development, care, and maintenance of individual trees and forested areas within or close to areas of dense human habitation. These programs include courses in urban environments; effects of pollution on tree species; environmental design and landscaping; urban pest infestation; urban forest management; and applicable policies and regulations.

Illustrative example(s)
- urban forestry

Exclusion(s)
- environmental landscape management (see 01.0605 Landscaping and groundskeeping)
- urban arboriculture (see 01.0699 Applied horticulture/horticultural business services, other)

03.0509 Wood science and wood products/pulp and paper technology

This instructional program class comprises any program that focuses on the application of chemical, physical, and engineering principles to the analysis of the properties and behaviour of wood and wood products and the development of processes for converting wood into paper and other products. These programs include courses in wood classification and testing, product development, manufacturing and processing technologies, and the design and development of related equipment and systems.

Illustrative example(s)
- forest products processing technology
- log scaling
- lumber grading
- milling lumber
- paper making technology
- pulp and paper production
- pulp and paper technology
- wood products processing
- wood science
- wood science and technology

Exclusion(s)
- forest engineering (see 14.3401 Forest engineering)
- forest products technology (see 03.0511 Forest technology/technician)
- pulp and paper engineering (see 14.4001 Paper science and engineering)
- woodworking (see 48.0701 Woodworking, general)

03.0510 Forest resources production and management

This instructional program class comprises any program that focuses on the application of forestry principles to the production, harvesting, and processing of forest resources and that prepares individuals to perform associated technical and managerial functions. These programs include courses in forest production and utilization, industrial forestry, agroforestry, transplantation, timber harvesting, selection and identification of trees, processing technologies and systems, equipment operations and maintenance, and related management skills.

Illustrative example(s)
- forest resources production and management

Exclusion(s)
- forest resource management (see 03.0506 Forest management/forest resources management)

03.0511 Forest technology/technician

This instructional program class comprises any program that prepares individuals to assist foresters in the management and production of forest resources. These programs include courses in woods and field skills, tree identification, timber measurement, logging and timber harvesting, forest propagation and regeneration, forest firefighting, resource management, equipment operation and maintenance, record keeping, sales and purchasing operations, and personnel supervision.

Illustrative example(s)
- cutter and skidder
- forest products technology
- forest technician

- forest technology
- forestry crew
- forestry technician
- forestry technology
- logging
- lumber jack
- skidder operator

Exclusion(s)
- forest engineering (see 14.3401 Forest engineering)
- forest firefighting (see 43.0206 Wildland/forest firefighting and investigation)
- forester (see 03.0501 Forestry, general)
- wood cutting and processing (see 03.0599 Forestry, other)

03.0599 Forestry, other

This instructional program class comprises any program not listed above that relates to Forestry.

Illustrative example(s)
- forestry worker
- harvesting of forest biomass
- wood cutting and processing

Exclusion(s)
- bush pilot (see 49.0102 Airline/commercial/professional pilot and flight crew)
- hunting and fishing guide (see 03.0207 Natural resource recreation and tourism)

03.06 Wildlife and wildlands science and management

This subseries comprises instructional program class 03.0601.

03.0601 Wildlife, fish and wildlands science and management

This instructional program class comprises any program that prepares individuals to conserve and manage wilderness areas and the flora, fauna, marine and aquatic life therein, and manage wildlife reservations and zoological/aquarium facilities for recreational, commercial, and ecological purposes. These programs include courses in wildlife biology; marine/aquatic biology; environmental science; freshwater and saltwater ecosystems; natural resources management and policy; outdoor recreation and parks management; the design and operation of natural and artificial wildlife habitats; applicable law and regulations; and related administrative and communications skills.

Illustrative example(s)
- hunting and fishing management technology
- wildlife and habitat management
- wildlife management
- wildlife management technology
- wildlife studies
- wildlife technician
- wildlife technology

Exclusion(s)
- fish and wildlife law enforcement (see 03.0208 Natural resources law enforcement and protective services)
- range science (see 01.1106 Range science and management)
- wildlife biology (see 26.0709 Wildlife biology)

03.99 Natural resources and conservation, other

This subseries comprises instructional program class 03.9999.

03.9999 Natural resources and conservation, other

This instructional program class comprises any program not listed above that relates to Natural resources and conservation.

Illustrative example(s)
- fur trade
- hunting
- hunting and trapping
- trapping

Exclusion(s)
- forest recreation technician (see 03.0207 Natural resource recreation and tourism)
- parks management (see 31.0301 Parks, recreation and leisure facilities management, general)

04. Architecture and related services

This series comprises instructional programs that prepare individuals for professional practice in the various architecture-related fields and focus on the study of related aesthetic and socioeconomic aspects of the built environment.

04.02 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)

This subseries comprises instructional program class 04.0201.

04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)

This instructional program class comprises any program that prepares individuals for the independent professional practice of architecture and to conduct research in various aspects of the field or that provides instruction in basic principles, methods and concepts related to architecture. These programs include courses in architectural design, history, and theory; building structures and environmental systems; project and site planning; construction; professional responsibilities and standards; and related cultural, social, economic, and environmental issues.

Illustrative example(s)
- architectural science
- architecture
- BArch
- MArch

Exclusion(s)
- architectural and building technology (see 04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- architectural drafting (see 15.1303 Architectural drafting and architectural CAD/CADD)
- architectural engineering (see 14.0401 Architectural engineering)
- architectural engineering technician (see 15.0101 Architectural engineering technology/technician)
- naval architecture (see 14.2201 Naval architecture and marine engineering)

04.03 City/urban, community and regional planning

This subseries comprises instructional program class 04.0301.

04.0301 City/urban, community and regional planning

This instructional program class comprises any program that prepares individuals to apply principles of planning, analysis, and architecture to the development and improvement of urban areas and surrounding regions, and to function as professional planners. These programs include courses in principles of architecture; master plan development; service, communications, and transportation systems design; community and commercial development; zoning; land use planning; applied economics; policy analysis; applicable laws and regulations; and professional responsibilities and managerial duties.

Illustrative example(s)
- city planning
- community and regional planning
- municipal and regional planning
- municipal planning
- regional and urban development
- urban and regional planning
- urban and rural planning
- urban design
- urban planning
- urban transportation planning

Exclusion(s)
- integrated land management (see 03.0206 Land use planning and management/development)
- real estate development (see 04.1001 Real estate development)
- transportation engineering (see 14.0804 Transportation and highway engineering)
- urban affairs (see 45.1201 Urban studies/affairs)
- urban forestry (see 03.0508 Urban forestry)
- urban management (see 44.0401 Public administration)

04.04 Environmental design/architecture

This subseries comprises instructional program class 04.0401.

04.0401 Environmental design/architecture

This instructional program class comprises any program that prepares individuals to design public and private spaces, indoor and outdoor, for leisure, recreational, commercial, and living purposes, and for professional practice as environmental designers and architects. These programs include courses in the design and planning of public and private open spaces and their relationship to buildings and other aspects of the built environment; facilities management; related aspects of interior design and architecture, landscape architecture, and urban planning; and professional responsibilities and standards.

Illustrative example(s)
- environmental design
- environmental design studies

Exclusion(s)
- housing and human environments (see 19.0601 Housing and human environments, general)
- industrial design (see 50.0404 Industrial and product design)
- interior decorating (see 19.0605 Home furnishings and equipment installers)
- interior design (see 50.0408 Interior design)
- landscape design (see 01.0605 Landscaping and groundskeeping)
- residential drafting and design (see 15.1303 Architectural drafting and architectural CAD/CADD)
- urban forestry (see 03.0508 Urban forestry)

04.05 Interior architecture

This subseries comprises instructional program class 04.0501.

04.0501 Interior architecture

This instructional program class comprises any program that prepares individuals to apply architectural principles in the design of structural interiors for living, recreational, and business purposes and to function as professional interior architects. These programs include courses in architecture, structural systems design, heating and cooling systems, occupational and safety standards, interior design, specific end-use applications, and professional responsibilities and standards.

Illustrative example(s)
- interior architecture

Exclusion(s)
- housing and human environments (see 19.0601 Housing and human environments, general)
- interior decorating (see 19.0605 Home furnishings and equipment installers)
- interior design (see 50.0408 Interior design)

04.06 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD)

This subseries comprises instructional program class 04.0601.

04.0601 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD)

This instructional program class comprises any program that prepares individuals for the independent professional practice of landscape architecture and research in various aspects of the field. These programs include courses in geology and hydrology; soils, groundcovers, and horticultural elements; project and site planning; landscape design, history, and theory; environmental design; applicable laws and regulations; and professional responsibilities and standards.

Illustrative example(s)
- landscape architectural technology
- landscape architecture
- landscaping architecture

Exclusion(s)
- environmental design (see 04.0401 Environmental design/architecture)
- horticultural science (see 01.1103 Horticultural science)
- horticulture (see 01.0601 Applied horticulture/horticulture operations, general)
- landscaping (see 01.0605 Landscaping and groundskeeping)

04.08 Architectural history and criticism

This subseries comprises instructional program class 04.0801.

04.0801 Architectural history and criticism

This instructional program class comprises any general program that focuses on the aesthetic, technical, and social development of the built environment and the architectural profession from earliest times to the present. These programs include courses in the principles of architecture and related fields; art history; historiography of architecture; architectural theory and criticism; related aspects of the history of technology and social and economic history; and various period, cultural, and stylistic specializations.

Illustrative example(s)
- architectural history
- architectural history and theory
- history and theory of architecture

Exclusion(s)
- art history and criticism (see 50.0703 Art history, criticism and conservation)
- historic preservation and conservation (see 30.1201 Historic preservation and conservation, general)
- historical studies (see 54.0101 History, general)
- science history (see 54.0104 History and philosophy of science and technology)

04.09 Architectural sciences and technology

This subseries comprises instructional program classes 04.0901 to 04.0999.

04.0901 Architectural technology/technician

This instructional program class comprises any program that prepares individuals to assist architects in developing plans and related documentation and in performing architectural office services. These programs include courses in architectural drafting, computer-assisted drafting and design, construction methods and materials, environmental systems, building codes and standards, structural principles, cost estimation, planning documentation, visual communication skills, display production, and architectural office management.

Illustrative example(s)
- architectural construction technology
- architectural design
- architectural design technology
- architectural technician
- architectural technology

Exclusion(s)
- architectural and building technology (see 04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- architectural drafting (see 15.1303 Architectural drafting and architectural CAD/CADD)
- architectural engineering (see 14.0401 Architectural engineering)
- architectural engineering technician (see 15.0101 Architectural engineering technology/technician)
- naval architecture (see 14.2201 Naval architecture and marine engineering)
- naval architecture technology (see 15.9999 Engineering technologies and engineering-related fields, other)
- real estate development (see 04.1001 Real estate development)

04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD)

This instructional program class comprises any program that focuses on the application of advanced technology to building design and construction, retrofitting existing buildings, and efficient operation of buildings, including lighting and daylight design, acoustics, solar design, building conservation, and energy-conscious design. These programs include courses in architecture, building technology, civil and structural engineering, mechanical engineering, environmental control systems, sustainability, and computer tools and applications.

Illustrative example(s)
- architectural and building sciences
- architectural and building technology

Exclusion(s)
- architectural engineering technology (see 15.0101 Architectural engineering technology/technician)

- construction engineering (see 14.3301 Construction engineering)

04.0999 Architectural sciences and technology, other

This instructional program class comprises any program not listed above that relates to Architectural sciences and technology.

04.10 Real estate development

This subseries comprises instructional program class 04.1001.

04.1001 Real estate development

This instructional program class comprises any program that prepares individuals to create and redevelop housing, offices, retail centres, and industrial sites. These programs include courses in architectural design and construction, historic preservation, landscape architecture, urban planning and design, business, real estate and land use law, public policy, and engineering.

Illustrative example(s)
- real estate development
- real property development

Exclusion(s)
- architectural design (see 04.0901 Architectural technology/technician)
- real estate sales (see 52.1501 Real estate)
- urban planning (see 04.0301 City/urban, community and regional planning)

04.99 Architecture and related services, other

This subseries comprises instructional program class 04.9999.

04.9999 Architecture and related services, other

This instructional program class comprises any program not listed above that relates to Architecture and related services.

05. Area, ethnic, cultural, gender, and group studies

This series comprises instructional programs that focus on the defined areas, regions, and countries of the world; defined minority groups within and across societies; and issues relevant to collective gender and group experience.

05.01 Area studies

This subseries comprises instructional program classes 05.0101 to 05.0199.

05.0101 African studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of the African continent, usually with an emphasis on Africa south of the Sahara, and including the African diasporas overseas.

Illustrative example(s)
- African studies

Exclusion(s)
- African American studies (see 05.0201 African American/Black studies)
- African history (see 54.0199 History, other)
- African languages and literature (see 16.0201 African languages, literatures and linguistics)

05.0102 American/United States studies/civilization

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the United States and its pre-Columbian and colonial predecessors, and including the flow of immigrants from other societies.

Illustrative example(s)
- American studies

Exclusion(s)
- African American studies (see 05.0201 African American/Black studies)
- American history (see 54.0102 American history (United States))
- American literature (see 23.1402 American literature)
- American politics (see 45.1002 American government and politics (United States))
- Asian American studies (see 05.0206 Asian American studies)
- Hispanic American studies (see 05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies)
- Native American studies (see 05.0202 Aboriginal studies)

05.0103 Asian studies/civilization

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of the Asian continent, including the study of the Asian diasporas overseas.

Illustrative example(s)
- Asian Area studies
- Asian studies

Exclusion(s)
- Asia Pacific studies (see 05.0109 Pacific Area/Pacific Rim studies)
- Asian history (see 54.0106 Asian history)
- Central Asian studies (see 05.0120 Ural-Altaic and Central Asian studies)
- East Asian studies (see 05.0104 East Asian studies)
- South Asian studies (see 05.0112 South Asian studies)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

05.0104 East Asian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of East Asia, defined as including China, Korea, Japan, Mongolia, Taiwan, Tibet, related borderlands and island groups, and including the study of the East Asian diasporas overseas.

Illustrative example(s)
- East Asian studies

Exclusion(s)
- Asian history (see 54.0106 Asian history)
- East Asian languages (see 16.0300 East Asian languages, literatures and linguistics, general)
- Korean (see 16.0303 Korean language and literature)

05.0105 Russian, Central European, East European and Eurasian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the region encompassing Russia, Central Europe, Eastern Europe, and Eurasia, including the Balkan, Baltic, Caucasus, and Central Asian states that were republics of the former Soviet Union.

Illustrative example(s)
- Central and Eastern European studies
- Central European studies
- CIS studies
- Commonwealth of Independent States (CIS) studies
- East European studies
- Eastern European studies
- Russian and East European studies
- Russian and Eurasian studies
- Soviet and East European studies

Exclusion(s)
- Balkan studies (see 05.0116 Balkan studies)
- Baltic studies (see 05.0117 Baltic studies)
- Polish studies (see 05.0129 Polish studies)
- Slavic and East European studies (see 05.0199 Area studies, other)
- Soviet studies (see 05.0110 Russian studies)
- Ukrainian studies (see 05.0132 Ukraine studies)

05.0106 European studies/civilization

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of the European continent, including the study of European migration patterns and Colonial Empires.

Illustrative example(s)
- European integration studies
- European studies
- modern European studies

Exclusion(s)
- European history (see 54.0103 European history)
- French studies (see 05.0124 French studies)
- German studies (see 05.0125 German studies)
- Italian studies (see 05.0126 Italian studies)
- Scandinavian studies (see 05.0111 Scandinavian studies)
- Spanish studies (see 05.0130 Spanish and Iberian studies)
- Western European studies (see 05.0114 Western European studies)

05.0107 Latin American studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the Hispanic peoples of the North and South American continents outside Canada and the United States, including the study of the pre-Columbian period and the flow of immigrants from other societies.

Illustrative example(s)
- Latin American studies

Exclusion(s)
- Caribbean studies (see 05.0119 Caribbean studies)

- Cuban American studies (see 05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies)
- Latin American and Caribbean studies (see 05.0134 Latin American and Caribbean studies)

05.0108 Near and Middle Eastern studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of North Africa, Southwestern Asia, Asia Minor, and the Arabian Peninsula, related borderlands and island groups, and including emigrant and immigrant groups.

Illustrative example(s)
- Arab studies
- Middle Eastern studies
- modern Middle Eastern studies
- Near and Middle Eastern civilizations
- Near and Middle Eastern studies
- Near Eastern studies

Exclusion(s)
- African studies (see 05.0101 African studies)
- Asian studies (see 05.0103 Asian studies/civilization)
- Islamic studies (see 38.0205 Islamic studies)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- Middle East history (see 54.0199 History, other)

05.0109 Pacific Area/Pacific Rim studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of Australasia and the Pacific Ocean, related island groups and bordering coastal regions, and including precolonial and postcolonial migration patterns.

Illustrative example(s)
- Asia Pacific studies
- Pacific and Asian studies
- Pacific Rim studies

Exclusion(s)
- Asian Area studies (see 05.0103 Asian studies/civilization)
- Indo-Pacific languages (see 16.1401 Australian/Oceanic/Pacific languages, literatures and linguistics)

05.0110 Russian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of the Russian Federation and its Soviet, Czarist, and medieval predecessors and related borderlands.

Illustrative example(s)
- Russian studies
- Soviet studies

Exclusion(s)
- European and Russian studies (see 05.0199 Area studies, other)
- Russian history (see 54.0103 European history)
- Russian language and literature (see 16.0402 Russian language and literature)
- Soviet and East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)

05.0111 Scandinavian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of Scandinavia, defined as Northern Europe including Denmark, Finland, Iceland, Norway, Sweden, related island groups (including Greenland), and borderlands.

Illustrative example(s)
- Scandinavian studies

Exclusion(s)
- European history (see 54.0103 European history)
- Germanic languages (see 16.0500 Germanic languages, literatures and linguistics, general)
- Scandinavian languages, literature and linguistics (see 16.0502 Scandinavian languages, literatures and linguistics)

05.0112 South Asian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of South Asia, defined as including Afghanistan, India, the Maldives, Myanmar (Burma), Pakistan, and Sri Lanka and related borderlands and island groups; and including the study of migration patterns and overseas diasporas.

Illustrative example(s)
- South Asian studies

Exclusion(s)
- Asian Area studies (see 05.0103 Asian studies/civilization)
- Asian history (see 54.0106 Asian history)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)

05.0113 Southeast Asian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of Southeast Asia, defined as including Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; related borderlands and island groups; and including the study of migration patterns and overseas diasporas.

Illustrative example(s)
- Southeast Asian studies

Exclusion(s)
- Asian Area studies (see 05.0103 Asian studies/civilization)
- Asian history (see 54.0106 Asian history)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)

05.0114 Western European studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of historical Western Europe, defined as including Britain, Ireland, France, the Low Countries, the Iberian Peninsula, Italy, the Western Mediterranean, and related island groups and borderlands.

Illustrative example(s)
- West European studies
- Western European studies

Exclusion(s)
- European history (see 54.0103 European history)
- European studies (see 05.0106 European studies/civilization)
- Irish studies (see 05.0133 Irish studies)

05.0115 Canadian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of Canada and its pre-Columbian, colonial, and pre-Confederation predecessors, including immigrant flows and related borderlands and island groups.

Illustrative example(s)
- Canadian studies

Exclusion(s)
- Canadian government and politics (see 45.1003 Canadian government and politics)
- Canadian history (see 54.0107 Canadian history)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- French studies (see 05.0124 French studies)
- Quebec studies (see 05.0122 Regional studies (U.S., Canadian, foreign))

05.0116 Balkan studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples inhabiting the Balkan Peninsula and associated island groups and borderlands, Southern Slavic and non-Slavic, during the medieval, Ottoman, and modern periods.

Illustrative example(s)
- Balkan studies

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- European history (see 54.0103 European history)
- Slavic and East European studies (see 05.0199 Area studies, other)

05.0117 Baltic studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples inhabiting the coastlands of the Baltic Sea, including Baltic, Germanic, Scandinavian, and Slavic populations, related borderlands and island groups, and problems of cultural survival and assimilation.

Illustrative example(s)
- Baltic studies

Exclusion(s)
- Baltic languages (see 16.0401 Baltic languages, literatures and linguistics)
- Central European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- European history (see 54.0103 European history)
- European studies (see 05.0106 European studies/civilization)

05.0118 Slavic studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the Slavic peoples inhabiting Europe and Asia, and immigrant groups elsewhere, including the study of the emergence and migration patterns of Slavic culture, languages, and populations.

Illustrative example(s)
- Slavic studies

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- European history (see 54.0103 European history)
- Slavic and East European studies (see 05.0199 Area studies, other)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)

05.0119 Caribbean studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples inhabiting the major islands and archipelagos of the Caribbean Sea and related coastal borderlands, including immigration patterns and pre-Columbian, colonial, and modern societies.

Illustrative example(s)
- Caribbean studies

Exclusion(s)
- Aboriginal studies (see 05.0202 Aboriginal studies)
- Black studies (see 05.0201 African American/Black studies)
- Latin American and Caribbean studies (see 05.0134 Latin American and Caribbean studies)

05.0120 Ural-Altaic and Central Asian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples and countries of Inner/Central Asia, including the Turkic and Mongolian inhabitants of the Caspian, Amur, Tien Shan, Baikal, Gobi, Siberian, and Manchurian areas and the historical Silk Road, in terms of their past and present development.

Illustrative example(s)
- Central Asian studies

Exclusion(s)
- Altaic (see 16.1599 Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics, other)
- Asian history (see 54.0106 Asian history)
- East Asian studies (see 05.0104 East Asian studies)
- Mongolian (see 16.1504 Mongolian language and literature)
- Russian studies (see 05.0110 Russian studies)
- Turkish (see 16.1501 Turkish language and literature)

05.0121 Commonwealth studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples and countries comprising components of the historical British Empire and modern British Commonwealth, including migration patterns, shared sociocultural and political features and problems, and contemporary relations.

Illustrative example(s)
- Commonwealth studies

Exclusion(s)
- British history (see 54.0103 European history)
- English literature (see 23.1401 English literature, general)
- Irish studies (see 05.0133 Irish studies)

- Western European studies (see 05.0114 Western European studies)

05.0122 Regional studies (U.S., Canadian, foreign)

This instructional program class comprises any program that focuses on the defined geographic subregions and subcultures within modern and historical countries and societies. These programs include courses on such topics as Acadian Studies, French Canadian and Quebec Studies, Southern (U.S.) Studies, Appalachian (U.S.) Studies, New England Studies, Southwestern Studies, Northern Studies, and others.

Illustrative example(s)
- Atlantic Canada studies
- Quebec studies

Exclusion(s)
- American studies (see 05.0102 American/United States studies/civilization)
- Asian American studies (see 05.0206 Asian American studies)
- Black Canadian studies (see 05.0201 African American/Black studies)
- Canadian studies (see 05.0115 Canadian studies)
- Hispanic American studies (see 05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies)
- Native studies (see 05.0202 Aboriginal studies)

05.0123 Chinese studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of one or more of the peoples of present-day China and its historical predecessors, related borderlands and island groups, and the overseas Chinese diasporas.

Illustrative example(s)
- Chinese studies

Exclusion(s)
- Asian Area studies (see 05.0103 Asian studies/civilization)
- Chinese history (see 54.0106 Asian history)
- Chinese language and literature (see 16.0301 Chinese language and literature)

05.0124 French studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of France, other Francophone countries inside and outside Europe, and the French colonial experience and the associated French minorities around the world.

Illustrative example(s)
- French studies

Exclusion(s)
- Canadian studies (see 05.0115 Canadian studies)
- French Canadian literature (in French) (see 55.1403 Canadian literature, French)
- French language and literature (see 55.0101 French language and literature, general)
- literature of France (see 55.1404 Literature of France and the French community, French)
- Quebec studies (see 05.0122 Regional studies (U.S., Canadian, foreign))
- Western European studies (see 05.0114 Western European studies)

05.0125 German studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of Germany, the neighbouring countries of Austria and Switzerland, the German minorities in neighbouring European countries, and the historical areas of German influence across Europe and overseas.

Illustrative example(s)
- German studies
- Germanic studies

Exclusion(s)
- German history (see 54.0103 European history)
- German language and literature (see 16.0501 German language and literature)
- Western European studies (see 05.0114 Western European studies)

05.0126 Italian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of modern Italy and its predecessors on the Italian Peninsula, including overseas migrations of Italian peoples.

Illustrative example(s)
- Italian studies

Exclusion(s)
- European history (see 54.0103 European history)
- European studies (see 05.0106 European studies/civilization)
- Italian (see 16.0902 Italian language and literature)

05.0127 Japanese studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the peoples of Japan, and related island groups and coastal neighbours.

Illustrative example(s)
- Japanese studies

Exclusion(s)
- Asian history (see 54.0106 Asian history)
- East Asian studies (see 05.0104 East Asian studies)
- Japanese (see 16.0302 Japanese language and literature)

05.0128 Korean studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the peoples of Korea, including related island groups and borderlands.

Illustrative example(s)
- Korean studies

Exclusion(s)
- East Asian studies (see 05.0104 East Asian studies)
- Korean (see 16.0303 Korean language and literature)
- Korean history (see 54.0106 Asian history)

05.0129 Polish studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of Poland and the current and historical inhabitants of the Polish lands, including borderlands, from earliest times to the present.

Illustrative example(s)
- Polish studies

Exclusion(s)
- Central European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- European and Russian studies (see 05.0199 Area studies, other)
- European history (see 54.0103 European history)
- Polish (see 16.0407 Polish language and literature)

05.0130 Spanish and Iberian studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the peoples of the Iberian Peninsula and related island groups and border regions from earliest times to the present, with particular emphasis on the development of Spain and Portugal but including other historical and current cultures.

Illustrative example(s)
- Hispanic studies
- Spanish studies

Exclusion(s)
- European history (see 54.0103 European history)
- Portuguese language and literature (see 16.0904 Portuguese language and literature)
- Spanish language and literature (see 16.0905 Spanish language and literature)
- Western European studies (see 05.0114 Western European studies)

05.0131 Tibetan studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of Tibet and its borderlands, with emphasis on both premodern and modern Tibet and associated religious and exile movements.

Illustrative example(s)
- Tibetan studies

Exclusion(s)
- Asian history (see 54.0106 Asian history)
- East Asian studies (see 05.0104 East Asian studies)
- Tibetan language and literature (see 16.0304 Tibetan language and literature)

05.0132 Ukraine studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of the Ukraine and its inhabitants, and related border regions, from earliest times to the present.

Illustrative example(s)
- Ukrainian studies

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)

- European history (see 54.0103 European history)
- Ukrainian language and literature (see 16.0410 Ukrainian language and literature)

05.0133 Irish studies

This instructional program class comprises any program that focuses on the history, society, politics, culture, and economics of Ireland and the Irish diaspora, from the early Christian period to the present.

Illustrative example(s)
- Irish studies

Exclusion(s)
- Celtic languages and literature (see 16.1301 Celtic languages, literatures and linguistics)
- Commonwealth studies (see 05.0121 Commonwealth studies)
- West European studies (see 05.0114 Western European studies)

05.0134 Latin American and Caribbean studies

This instructional program class comprises any integrated program that focuses on the history, society, politics, culture, and economics of the peoples and countries of the Latin American and Caribbean region.

Illustrative example(s)
- Latin American and Caribbean studies

Exclusion(s)
- Caribbean studies (see 05.0119 Caribbean studies)
- Latin American studies (see 05.0107 Latin American studies)

05.0199 Area studies, other

This instructional program class comprises any program not listed above that relates to Area studies.

Illustrative example(s)
- European and Russian studies
- European, Russian and Eurasian studies
- Slavic and East European studies

Exclusion(s)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- international studies (see 30.2001 International/global studies)

05.02 Ethnic, cultural minority, gender, and group studies

This subseries comprises instructional program classes 05.0201 to 05.0299.

05.0200 Ethnic studies

This instructional program class comprises any program that focuses on the interdisciplinary and comparative study of the history, sociology, politics, culture, and economics of various racial and ethnic groups, including African Americans, Aboriginal peoples and various ethnic groups.

Illustrative example(s)
- comparative ethnic studies
- ethnic and pluralism studies
- ethnic studies
- race and ethnicity

- race, ethnicity and indigeneity

Exclusion(s)
- Aboriginal studies (see 05.0202 Aboriginal studies)
- Asian American studies (see 05.0206 Asian American studies)
- Black Canadian studies (see 05.0201 African American/Black studies)
- Hispanic American studies (see 05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies)

05.0201 African American/Black studies

This instructional program class comprises any program that focuses on the history, sociology, politics, culture, and economics of the North American peoples descended from the African diaspora; focusing on the United States, Canada, and the Caribbean, but also including reference to Latin American elements of the diaspora.

Illustrative example(s)
- African American studies
- Black Canadian studies
- Black studies

Exclusion(s)
- African languages and literature (see 16.0201 African languages, literatures and linguistics)
- African studies (see 05.0101 African studies)
- American studies (see 05.0102 American/United States studies/civilization)
- comparative ethnic studies (see 05.0200 Ethnic studies)

05.0202 Aboriginal studies

This instructional program class comprises any program that focuses on the history, sociology, politics, culture, and economics of the Aboriginal peoples of the Americas from earliest times until the present, with particular emphasis on U.S. and Canadian populations and their problems but including reference to Caribbean and Latin American native peoples.

Illustrative example(s)
- Aboriginal studies
- First Nations studies
- Indigenous studies
- Inuit studies
- Native American studies
- Native studies

Exclusion(s)
- Aboriginal language (see 16.1001 Aboriginal languages, literatures and linguistics)
- American studies (see 05.0102 American/United States studies/civilization)
- Canadian studies (see 05.0115 Canadian studies)
- comparative ethnic studies (see 05.0200 Ethnic studies)

05.0203 Hispanic American, Puerto Rican and Mexican American/Chicano studies

This instructional program class comprises any program that focuses on the history, sociology, politics, culture, and economics of one or more of the Hispanic American immigrant populations within the U.S., including Mexican American Studies, Cuban American Studies, Puerto Rican Studies, and others.

Illustrative example(s)
- Chicano studies
- Cuban American studies

- Hispanic American studies
- Mexican American studies
- Puerto Rican studies

Exclusion(s)
- comparative ethnic studies (see 05.0200 Ethnic studies)
- Hispanic studies (see 05.0130 Spanish and Iberian studies)
- Latin American studies (see 05.0107 Latin American studies)
- Spanish language and literature (see 16.0905 Spanish language and literature)

05.0206 Asian American studies

This instructional program class comprises any program that focuses on the history, sociology, politics, culture, and economics of Asian population groups who have immigrated to the United States, or sought refugee asylum, from the colonial period to the present, and including Chinese Americans, Japanese Americans, Korean Americans, Vietnamese Americans, Cambodian Americans, and others.

Illustrative example(s)
- Asian American studies

Exclusion(s)
- American studies (see 05.0102 American/United States studies/civilization)
- Asian studies (see 05.0103 Asian studies/civilization)
- comparative ethnic studies (see 05.0200 Ethnic studies)
- East Asian languages and literature (see 16.0300 East Asian languages, literatures and linguistics, general)
- Oriental languages (see 16.9999 Aboriginal and foreign languages, literatures and linguistics, other)

05.0207 Women's studies

This instructional program class comprises any program that focuses on the history, sociology, politics, culture, and economics of women, and the development of modern feminism in relation to the roles played by women in different periods and locations in North America and the world. Programs may focus on literature, philosophy, and the arts as much as on social studies and policy.

Illustrative example(s)
- feminist studies
- women's and gender studies
- women's studies

Exclusion(s)
- gender studies (see 05.0299 Ethnic, cultural minority, gender, and group studies, other)
- political history (see 54.0199 History, other)

05.0208 Gay/lesbian studies

This instructional program class comprises any program that focuses on homosexuality in history, society, politics, and cultural life; usually with an emphasis on the modern emergence of gays and lesbians as a sociocultural minority movement, the identification of social, literary, and artistic themes and the definition of, and public policy and legal issues surrounding the gay and lesbian community.

Illustrative example(s)
- gay and lesbian studies

Exclusion(s)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)

05.0209 Folklore studies

This instructional program class comprises any program that focuses on the study of creativity and aesthetic expression in everyday life, as expressed in narrative, literature, performing arts, culture, work, family and community.

Illustrative example(s)
- folklore and folklife
- folklore and mythology
- folklore studies

05.0210 Disability studies

This instructional program class comprises any program that focuses on the nature, meaning, and consequences of what it is to be defined as disabled and explores the historical, cultural, economic, physiological, and socio-political dynamics of disability. These programs include courses in disability rights, legal issues, and public policy; literature, philosophy, and the arts; and/or research in the social sciences, education, and health sciences addressing social and experiential aspects of disability.

Illustrative example(s)
- disability studies

Exclusion(s)
- disability and community rehabilitation (see 19.0710 Developmental services worker)

05.0211 Deaf studies

This instructional program class comprises any program that focuses on the sociological, historical and linguistic aspects of the deaf and hearing impaired, and that prepares individuals to work with the deaf and hearing impaired. These programs include courses in sign language, deaf studies, deaf culture, structure of sign language, history of the deaf community, and civil rights of deaf people.

Illustrative example(s)
- deaf studies
- deaf studies and American Sign Language
- deaf studies and Quebec Sign Language
- deaf studies and sign language

Exclusion(s)
- American Sign Language (see 16.1601 American Sign Language (ASL)/Langue des signes québécoise (LSQ))
- education of the deaf (see 13.1003 Education/teaching of individuals with hearing impairments including deafness)

05.0299 Ethnic, cultural minority, gender, and group studies, other

This instructional program class comprises any program not listed above that relates to Ethnic, cultural minority, gender, and group studies.

Illustrative example(s)
- diaspora studies
- gender studies
- women's, gay and lesbian studies, integrated

Exclusion(s)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)

- international studies (see 30.2001 International/global studies)

05.99 Area, ethnic, cultural, gender, and group studies, other

This subseries comprises instructional program class 05.9999.

05.9999 Area, ethnic, cultural, gender, and group studies, other

This instructional program class comprises any program not listed above that relates to Area, ethnic, cultural, gender, and group studies.

Exclusion(s)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- international studies (see 30.2001 International/global studies)

09. Communication, journalism and related programs

This series comprises instructional programs that focus on how messages in various media are produced, used, and interpreted within and across different contexts, channels, and cultures, and that prepare individuals to apply communication knowledge and skills professionally.

09.01 Communication and media studies

This subseries comprises instructional program classes 09.0101 to 09.0199.

09.0100 Communication, general

This instructional program class comprises any program that focuses on the comprehensive study of communication, and that spans the study of mass communication/media studies, old and new media technologies, social and political applications, and speech communication and rhetoric. These programs include courses in interpersonal, group, organizational, and intercultural communication; theories of communication; critical thinking, argumentation, and persuasion; written communication; printed, electronic, and digital media; rhetorical tradition and criticism; media, society, and culture; consequences and effects of mass media; media social science and criticism; and quantitative and qualitative methods of inquiry.

Illustrative example(s)
- communication sciences
- communication studies
- communications

Exclusion(s)
- agricultural communications (see 01.0802 Agricultural communication/journalism)
- applied communication (see 09.0900 Public relations, advertising and applied communication, general)
- business communications (see 52.0501 Business/corporate communications)
- communication disorders (see 51.0201 Communication sciences and disorders, general)
- communications engineering (see 14.1004 Telecommunications engineering)
- communications engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- communications technology (see 10.0105 Communications technology/technician)
- digital communications (see 09.0702 Digital communication and media/multimedia)
- health communication (see 09.0905 Health communication)
- international communication (see 09.0907 International and intercultural communication)
- marketing communications (see 09.0903 Advertising)
- mass communication (see 09.0102 Mass communication/media studies)
- organizational communication (see 09.0901 Organizational communication, general)
- political communication (see 09.0904 Political communication)

- scientific communication (see 09.0908 Technical and scientific communication)
- speech communication (see 09.0101 Speech communication and rhetoric)
- sports communication (see 09.0906 Sports communication)

09.0101 Speech communication and rhetoric

This instructional program class comprises any program that focuses on the scientific, humanistic, and critical study of human communication in a variety of formats, media, and contexts. These programs include courses in the theory and practice of interpersonal, group, organizational, professional, and intercultural communication; speaking and listening; verbal and non-verbal interaction; rhetorical theory and criticism; performance studies; argumentation and persuasion; technologically mediated communication; popular culture; and various contextual applications.

Illustrative example(s)
- speech communication

Exclusion(s)
- agricultural journalism (see 01.0802 Agricultural communication/journalism)
- business communications (see 52.0501 Business/corporate communications)
- communication sciences and disorders (see 51.0201 Communication sciences and disorders, general)
- communications (see 09.0100 Communication, general)
- communications technician (see 10.0105 Communications technology/technician)
- English speech and rhetorical studies (see 23.1304 English rhetoric and composition)
- French speech and rhetoric studies (see 55.1304 French rhetoric and composition)
- health communication (see 09.0905 Health communication)
- literacy and communication skills (see 32.0108 Literacy and communication skills (not for credit))
- organizational communication (see 09.0901 Organizational communication, general)
- political communication (see 09.0904 Political communication)
- speech therapy (see 51.0203 Speech-language pathology/pathologist)

09.0102 Mass communication/media studies

This instructional program class comprises any program that focuses on the analysis and criticism of media institutions and media texts, how people experience and understand media content, and the roles of media in producing and transforming culture. These programs include courses in communications regulation, law, and policy; media history; media aesthetics, interpretation, and criticism; the social and cultural effects of mass media; cultural studies; the economics of media industries; visual and media literacy; and the psychology and behavioural aspects of media messages, interpretation, and utilization.

Illustrative example(s)
- mass communication
- mass media
- media communications
- media studies

Exclusion(s)
- communications (see 09.0100 Communication, general)
- film studies (see 50.0601 Film/cinema/video studies)
- instructional media (see 13.0501 Educational/instructional technology)
- intermedia (see 50.0706 Intermedia/multimedia)
- visual communications (see 50.0401 Design and visual communications, general)

09.0199 Communication and media studies, other

This instructional program class comprises any program not listed above that relates to Communication and media studies.

Illustrative example(s)
- social communication

Exclusion(s)
- family and consumer sciences communications (see 19.0202 Family and consumer sciences/human sciences communication)

09.04 Journalism

This subseries comprises instructional program classes 09.0401 to 09.0499.

09.0401 Journalism, general

This instructional program class comprises any program that focuses on the theory and practice of gathering, processing, and delivering news and that prepares individuals to be professional print journalists, news editors, and news managers. These programs include courses in news writing and editing; reporting; photojournalism; layout and graphic design; journalism law and policy; professional standards and ethics; research methods; and journalism history and criticism.

Illustrative example(s)
- international journalism
- journalism
- print journalism

Exclusion(s)
- agricultural journalism (see 01.0802 Agricultural communication/journalism)
- broadcast journalism (see 09.0402 Broadcast journalism)
- English technical and professional writing (see 23.1303 English professional, technical, business, and scientific writing)
- French technical and business writing (see 55.1303 French professional, technical, business, and scientific writing)
- international and intercultural communication (see 09.0907 International and intercultural communication)
- sports communication (see 09.0906 Sports communication)

09.0402 Broadcast journalism

This instructional program class comprises any program that focuses on the methods and techniques for reporting, producing, and delivering news and news programs via radio, television, and video/film media; and that prepares individuals to be professional broadcast journalists, editors, producers, directors, and managers. These programs include courses in the principles of broadcast technology; broadcast reporting; on- and off-camera and microphone procedures and techniques; program, sound, and video/film editing; program design and production; media law and policy; and professional standards and ethics.

Illustrative example(s)
- broadcast journalism
- radio journalism

Exclusion(s)
- broadcast technology (see 10.0202 Radio and television broadcasting technology/technician)
- photojournalism (see 09.0404 Photojournalism)
- print journalism (see 09.0401 Journalism, general)
- radio and television (see 09.0701 Radio and television)
- sports communication (see 09.0906 Sports communication)

09.0404 Photojournalism

This instructional program class comprises any program that focuses on the use of still and motion photography in journalism and prepares individuals to function as news photographers and photographic editors. These programs include courses in photography, journalism, studio procedures and techniques, camera and equipment operation and technique, news editing, print and film editing, news scene composition, subject surveillance, media law and policy, news team field operations, and professional standards and ethics.

Illustrative example(s)
- photojournalism

Exclusion(s)
- commercial photography (see 50.0406 Commercial photography)
- photofinishing (see 10.0201 Photographic and film/video technology/technician and assistant)
- photographic art (see 50.0605 Photography)
- sports communication (see 09.0906 Sports communication)

09.0499 Journalism, other

This instructional program class comprises any program not listed above that relates to Journalism.

Illustrative example(s)
- online journalism

09.07 Radio, television and digital communication

This subseries comprises instructional program classes 09.0701 to 09.0799.

09.0701 Radio and television

This instructional program class comprises any program that focuses on the theories, methods, and techniques used to plan, produce, and distribute audio and video programs and messages, and that prepares individuals to function as staff, producers, directors, and managers of radio and television shows and media organizations. These programs include courses in media aesthetics; planning, scheduling, and production; writing and editing; performing and directing; personnel and facilities management; marketing and distribution; media regulations, law, and policy; and principles of broadcast technology.

Illustrative example(s)
- radio and television
- radio, television, and film

Exclusion(s)
- audio recording technology (see 10.0203 Recording arts technology/technician)
- film production (see 50.0602 Cinematography and film/video production)
- film studies (see 50.0601 Film/cinema/video studies)
- television production technology (see 10.0202 Radio and television broadcasting technology/technician)

09.0702 Digital communication and media/multimedia

This instructional program class comprises any program that focuses on the development, use, critical evaluation, and regulation of new electronic communication technologies using computer applications; and that prepares individuals to function as developers and managers of digital communications media. These programs include courses in computers and telecommunications technologies and processes; design and development of digital communications; marketing and distribution; digital communications regulation, law, and policy; the study of human interaction with, and use of, digital media; and emerging trends and issues.

Illustrative example(s)
- digital communications
- digital media
- multimedia communications

Exclusion(s)
- communications (see 09.0100 Communication, general)
- communications technology (see 10.0105 Communications technology/technician)
- digital arts (see 50.0102 Digital arts, general)
- instructional media (see 13.0501 Educational/instructional technology)
- multimedia and web (see 11.0801 Web page, digital/multimedia and information resources design)
- multimedia art (see 50.0706 Intermedia/multimedia)
- wireless communications technology (see 15.0305 Telecommunications technology/technician)

09.0799 Radio, television and digital communication, other

This instructional program class comprises any program not listed above that relates to Radio, television and digital communication.

09.09 Public relations, advertising and applied communication

This subseries comprises instructional program classes 09.0901 to 09.0999.

09.0900 Public relations, advertising and applied communication, general

This instructional program class comprises any general program that focuses on organizational communication, public relations, and advertising; and that prepares individuals to function in a wide range of public and private sector positions requiring the skills of persuasive communication. These programs include courses in communications, public relations, and advertising theory; principles and techniques of persuasion; message/image design; marketing strategy; professional writing; public speaking and multi-media presentation skills; digital communications; and applied research.

Illustrative example(s)
- advertising and public relations
- applied communication
- public communications

Exclusion(s)
- advertising (see 09.0903 Advertising)
- communications (see 09.0100 Communication, general)
- international and intercultural communication (see 09.0907 International and intercultural communication)
- organizational communication (see 09.0901 Organizational communication, general)
- public relations (see 09.0902 Public relations/image management)
- sports communication (see 09.0906 Sports communication)

09.0901 Organizational communication, general

This instructional program class comprises any program that focuses on general communication processes and dynamics within organizations. These programs include courses in the development and maintenance of interpersonal group relations within organizations; decision-making and conflict management; the use of symbols to create and maintain organizational images, missions, and values; power and politics within organizations; human interaction with computer technology; and how communications socialize and support employees and team members.

Illustrative example(s)
- organizational communication

Exclusion(s)
- advertising and public relations (see 09.0900 Public relations, advertising and applied communication, general)
- business communications (see 52.0501 Business/corporate communications)
- communications (see 09.0100 Communication, general)
- non-profit management (see 52.0206 Non-profit/public/organizational management)
- organizational behaviour (see 52.1003 Organizational behaviour studies)
- organizational psychology (see 42.2804 Industrial and organizational psychology)

09.0902 Public relations/image management

This instructional program class comprises any program that focuses on the theories and methods for managing the media image of a business, organization, or individual and the communication process with stakeholders, constituencies, audiences, and the general public; and that prepares individuals to function as public relations assistants, technicians, and managers. These programs include courses in public relations theory; related principles of advertising, marketing, and journalism; message/image design; image management; special event management; media relations; community relations; public affairs; and internal communications.

Illustrative example(s)
- public relations
- public relations and communication management
- public relations management

Exclusion(s)
- advertising and public relations (see 09.0900 Public relations, advertising and applied communication, general)
- creative advertising (see 09.0903 Advertising)
- government administration (see 44.0401 Public administration)
- international and intercultural communication (see 09.0907 International and intercultural communication)
- marketing (see 52.1401 Marketing/marketing management, general)
- political communication (see 09.0904 Political communication)
- political science (see 45.1001 Political science and government, general)
- sports communication (see 09.0906 Sports communication)

09.0903 Advertising

This instructional program class comprises any program that focuses on the creation, execution, transmission, and evaluation of commercial messages in various media intended to promote and sell products, services, and brands; and that prepares individuals to function as advertising assistants, technicians, and managers. These programs include courses in advertising theory, marketing strategy, advertising design and production methods, campaign methods and techniques, media management, related principles of business management, and applicable technical and equipment skills.

Illustrative example(s)
- advertising
- advertising copywriting
- creative advertising
- marketing communications

Exclusion(s)
- advertising and public relations (see 09.0900 Public relations, advertising and applied communication, general)
- advertising design (see 50.0402 Commercial and advertising art)
- communications (see 09.0100 Communication, general)
- English writing (see 23.1301 English writing, general)
- French writing (see 55.1301 French writing, general)

- marketing (see 52.1401 Marketing/marketing management, general)
- marketing research (see 52.1402 Marketing research)
- publishing techniques and technologies (see 09.1001 Publishing)

09.0904 Political communication

This instructional program class comprises any program that focuses on human and media communication in the political process and that prepares individuals to function as members of political and public affairs organizations, political campaign staffs, and related government and media entities. These programs include courses in media effects, political speaking and debating, political advertising and marketing, image management, political journalism, opinion polling, and aspects of print and broadcast media related to the production and distribution of media messages in political settings.

Illustrative example(s)
- political communication

Exclusion(s)
- American politics (see 45.1002 American government and politics (United States))
- Canadian government and politics (see 45.1003 Canadian government and politics)
- communications (see 09.0100 Communication, general)
- creative advertising (see 09.0903 Advertising)
- government administration (see 44.0401 Public administration)
- political science (see 45.1001 Political science and government, general)
- public relations (see 09.0902 Public relations/image management)

09.0905 Health communication

This instructional program class comprises any program that focuses on how people, individually and collectively, understand and accommodate to health and illness and the role of communication and media in shaping professional health care messages and public acceptance of these messages. These programs include courses in the development and use of health-related and care-related messages and media; the goals and strategies of health care promotion; relationships, roles, situations, and social structures in the context of health maintenance and promotion; and applications to disease prevention, health advocacy, and communications concerning treatments.

Illustrative example(s)
- health and health science communication
- health communication

Exclusion(s)
- communications (see 09.0100 Communication, general)
- community health and preventive medicine (see 51.2208 Community health and preventive medicine)
- community health representative (see 51.1504 Community health services/liaison/counselling)
- family and consumer science communications (see 19.0202 Family and consumer sciences/human sciences communication)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health education and promotion (see 51.2207 Public health education and promotion)
- technical communication (see 09.0908 Technical and scientific communication)

09.0906 Sports communication

This instructional program class comprises any program that focuses on the methods and techniques for communicating about sports in a variety of formats, media, and contexts; and that prepares individuals to be sports reporters and writers, photojournalists, radio and television announcers, producers and directors, recreational sports promoters, and public relations specialists. These programs include courses in sports writing, photography, broadcast journalism, sports production, game rules, media and public relations, and sports promotion.

Illustrative example(s)
- sports communication

Exclusion(s)
- applied communication (see 09.0900 Public relations, advertising and applied communication, general)
- broadcast journalism (see 09.0402 Broadcast journalism)
- communications (see 09.0100 Communication, general)
- English technical writing (see 23.1303 English professional, technical, business, and scientific writing)
- French technical writing (see 55.1303 French professional, technical, business, and scientific writing)
- journalism (see 09.0401 Journalism, general)
- photojournalism (see 09.0404 Photojournalism)
- public relations (see 09.0902 Public relations/image management)
- sports studies (see 31.0508 Sports studies)
- technical communication (see 09.0908 Technical and scientific communication)

09.0907 International and intercultural communication

This instructional program class comprises any program that focuses on the specialized knowledge and skills needed for effective communication in the international community and among people of different cultures; and that prepares individuals to function at the national and international levels as journalists, public relations specialists, travel industry representatives, intercultural trainers, and/or foreign service officers. These programs include courses in journalism, communications, intercultural and international relations, marketing and public relations, and global communications policy.

Illustrative example(s)
- intercultural communication
- international and intercultural communication
- international communication

Exclusion(s)
- applied communication (see 09.0900 Public relations, advertising and applied communication, general)
- communications (see 09.0100 Communication, general)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- journalism (see 09.0401 Journalism, general)
- public relations (see 09.0902 Public relations/image management)

09.0908 Technical and scientific communication

This instructional program class comprises any program that focuses on the communication of technical and scientific knowledge to a variety of audiences through print, video, and digital media; and that prepares individuals to function as technical writers and editors, documentation developers, web designers, and usability specialists. These programs include courses in scientific and technical writing and editing, graphic and information design, web design, audience analysis, document usability and field testing, publications management, and applications to specific technical fields.

Illustrative example(s)
- scientific communication
- technical and scientific communication
- technical communication

Exclusion(s)
- communications (see 09.0100 Communication, general)
- English technical writing (see 23.1303 English professional, technical, business, and scientific writing)
- French technical writing (see 55.1303 French professional, technical, business, and scientific writing)
- health and health science communication (see 09.0905 Health communication)
- sports communication (see 09.0906 Sports communication)

09.0999 Public relations, advertising and applied communication, other

This instructional program class comprises any program not listed above that relates to Public relations, advertising and applied communication.

Exclusion(s)
- communications (see 09.0100 Communication, general)

09.10 Publishing

This subseries comprises instructional program class 09.1001.

09.1001 Publishing

This instructional program class comprises any program that focuses on the process of managing the creation, publication, and distribution of print and electronic books and other text products and prepares individuals to manage the editorial, technical, and business aspects of publishing operations. These programs include courses in product planning and design, editing, author relations, business and copyright law, publishing industry operations, contracting and purchasing, product marketing, electronic publishing and commerce, history of publishing, and professional standards and ethics.

Illustrative example(s)
- book and magazine publishing
- publishing
- publishing techniques and technologies

Exclusion(s)
- advertising copywriting (see 09.0903 Advertising)
- desktop publishing (see 10.0303 Prepress/desktop publishing and digital imaging design)
- graphic communications management (see 10.0302 Printing management)

09.99 Communication, journalism and related programs, other

This subseries comprises instructional program class 09.9999.

09.9999 Communication, journalism and related programs, other

This instructional program class comprises any program not listed above that relates to Communication, journalism and related programs.

Illustrative example(s)
- journalism and communication

10. Communications technologies/technicians and support services

This series comprises instructional programs that prepare individuals to function as equipment operators, support technicians, and operations managers in the film/video, recording, and graphic communications industries.

10.01 Communications technology/technician

This subseries comprises instructional program class 10.0105.

10.0105 Communications technology/technician

This instructional program class comprises any program that generally prepares individuals to function as workers and managers within communications industries. These programs include courses in business economics; basic management; principles of interpersonal and mediated communications; radio, television, and digital media production; and related aspects of technology and communications systems.

Illustrative example(s)
- communications technician
- communications technology
- technical communications assistant

Exclusion(s)
- communications (see 09.0100 Communication, general)
- communications engineering technology (see 15.0305 Telecommunications technology/technician)
- communications technician (apprenticeship) (see 47.0103 Communications systems installation and repair technology)
- digital communications (see 09.0702 Digital communication and media/multimedia)

10.02 Audiovisual communications technologies/technicians

This subseries comprises instructional program classes 10.0201 to 10.0299.

10.0201 Photographic and film/video technology/technician and assistant

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the operation and maintenance of camera and lighting equipment and the production of finished still, video, and film products under the supervision of photographers, directors, and editors. These programs include courses in equipment setup and maintenance; lighting; power supplies; studio and film set tasks such as camera operator, grip, and best boy; plate and negative handling and development; laboratory procedures; and digital software applications.

Illustrative example(s)
- best boy
- camera operator
- cameraman/camerawoman
- film technician
- gaffer
- grip
- motion picture and theatre grip
- photo lab technician
- photofinishing
- photography, film and video - technologist/technician and assistant

Exclusion(s)
- commercial photography (see 50.0406 Commercial photography)
- film and video production (see 50.0602 Cinematography and film/video production)
- photography (except commercial) (see 50.0605 Photography)
- photojournalism (see 09.0404 Photojournalism)

10.0202 Radio and television broadcasting technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the production of radio and television programs, and related operations, under the supervision of broadcast and studio managers, directors, editors, and producers. These programs include courses in sound, lighting, and

camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping.

Illustrative example(s)
- broadcast engineering technology
- broadcast technology
- radio broadcast technology
- radio broadcasting technician
- television and new media production
- television broadcast technology
- television broadcasting technician
- television production technology

Exclusion(s)
- broadcast journalism (see 09.0402 Broadcast journalism)
- communications engineering (see 14.1004 Telecommunications engineering)
- communications engineering technology (see 15.0305 Telecommunications technology/technician)
- radio and television (see 09.0701 Radio and television)

10.0203 Recording arts technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the production of sound recordings as finished products or as components of film/video, broadcast, live, or mixed media productions. These programs include courses in sound equipment operation and maintenance; music, dialogue, and sound effects recording; sound track editing; dubbing and mixing; sound engineering; tape, disk, and CD production; digital recording and transmission; amplification and modulation; and working with producers, editors, directors, artists, and production managers.

Illustrative example(s)
- audio engineering
- audio recording technology
- music recording
- music recording engineering
- recording engineering
- sound engineering
- sound recording
- sound technology

Exclusion(s)
- acoustic engineering (see 14.9999 Engineering, other)
- computer-assisted sonic design (see 50.0913 Music technology)
- film and video production (see 50.0602 Cinematography and film/video production)
- music production (see 50.0999 Music, other)

10.0299 Audiovisual communications technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Audiovisual communications technologies/technicians.

Illustrative example(s)
- audiovisual technician
- audiovisual technology
- broadcast captioning
- projectionist

Exclusion(s)
- 3D animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- educational media (see 13.0501 Educational/instructional technology)
- film and video production (see 50.0602 Cinematography and film/video production)

10.03 Graphic communications

This subseries comprises instructional program classes 10.0301 to 10.0399.

10.0301 Graphic communications, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills in the manufacture and distribution or transmission of graphic communications products. These programs include courses in the prepress, press, and postpress phases of production operations and processes such as offset lithography, flexography, gravure, letterpress, screen printing, foil stamping, digital imaging, and other reproduction methods.

Illustrative example(s)
- graphic communications
- graphic production
- graphic production and printing

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- creative advertising design (see 50.0402 Commercial and advertising art)
- graphic design (see 50.0409 Graphic design)
- marketing communications (see 09.0903 Advertising)
- visual communications (see 50.0401 Design and visual communications, general)

10.0302 Printing management

This instructional program class comprises any program that prepares individuals to apply technical and managerial knowledge and skills to the processes and procedures of managing printing operations from initial design through finished product distribution. These programs include courses in the principles of graphic communications design and production; quality control; printing operations management; computerization; printing plant management; business finance and marketing; logistics and distribution; personnel supervision and leadership; and professional standards in the graphic communications industry.

Illustrative example(s)
- graphic communications management
- printing management
- printing management technology

Exclusion(s)
- printing (see 10.0305 Graphic and printing equipment operator, general production)
- printing press operator (see 10.0307 Printing press operator)
- printmaking (see 50.0710 Printmaking)

10.0303 Prepress/desktop publishing and digital imaging design

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the layout, design and typographic arrangement of printed and/or electronic graphic and textual products. These programs include courses in printing and lithographic equipment and operations; computer hardware and software; digital imaging; print preparation; page layout and design; desktop publishing; and applicable principles of graphic design and web page design.

Illustrative example(s)
- computer graphics for desktop publishing
- computer graphics for prepress
- desktop publishing
- digital imaging design
- electronic prepress
- electronic publishing
- prepress

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- digital arts (see 50.0102 Digital arts, general)
- digital media (see 09.0702 Digital communication and media/multimedia)
- graphic design for print and web (see 50.0409 Graphic design)
- publishing (see 09.1001 Publishing)
- typesetting (see 10.0308 Computer typography and composition equipment operator)
- web page design (see 11.0801 Web page, digital/multimedia and information resources design)

10.0304 Animation, interactive technology, video graphics and special effects

This instructional program class comprises any program that prepares individuals to use computer applications and related visual and sound imaging techniques to manipulate images and information originating as film, video, still photographs, digital copy, soundtracks, and physical objects in order to communicate messages simulating real-world content. These programs include courses in specialized camerawork and equipment operation and maintenance, image capture, computer programming, dubbing, CAD applications, and applications to specific commercial, industrial, and entertainment needs.

Illustrative example(s)
- 2D and 3D animation
- 2D and 3D animation technology
- 2D animation
- 3D animation
- classical animation
- computer animation
- digital animation

Exclusion(s)
- 3D graphics technology (see 11.0803 Computer graphics)
- film and video production (see 50.0602 Cinematography and film/video production)
- game development (see 50.0411 Game and interactive media design)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)
- photofinishing (see 10.0201 Photographic and film/video technology/technician and assistant)

10.0305 Graphic and printing equipment operator, general production

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills to plan, prepare, and execute a variety of commercial and industrial graphic communications jobs. These programs include courses in the operation and maintenance of mechanical, electronic, and digital graphic, printing, and finishing equipment; and related processes.

Illustrative example(s)
- printing
- printing and finishing
- printing production
- printing technology

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- graphic design (see 50.0409 Graphic design)
- graphic production and printing (see 10.0301 Graphic communications, general)
- printing press operator (see 10.0307 Printing press operator)

10.0306 Platemaker/imager

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to prepare film, digital data, and surfaces to reproduce printed or graphic images. These programs include courses in platemaking, stripping, camerawork, imposition, digital imaging, computer direct-to-plate and direct-to-press, and related processes.

Illustrative example(s)
- photo engraving
- platemaking

Exclusion(s)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- printmaking (see 50.0710 Printmaking)

10.0307 Printing press operator

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to set up, operate, and maintain printing presses.

Illustrative example(s)
- flexographic press operator
- offset press operator
- offset printing
- printing press operator
- printing pressman/presswoman
- rotary offset press operator

Exclusion(s)
- desktop publishing (see 10.0303 Prepress/desktop publishing and digital imaging design)
- printing technology (see 10.0305 Graphic and printing equipment operator, general production)

10.0308 Computer typography and composition equipment operator

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to design and execute page formats, layouts and text composition, and to make typographical selections using computer graphics and other computer-assisted design programs.

Illustrative example(s)
- printing compositor
- typesetting
- typography

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- prepress (see 10.0303 Prepress/desktop publishing and digital imaging design)

10.0399 Graphic communications, other

This instructional program class comprises any program not listed above that relates to Graphic communications.

Illustrative example(s)
- bookbinding
- machine bookbinding

Exclusion(s)
- publishing techniques and technologies (see 09.1001 Publishing)

10.99 Communications technologies/technicians and support services, other

This subseries comprises instructional program class 10.9999.

10.9999 Communications technologies/technicians and support services, other

This instructional program class comprises any program not listed above that relates to Communications technologies/technicians and support services.

11. Computer and information sciences and support services

This series comprises instructional programs that focus on the computer and information sciences and prepare individuals for various occupations in information technology and computer operations fields.

11.01 Computer and information sciences and support services, general

This subseries comprises instructional program class 11.0101 to 11.0199.

11.0101 Computer and information sciences, general

This instructional program class comprises any general program that focuses on computing, computer science, and information science and systems. Such programs are undifferentiated as to title and content and are not to be confused with specific programs in computer science, information science, or related support services.

Illustrative example(s)
- computing and information science
- computing and information systems

Exclusion(s)
- accounting and computer science (see 30.1601 Accounting and computer science)
- computer engineering (see 14.0901 Computer engineering, general)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer information systems (see 11.0103 Information technology)
- computer science (see 11.0701 Computer science)
- computer technology (see 15.1202 Computer technology/computer systems technology)
- information resources management (see 52.1206 Information resources management)
- information science (see 11.0401 Information science/studies)
- library and information science (see 25.0101 Library and information science)
- logic (see 38.0102 Logic)
- management information systems (see 52.1201 Management information systems, general)
- mathematics and computer science (see 30.0801 Mathematics and computer science)
- social informatics (see 11.0104 Informatics)

11.0102 Artificial intelligence

This instructional program class comprises any program that focuses on the symbolic inference, representation, and simulation by computers and software of human learning and reasoning processes and capabilities, and the computer modeling of human motor control and motions. These programs include courses in computing theory, cybernetics, human factors, natural language processing, and applicable aspects of engineering, technology, and specific end-use applications.

Illustrative example(s)
- artificial intelligence
- robotics programming

Exclusion(s)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- human computer interaction (see 30.3101 Human computer interaction)
- mechatronics engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)
- robotics and automation technology (see 15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other)
- robotics technician (see 15.0405 Robotics technology/technician)

11.0103 Information technology

This instructional program class comprises any program that focuses on the design of technological information systems, including computing systems, as solutions to business and research data and communications support needs. These programs include courses in the principles of computer hardware and software components, algorithms, databases, telecommunications, user tactics, application testing, and human interface design.

Illustrative example(s)
- business information technology
- computer information systems
- information technology
- IT

Exclusion(s)
- business information management (see 52.1201 Management information systems, general)
- business information processing (see 52.0407 Business/office automation/technology/data entry)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer science (see 11.0701 Computer science)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)
- computing and information systems (see 11.0101 Computer and information sciences, general)
- information science (see 11.0401 Information science/studies)
- information technology project management (see 11.1005 Information technology project management)
- social informatics (see 11.0104 Informatics)

11.0104 Informatics

This instructional program class comprises any program that focuses on computer systems from a user-centred perspective and studies the structure, behaviour and interactions of natural and artificial systems that store, process and communicate information. These programs include courses in information sciences, human computer interaction, information system analysis and design, telecommunications structure and information architecture and management.

Illustrative example(s)
- social informatics

Exclusion(s)
- computer science (see 11.0701 Computer science)
- computing and information systems (see 11.0101 Computer and information sciences, general)
- information technology (see 11.0103 Information technology)

11.0199 Computer and information sciences and support services, general, other

This instructional program class comprises any program not listed above that relates to Computer and information sciences and support services, general.

Exclusion(s)
- computer science (see 11.0701 Computer science)
- computing and information science (see 11.0101 Computer and information sciences, general)
- information technology (see 11.0103 Information technology)

11.02 Computer programming

This subseries comprises instructional program classes 11.0201 to 11.0299.

11.0201 Computer programming/programmer, general

This instructional program class comprises any program that focuses on the general writing and implementation of generic and customized programs to drive operating systems and that generally prepares individuals to apply the methods and procedures of software design and programming to software installation and maintenance. These programs include courses in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.

Illustrative example(s)
- computer applications development
- computer programmer
- computer programming
- computer programming technology
- programming
- software design
- software development

Exclusion(s)
- business computer programming (see 11.0202 Computer programming, specific applications)
- computer software technician (see 15.1204 Computer software technology/technician)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)
- database developer (see 11.0802 Data modelling/warehousing and database administration)
- Microsoft Certified Systems Engineer (see 11.0203 Computer programming, vendor/product certification)
- programmer-analyst (see 11.0501 Computer systems analysis/analyst)
- software systems development (see 14.0903 Computer software engineering)
- web design and development (see 11.0801 Web page, digital/multimedia and information resources design)

11.0202 Computer programming, specific applications

This instructional program class comprises any program that prepares individuals to apply the knowledge and skills of general computer programming to the solution of specific operational problems and customization requirements presented by individual software users and organizational users. Includes training in specific types of software and its installation and maintenance.

Illustrative example(s)
- business applications programming
- business computer programming
- computer programming, business applications
- e-commerce applications development

Exclusion(s)
- computer software technology (see 15.1204 Computer software technology/technician)
- database developer (see 11.0802 Data modelling/warehousing and database administration)
- Microsoft Certified Systems Engineer (see 11.0203 Computer programming, vendor/product certification)
- software design (see 11.0201 Computer programming/programmer, general)
- software engineering (see 14.0903 Computer software engineering)
- web design and development (see 11.0801 Web page, digital/multimedia and information resources design)

11.0203 Computer programming, vendor/product certification

This instructional program class comprises any program that prepares individuals to fulfill the requirements set by vendors for professional qualification as certified installation, customization, and maintenance engineers for specific software products and/or processes. Includes training in specific vendor supported software products and their installation and maintenance.

Illustrative example(s)
- CISCO certification
- Cisco Certified Internetwork Expert
- Cisco Certified Network Associate
- Cisco Certified Network Professional
- Microsoft certification
- Microsoft Certified Systems Administrator
- Microsoft Certified Systems Engineer
- Microsoft Certified Technology Specialist
- Sun certified Java programmer

Exclusion(s)
- business computer programming (see 11.0202 Computer programming, specific applications)
- computer software technology (see 15.1204 Computer software technology/technician)
- software design (see 11.0201 Computer programming/programmer, general)
- software engineering (see 14.0903 Computer software engineering)

11.0299 Computer programming, other

This instructional program class comprises any program not listed above that relates to Computer programming.

Exclusion(s)
- business computer programming (see 11.0202 Computer programming, specific applications)
- computer programming (see 11.0201 Computer programming/programmer, general)
- database developer (see 11.0802 Data modelling/warehousing and database administration)
- Microsoft Certified Systems Engineer (see 11.0203 Computer programming, vendor/product certification)

- web design and development (see 11.0801 Web page, digital/multimedia and information resources design)

11.03 Data processing and data processing technology/technician

This subseries comprises instructional program class 11.0301.

11.0301 Data processing and data processing technology/technician

This instructional program class comprises any program that prepares individuals to master and use computer software programs and applications for inputting, verifying, organizing, storing, retrieving, transforming (changing, updating, and deleting), and extracting information. These programs include courses in using various operating system configurations and in types of data entry such as word processing, spreadsheets, calculators, management programs, design programs, database programs, and research programs.

Illustrative example(s)
- data processing
- data processing technology
- electronic data processing

Exclusion(s)
- applied business technology (see 52.0407 Business/office automation/technology/data entry)
- data entry (see 11.0601 Data entry/microcomputer applications, general)
- word processing (see 11.0602 Word processing)

11.04 Information science/studies

This subseries comprises instructional program class 11.0401.

11.0401 Information science/studies

This instructional program class comprises any program that focuses on the theory, organization, and process of information collection, transmission, and utilization in traditional and electronic forms. These programs include courses in information classification and organization; information storage and processing; transmission, transfer, and signalling; communications and networking; systems planning and design; human interfacing and use analysis; database development; information policy analysis; and related aspects of hardware, software, economics, social factors, and capacity.

Illustrative example(s)
- information science
- information studies

Exclusion(s)
- computer science (see 11.0701 Computer science)
- computing and information science (see 11.0101 Computer and information sciences, general)
- health information science (see 51.0706 Health information/medical records administration/administrator)
- information technology (see 11.0103 Information technology)
- library and information science (see 25.0101 Library and information science)
- management information systems (see 52.1201 Management information systems, general)
- systems science (see 30.0601 Systems science and theory)

11.05 Computer systems analysis/analyst

This subseries comprises instructional program class 11.0501.

11.0501 Computer systems analysis/analyst

This instructional program class comprises any program that prepares individuals to apply programming and systems analysis principles to the selection, implementation, and troubleshooting of customized computer and software installations across the life cycle. These programs include courses in computer hardware and software; compilation, composition, execution, and operating systems; low- and high-level languages and language programming; programming and debugging techniques; installation and maintenance testing and documentation; process and data flow analysis; user needs analysis and documentation; cost-benefit analysis; and specification design.

Illustrative example(s)
- computer analyst
- computer programmer-analyst
- computer systems analyst
- programmer-analyst

Exclusion(s)
- computer science (see 11.0701 Computer science)
- computer software technology (see 15.1204 Computer software technology/technician)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)
- information system management (see 52.1201 Management information systems, general)
- software design (see 11.0201 Computer programming/programmer, general)
- software systems development (see 14.0903 Computer software engineering)
- systems science (see 30.0601 Systems science and theory)

11.06 Data entry/microcomputer applications

This subseries comprises instructional program classes 11.0601 to 11.0699.

11.0601 Data entry/microcomputer applications, general

This instructional program class comprises any program that generally prepares individuals to perform basic data and text entry using standard and customized software products. These programs include courses in keyboarding skills, personal computer and work station operation, reading draft texts and raw data forms, audio and tape dictation, and various interactive software programs used for tasks such as word processing, spreadsheets, databases, and others.

Illustrative example(s)
- data entry
- data entry operator
- keypunch operator
- microcomputer applications
- microcomputer business applications

Exclusion(s)
- applied business technology (see 52.0407 Business/office automation/technology/data entry)
- basic computer application (see 32.0110 Basic computer skills (not for credit))
- data processing (see 11.0301 Data processing and data processing technology/technician)
- medical insurance coding (see 51.0713 Medical insurance coding specialist/coder)
- typesetting (see 10.0308 Computer typography and composition equipment operator)
- word processing (see 11.0602 Word processing)

11.0602 Word processing

This instructional program class comprises any program that prepares individuals to perform text typing, table construction, and document formatting tasks on personal computers at a high rate of accuracy and proficiency. These programs include courses in keyboarding skills, word processor operation, textual draft interpretation, audio and tape dictation, and specific word processing program software.

Illustrative example(s)
- word processing

Exclusion(s)
- applied business technology (see 52.0407 Business/office automation/technology/data entry)
- basic computer application (see 32.0110 Basic computer skills (not for credit))
- data entry (see 11.0601 Data entry/microcomputer applications, general)
- data processing (see 11.0301 Data processing and data processing technology/technician)
- desktop publishing (see 10.0303 Prepress/desktop publishing and digital imaging design)
- dicta-typing (see 52.0408 General office occupations and clerical services)
- secretarial science (see 52.0401 Administrative assistant and secretarial science, general)

11.0699 Data entry/microcomputer applications, other

This instructional program class comprises any program not listed above that relates to Data entry/microcomputer applications.

Exclusion(s)
- applied business technology (see 52.0407 Business/office automation/technology/data entry)
- data entry (see 11.0601 Data entry/microcomputer applications, general)
- data processing (see 11.0301 Data processing and data processing technology/technician)
- word processing (see 11.0602 Word processing)

11.07 Computer science

This subseries comprises instructional program class 11.0701.

11.0701 Computer science

This instructional program class comprises any program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. These programs include courses in the principles of computational science, computer development and programming; and applications to a variety of end-use situations.

Illustrative example(s)
- computer science
- computer science technology
- computing science

Exclusion(s)
- accounting and computer science (see 30.1601 Accounting and computer science)
- bioinformatics (see 26.1103 Bioinformatics)
- computational biology (see 26.1104 Computational biology)
- computational mathematics (see 27.0303 Computational mathematics)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer hardware technology (see 15.12 Computer engineering technologies/technicians)
- computer systems engineering (see 14.0901 Computer engineering, general)
- computing and information science (see 11.0101 Computer and information sciences, general)
- information science (see 11.0401 Information science/studies)

- mathematics and computer science (see 30.0801 Mathematics and computer science)
- medical informatics (see 51.2706 Medical informatics)
- programmer-analyst (see 11.0501 Computer systems analysis/analyst)
- social informatics (see 11.0104 Informatics)
- software systems development (see 14.0903 Computer software engineering)

11.08 Computer software and media applications

This subseries comprises instructional program classes 11.0801 to 11.0899.

11.0801 Web page, digital/multimedia and information resources design

This instructional program class comprises any program that prepares individuals to apply HTML, XML, Javascript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. These programs include courses in Internet theory; web page standards and policies; elements of web page design; user interfaces; vector tools; special effects; interactive and multimedia components; search engines; navigation; morphing; e-commerce tools; and emerging web technologies.

Illustrative example(s)
- interactive multimedia and design
- web design
- web design and development
- web page design
- web site design

Exclusion(s)
- computer programmer (see 11.0201 Computer programming/programmer, general)
- digital animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- digital media (see 09.0702 Digital communication and media/multimedia)
- e-commerce (see 52.0208 E-commerce/electronic commerce)
- graphic design for print and web (see 50.0409 Graphic design)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)
- multimedia art (see 50.0706 Intermedia/multimedia)
- website development (see 11.1004 Web/multimedia management and webmaster)

11.0802 Data modelling/warehousing and database administration

This instructional program class comprises any program that prepares individuals to design and manage the construction of databases and related software programs and applications, including the linking of individual data sets to create complex searchable databases (warehousing) and the use of analytical search tools (mining). These programs include courses in database theory, logic, and semantics; operational and warehouse modelling; dimensionality; attributes and hierarchies; data definition; technical architecture; access and security design; integration; formatting and extraction; data delivery; index design; implementation problems; planning and budgeting; and client and networking issues.

Illustrative example(s)
- data warehousing
- database administration
- database developer
- database management

Exclusion(s)
- business computer programming (see 11.0202 Computer programming, specific applications)

- computer programming (see 11.0201 Computer programming/programmer, general)
- computer software engineering (see 14.0903 Computer software engineering)
- computer software technology (see 15.1204 Computer software technology/technician)
- management information systems (see 52.1201 Management information systems, general)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)
- warehouse management (see 52.0409 Parts, warehousing and inventory management operations)
- warehouse technician (see 47.0409 Parts and warehousing operations and maintenance technology/technician)

11.0803 Computer graphics

This instructional program class comprises any program that focuses on the software, hardware, and mathematical tools used to represent, display, and manipulate topological two- and three-dimensional objects on a computer screen and that prepares individuals to function as computer graphics specialists. These programs include courses in graphics software and systems; digital multimedia; graphic design; graphics devices, processors, and standards; attributes and transformations; projections; surface identification and rendering; colour theory and application; and applicable geometry and algorithms.

Illustrative example(s)
- 3D graphics technology
- computer graphics

Exclusion(s)
- 3D animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- computer software technology (see 15.1204 Computer software technology/technician)
- computer-aided design (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- graphic design for print and web (see 50.0409 Graphic design)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)
- software design (see 11.0201 Computer programming/programmer, general)
- web design (see 11.0801 Web page, digital/multimedia and information resources design)

11.0804 Modeling, virtual environments and simulation

This instructional program class comprises any program focusing on the principles of applied visual simulation technology and the application of quantitative analyses to human-computer interaction. These programs include courses in object-oriented programming, artificial intelligence, computer communications and networks, computer graphics, virtual worlds and simulation systems, probability, statistics, stochastic modeling, data analysis, human-performance evaluation, and human-behaviour modeling.

Illustrative example(s)
- modeling, virtual environments and simulation

Exclusion(s)
- artificial intelligence (see 11.0102 Artificial intelligence)
- computer graphics (see 11.0803 Computer graphics)
- database developer (see 11.0802 Data modelling/warehousing and database administration)
- game development (see 50.0411 Game and interactive media design)
- interactive multimedia and design (see 11.0801 Web page, digital/multimedia and information resources design)

11.0899 Computer software and media applications, other

This instructional program class comprises any program not listed above that relates to Computer software and media applications.

Exclusion(s)
- computer software technology (see 15.1204 Computer software technology/technician)
- digital media (see 09.0702 Digital communication and media/multimedia)
- instructional media (see 13.0501 Educational/instructional technology)
- interactive multimedia and design (see 11.0801 Web page, digital/multimedia and information resources design)
- multimedia art (see 50.0706 Intermedia/multimedia)

11.09 Computer systems networking and telecommunications

This subseries comprises instructional program class 11.0901.

11.0901 Computer systems networking and telecommunications

This instructional program class comprises any program that focuses on the design, implementation, and management of linked systems of computers, peripherals, and associated software to maximize efficiency and productivity, and that prepares individuals to function as network specialists and managers at various levels. These programs include courses in operating systems and applications; systems design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuring; and troubleshooting.

Illustrative example(s)
- computer networks (university)
- computer systems networking (university)
- computer systems telecommunications (university)

Exclusion(s)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer networking technology (see 11.1001 Network and system administration/administrator)
- computer systems service technician (see 47.0104 Computer installation and repair technology/technician)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)
- network engineering (see 14.0999 Computer engineering, other)
- network management (see 11.1002 System, networking and LAN/WAN management/manager)
- network telecommunications engineering technology (see 15.0305 Telecommunications technology/technician)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

11.10 Computer/information technology administration and management

This subseries comprises instructional program classes 11.1001 to 11.1099.

11.1001 Network and system administration/administrator

This instructional program class comprises any program that prepares individuals to manage the computer operations and control the system configurations emanating from a specific site or network hub. These programs include courses in computer hardware and software and applications; local area (LAN) and wide area (WAN) networking; principles of information systems security; disk space and traffic load monitoring; data backup; resource allocation; and setup and takedown procedures.

Illustrative example(s)
- computer and network support technician

- computer network administrator
- computer network specialist
- computer networking and technical support
- computer networking technology
- computer systems administration
- computer systems technician - networking
- network administration
- network specialist
- network support technician

Exclusion(s)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer networks and security (see 11.1003 Computer and information systems security/information assurance)
- computer support specialist (see 11.1006 Computer support specialist)
- computer systems networking (university) (see 11.0901 Computer systems networking and telecommunications)
- computer systems service technician (see 47.0104 Computer installation and repair technology/technician)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)
- management information systems (see 52.1201 Management information systems, general)
- network management (see 11.1002 System, networking and LAN/WAN management/manager)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

11.1002 System, networking and LAN/WAN management/manager

This instructional program class comprises any program that prepares individuals to oversee and regulate the computer system and performance requirements of an entire organization or network of satellite users. These programs include courses in performance balancing; redundancy; local area (LAN) and wide area (WAN) network management; system migration and upgrading; outage control; problem diagnosis and troubleshooting; and system maintenance budgeting and management.

Illustrative example(s)
- computer network management
- computer network manager
- LAN management
- LAN manager
- local area network management
- local area network manager
- network management
- network manager
- WAN management
- WAN manager
- wide area network management
- wide area network manager

Exclusion(s)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- computer systems networking (university) (see 11.0901 Computer systems networking and telecommunications)
- management information systems (see 52.1201 Management information systems, general)
- network administration (see 11.1001 Network and system administration/administrator)
- network engineering (see 14.0999 Computer engineering, other)
- network security (see 11.1003 Computer and information systems security/information assurance)
- telecommunication engineering (see 14.1004 Telecommunications engineering)
- telecommunications management (see 52.2101 Telecommunications management)

11.1003 Computer and information systems security/information assurance

This instructional program class comprises any program that prepares individuals to assess the security needs of computer and network systems, recommend safeguard solutions, and manage the implementation and maintenance of security devices, systems, and procedures. These programs include courses in computer architecture, programming, and systems analysis; networking; telecommunications; cryptography; security system design; applicable laws and regulations; risk assessment and policy analysis; contingency planning; user access issues; investigation techniques; and troubleshooting.

Illustrative example(s)
- computer and network systems security
- computer network security
- computer networks and security
- computer systems security
- cyberspace security
- information assurance
- information systems security
- internet security
- IT security
- network security

Exclusion(s)
- computer forensics (see 43.0116 Cyber/computer forensics and counterterrorism)
- computer network administration (see 11.1001 Network and system administration/administrator)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- security (see 43.0109 Security and loss prevention services)
- security system technician (see 47.0110 Security system installation, repair and inspection technology/technician)
- terrorism and counterterrorism operations (see 43.0399 Security and protective services, specialized programs, other)
- wide area network management (see 11.1002 System, networking and LAN/WAN management/manager)

11.1004 Web/multimedia management and webmaster

This instructional program class comprises any program that prepares individuals to develop and maintain web servers and the hosted web pages at one or a group of web sites, and to function as designated webmasters. These programs include courses in computer systems and networks; server installation and maintenance; web page design and editing; information resources management; web policy and procedures; Internet applications of information systems security; user interfacing and usability research; and relevant management and communications skills.

Illustrative example(s)
- web developer
- web development
- web site administration
- web site management
- webmaster
- website development

Exclusion(s)
- graphic design for print and web (see 50.0409 Graphic design)
- web design and development (see 11.0801 Web page, digital/multimedia and information resources design)

11.1005 Information technology project management

This instructional program class comprises any program that prepares individuals to design, develop, and manage information technology projects in a variety of companies and organizations. These programs include courses in principles of project management, risk management, procurement and contract management, information security management, software management, organizational principles and behaviour, communications, quality assurance, financial analysis, leadership, and team effectiveness.

Illustrative example(s)
- information technology project management
- IT project management

Exclusion(s)
- information technology (see 11.0103 Information technology)
- project management (see 52.0211 Project management)

11.1006 Computer support specialist

This instructional program class comprises any program that prepares individuals to provide technical assistance, support, and advice to computer users to help troubleshoot software and hardware problems. These programs include courses in computer concepts, information systems, networking, operating systems, computer hardware, the Internet, software applications, help desk concepts and problem solving, and principles of customer service.

Illustrative example(s)
- computer call centre specialist
- computer help desk specialist
- computer support specialist
- computer technical support specialist
- information technology contact centre - customer care agent
- information technology contact centre - technical support agent
- information technology support specialist
- IT support specialist

Exclusion(s)
- call centre service representative (see 52.0411 Customer service support/call centre/teleservice operation)
- computer and network support technician (see 11.1001 Network and system administration/administrator)
- computer service technician (see 47.0104 Computer installation and repair technology/technician)

11.1099 Computer/information technology administration and management, other

This instructional program class comprises any program not listed above that relates to Computer/information technology administration and management.

Exclusion(s)
- information resources management (see 52.1206 Information resources management)
- management information systems (see 52.1201 Management information systems, general)
- network management (see 11.1002 System, networking and LAN/WAN management/manager)
- systems administration (see 11.1001 Network and system administration/administrator)
- web site administration (see 11.1004 Web/multimedia management and webmaster)

11.99 Computer and information sciences and support services, other

This subseries comprises instructional program class 11.9999.

11.9999 Computer and information sciences and support services, other

This instructional program class comprises any program not listed above that relates to Computer and information sciences and support services.

12. Personal and culinary services

This series comprises instructional programs that prepare individuals to provide professional services related to cosmetology, funeral services, and food preparation and service.

12.03 Funeral service and mortuary science

This subseries comprises instructional program classes 12.0301 to 12.0399.

12.0301 Funeral service and mortuary science, general

This instructional program class comprises any program that generally prepares individuals for careers in the funeral service industry and for licensure as funeral service directors or morticians. These programs include courses in the basic elements of mortuary science and the business, counselling, and operational aspects of funeral service.

Illustrative example(s)
- funeral directing and embalming
- funeral director and embalmer
- funeral director and mortician

Exclusion(s)
- funeral director (see 12.0302 Funeral direction/service)
- mortician (see 12.0303 Mortuary science and embalming/embalmer)
- thanatology (see 38.9999 Philosophy and religious studies, other)

12.0302 Funeral direction/service

This instructional program class comprises any program that prepares individuals for professional licensure as funeral directors and as managers of funeral homes, cemeteries, and related services. These programs include courses in the sociology of death and dying, psychology of grief and grief counselling, history of funeral service, funeral direction, business law, funeral service law, funeral home management, accounting and related computer operations, and funeral services marketing and merchandising.

Illustrative example(s)
- funeral director
- funeral service education
- funeral services director

Exclusion(s)
- embalmer (see 12.0303 Mortuary science and embalming/embalmer)
- funeral directing and embalming (see 12.0301 Funeral service and mortuary science, general)

12.0303 Mortuary science and embalming/embalmer

This instructional program class comprises any program that prepares individuals for licensure as embalmers and morticians. These programs include courses in pathogenic microbiology, systematic pathology, thanatochemistry, gross anatomy, clinical mortuary science, embalming, restorative art, applicable laws and regulations, and special services such as cremation and preparations required by specific religious communities.

Illustrative example(s)
- embalmer
- embalming
- mortician
- mortuary science

Exclusion(s)
- funeral directing and embalming (see 12.0301 Funeral service and mortuary science, general)
- funeral director (see 12.0302 Funeral direction/service)
- thanatology (see 38.9999 Philosophy and religious studies, other)

12.0399 Funeral service and mortuary science, other

This instructional program class comprises any program not listed above that relates to Funeral service and mortuary science.

Exclusion(s)
- funeral directing and embalming (see 12.0301 Funeral service and mortuary science, general)
- thanatology (see 38.9999 Philosophy and religious studies, other)

12.04 Cosmetology and related personal grooming services

This subseries comprises instructional program classes 12.0401 to 12.0499.

12.0401 Cosmetology/cosmetologist, general

This instructional program class comprises any program that generally prepares individuals to cut, trim, style, or remove scalp, facial, and body hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepare for practice as licensed cosmetologists in specialized or full-service salons. These programs include courses in hair cutting and styling, manicuring, pedicuring, facial treatments, shampooing, chemical applications, esthetics, shop management, sanitation and safety, customer service, and applicable professional and labour laws and regulations.

Illustrative example(s)
- beautician
- cosmetician
- cosmetologist
- cosmetology

Exclusion(s)
- facial therapy (see 12.0408 Facial treatment specialist/facialist)
- massage therapy (see 51.3501 Massage therapy/therapeutic massage)
- master esthetician (see 12.0414 Master aesthetician/esthetician)
- skin and beauty care (see 12.0409 Aesthetician/esthetician and skin care specialist)

12.0402 Barbering/barber

This instructional program class comprises any program that prepares individuals to shave and trim facial/neck hair and beards, cut and dress hair, fit hairpieces, give facial and scalp massages, apply cosmetic treatments, and to prepare for licensure as professional barbers at various levels. These programs include courses in facial shaving; beard and moustache shaping and trimming; shampooing; hair cutting; hair styles and styling art; facial treatments and massage; chemical applications; hair and scalp anatomy and physiology; hairpiece and toupee fitting; equipment operation; health and safety; customer service; and shop business practices.

Illustrative example(s)
- barber

- barbering

Exclusion(s)
- hairdressing instructor (see 12.0413 Cosmetology, barber/styling and nail instructor)
- hairstylist (see 12.0407 Hair styling/stylist and hair design)

12.0404 Electrolysis/electrology and electrolysis technician

This instructional program class comprises any program that prepares individuals to permanently remove hair from the human scalp, face, and body using specialized charged solid needle probes, and to function as licensed electrologists and electrolysis technicians. These programs include courses in direct current electrolysis, alternating current/high frequency thermolysis, blend/dual modality treatments, equipment theory and operation, safety and sanitation, client evaluation and care, laws and regulations, and business practices.

Illustrative example(s)
- electrologist
- electrology
- electrolysis

12.0406 Makeup artist/specialist

This instructional program class comprises any program that prepares individuals to professionally apply cosmetic makeup preparations and perform complete and specialized appearance makeovers including hairdressing, wig work, masking, temporary prosthesis applications, cosmetic applications, and related costuming for leisure or for professional stage, camera, clinical, or security purposes. These programs include courses in period and contemporary hairstyling and costuming; wig work and hairpiece application; synthetic hair and masks; cosmetic preparations and treatments; makeup artistry; attachment, removal, and camouflaging of prostheses; health and safety; client consultation and care; preproduction and postproduction operations; set and crew conduct and relations; script, instruction, and prescription interpretation; labour relations; and business practices.

Illustrative example(s)
- artistic makeup
- makeup
- makeup artist
- makeup artistry

Exclusion(s)
- cosmetology (see 12.0401 Cosmetology/cosmetologist, general)
- facial therapy (see 12.0408 Facial treatment specialist/facialist)
- permanent makeup (see 12.0411 Permanent cosmetics/makeup and tattooing)
- skin and beauty care (see 12.0409 Aesthetician/esthetician and skin care specialist)
- theatre technician (see 50.0502 Technical theatre/theatre design and technology)

12.0407 Hair styling/stylist and hair design

This instructional program class comprises any program that prepares individuals to shampoo, cut, style, set, and dress the scalp hair of women and/or men, braid hair, apply hair cosmetics and wigs, and prepare for licensure as professional cosmetologists, hairdressers, and barbers at various levels. These programs include courses in hair design theory and concepts, hair cleaning and shampooing, hair colouring, chemical applications and permanent reconstructions, hair anatomy and physiology, scalp diseases and treatments, wig and hairpiece fitting, hair braiding, customer service, shop management, equipment operation, health and safety, and applicable laws and regulations.

Illustrative example(s)
- hairdresser
- hairdressing

- hairstyling
- hairstylist
- men's hairdressing
- natural hair braider
- unisex hairdressing
- women's hairdressing

Exclusion(s)
- barber (see 12.0402 Barbering/barber)
- hairdressing instructor (see 12.0413 Cosmetology, barber/styling and nail instructor)
- pet stylist (see 01.0504 Dog/pet/animal grooming)

12.0408 Facial treatment specialist/facialist

This instructional program class comprises any program that prepares individuals to massage and treat the face, neck, and scalp with chemical and cosmetic preparations, and to function as licensed facial specialists in specialized and full service salons. These programs include courses in facial surface anatomy; skin properties; skin decontamination and infection control; facial massage; facial makeup; facial wrapping; selection and application of creams, lotions, oils, and other chemicals and cosmetics; European and other facial techniques; client evaluation and care, applicable laws and regulations, and business practices.

Illustrative example(s)
- facial skin care
- facial therapy
- facialist

Exclusion(s)
- cosmetology (see 12.0401 Cosmetology/cosmetologist, general)
- esthetics (see 12.0409 Aesthetician/esthetician and skin care specialist)
- makeup (see 12.0406 Makeup artist/specialist)

12.0409 Aesthetician/esthetician and skin care specialist

This instructional program class comprises any program that prepares individuals to cleanse, depilate, massage, and beautify the human body and to function as licensed estheticians and skin care specialists. These programs include courses in skin anatomy, physiology, and health; principles of nutrition; decontamination and infection control; health and safety; facial and body massage; body wrapping and spa treatments; temporary hair removal including waxing and tweezing; colour and skin analysis; client consultation and care; applicable laws and regulations; business practices; and sometimes related alternative healing regimens.

Illustrative example(s)
- aesthetics
- basic aesthetician
- basic esthetician
- esthetician
- esthetics
- skin and beauty care
- skin care
- waxing (hair removal)

Exclusion(s)
- cosmetician (see 12.0401 Cosmetology/cosmetologist, general)
- facial skin care (see 12.0408 Facial treatment specialist/facialist)
- massage therapy (see 51.3501 Massage therapy/therapeutic massage)
- medical esthetician (see 12.0414 Master aesthetician/esthetician)

12.0410 Nail technician/specialist and manicurist

This instructional program class comprises any program that prepares individuals to shape fingernails and toenails, remove unwanted skin and blemishes, apply polish and cosmetics to nails, and function as licensed manicurists or nail technicians/specialists. These programs include courses in manicuring theory; skin anatomy; nail growth, irregularities, and diseases; sterilization and sanitation; equipment and table maintenance; cuticle, blemish, and rough skin removal; nail filing, shaping, and polishing; cream application and extremity massage; nail sculpture and design art; product storage and use; customer service; laws and regulations; and business practices.

Illustrative example(s)
- manicure
- manicurist
- nail technician
- nail technology
- pedicure

Exclusion(s)
- cosmetician (see 12.0401 Cosmetology/cosmetologist, general)
- skin and beauty care (see 12.0409 Aesthetician/esthetician and skin care specialist)

12.0411 Permanent cosmetics/makeup and tattooing

This instructional program class comprises any program that prepares individuals to prepare and apply permanent markings, colour, and cosmetic products to the face and body for aesthetic or clinical purposes; to remove unwanted markings; and to function as licensed permanent makeup artists and tattooists. These programs include courses in client consultation; sterilization and sanitation; skin anatomy, diseases, and disorders; skin preparation and anesthetics; colour theory; machine theory and operation; needle selection; applications such as eyebrows, eyeliners, lips, lipliners, beauty marks, and blemish/mark removal; after care; laws and regulations; and business practices.

Illustrative example(s)
- artistic tattooing
- permanent makeup
- tattooing

Exclusion(s)
- cosmetology (see 12.0401 Cosmetology/cosmetologist, general)
- makeup (see 12.0406 Makeup artist/specialist)

12.0412 Salon/beauty salon management/manager

This instructional program class comprises any program that prepares cosmetologists, hairstylists, and other personal grooming specialists to manage beauty parlours, shops, and full-service or specialized salons and to prepare for licensure as professional salon owners and operators. These programs include courses in cosmetic services marketing and retailing; advertising and promotion; salon management; the cosmetic and salon supply industries; hiring, supervision, and labour relations; applicable business and professional laws and regulations; professional standards and image; and customer service.

Illustrative example(s)
- beauty parlour management
- hair salon management

Exclusion(s)
- business management (see 52.0201 Business administration and management, general)
- customer service management (see 52.0207 Customer service management)
- small business management and ownership (see 52.0703 Small business administration/management)

12.0413 Cosmetology, barber/styling and nail instructor

This instructional program class comprises any program that prepares cosmetologists, barbers, stylists, nail technicians, and other grooming specialists to teach their specializations in licensed and accredited schools of cosmetology and barbering, and to prepare for licensure as instructors. These programs include courses in cosmetology arts and sciences teaching principles; student learning styles; professional curricula development; instructional planning; instructional methods and aids; student counselling and career assistance; test development; and classroom/clinic management.

Illustrative example(s)
- cosmetology instructor
- hairdressing instructor

Exclusion(s)
- vocational technical education (see 13.1319 Technical teacher education)

12.0414 Master aesthetician/esthetician

This instructional program class comprises any program that prepares individuals to massage and treat the face, neck, and body with advanced chemical and cosmetic preparations and esthetic medical treatments, and to function as licensed master or medical estheticians in dermatologists' and plastic surgeons' offices as well as in salons and spas. These programs include courses in advanced anatomy and physiology, skin properties and disorders, sanitation and infection control, advanced facial treatments, spa body treatments, advanced extractions, corrective makeup, chemical peels, microdermabrasion, lymphatic drainage and advanced massage techniques, pre- and post-operative esthetic skin care, client/patient evaluation and care, applicable laws and regulations, and business practices.

Illustrative example(s)
- advanced aesthetician
- advanced esthetician
- master aesthetician
- master esthetician
- medical aesthetician
- medical esthetician

Exclusion(s)
- cosmetician (see 12.0401 Cosmetology/cosmetologist, general)
- esthetician (see 12.0409 Aesthetician/esthetician and skin care specialist)
- massage therapy (see 51.3501 Massage therapy/therapeutic massage)

12.0499 Cosmetology and related personal grooming services, other

This instructional program class comprises any program not listed above that relates to Cosmetology and related personal grooming services.

Exclusion(s)
- animal grooming (see 01.0504 Dog/pet/animal grooming)
- gerontological services (see 19.0702 Adult development and aging)
- home care aide (see 51.2602 Home health aide/home attendant)
- massage therapist (see 51.3501 Massage therapy/therapeutic massage)

12.05 Culinary arts and related services

This subseries comprises instructional program classes 12.0500 to 12.0599.

12.0500 Cooking and related culinary arts, general

This instructional program class comprises any program that focuses on the general study of the cooking and related culinary arts, and that prepares individuals for a variety of jobs within the food service industry. These programs include courses in food preparation; cooking techniques; equipment operation and maintenance; sanitation and safety; communication skills; applicable regulations; and principles of food service management.

Illustrative example(s)
- camp cook
- commercial cooking
- cook
- cooking
- institutional cook
- institutional cooking
- professional cooking
- short order cooking

Exclusion(s)
- assistant cook (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- chef (see 12.0503 Culinary arts/chef training)
- cooking and other domestic skills (see 36.0112 Cooking and other domestic skills (not for credit))
- culinary science (see 12.0509 Culinary science)
- food processing technology (see 01.1002 Food technology and processing)

12.0501 Baking and pastry arts/baker/pastry chef

This instructional program class comprises any program that prepares individuals to serve as professional bakers and pastry specialists in restaurants or other commercial baking establishments. These programs include courses in bread and pastry making, bread and pastry handling and storage, cake and pastry decorating, baking industry operations, product packaging and marketing operations, and counter display and service.

Illustrative example(s)
- baker
- bakery
- baking
- baking and pastry arts
- commercial baking
- pastry
- pastry chef

Exclusion(s)
- assistant cook (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- chef (see 12.0503 Culinary arts/chef training)
- culinary science (see 12.0509 Culinary science)
- institutional cook (see 12.0500 Cooking and related culinary arts, general)

12.0502 Bartending/bartender

This instructional program class comprises any program that prepares individuals to professionally prepare mixed alcoholic and non-alcoholic beverages and related products and manage bars, lounges, and beverage service operations in the hospitality industry. These programs include courses in mixology, oenology, accounting and cash management, inventory and cellar management, bar and lounge management, applicable laws and regulations, customer service, and labour/employment regulations.

Illustrative example(s)
- bar management

- barman/woman
- bartender
- bartending
- mixology
- serving it right
- smart serve

Exclusion(s)
- food and beverage service (see 12.0507 Food service, waiter/waitress and dining room management/manager)
- sommelier (see 12.0510 Wine steward/sommelier)

12.0503 Culinary arts/chef training

This instructional program class comprises any program that prepares individuals to provide professional chef and related cooking services in restaurants and other commercial food establishments. These programs include courses in recipe and menu planning, preparing and cooking of foods, supervising and training kitchen assistants, the management of food supplies and kitchen resources, aesthetics of food presentation, and familiarity with or mastery of a wide variety of cuisines and culinary techniques.

Illustrative example(s)
- chef
- chef training
- culinary arts
- master chef
- sous chef

Exclusion(s)
- culinary science (see 12.0509 Culinary science)
- kitchen help (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- short order cooking (see 12.0500 Cooking and related culinary arts, general)

12.0504 Restaurant, culinary and catering management/manager

This instructional program class comprises any program that prepares individuals to plan, supervise, and manage food and beverage preparation and service operations, restaurant facilities, and catering services. These programs include courses in food/beverage industry operations, cost control, purchasing and storage, business administration, logistics, personnel management, culinary arts, restaurant and menu planning, executive chef functions, event planning and management, health and safety, insurance, and applicable laws and regulations.

Illustrative example(s)
- catering management
- culinary administration
- culinary management
- restaurant culinary management

Exclusion(s)
- dietary and food service management (see 19.0505 Foodservice systems administration/management)
- restaurant manager (see 52.0905 Restaurant/food services management)

12.0505 Food preparation/professional cooking/kitchen assistant

This instructional program class comprises any program that prepares individuals to serve under the supervision of chefs and other food service professionals as kitchen support staff and commercial food preparation workers. These programs include courses in kitchen organization and operations, sanitation and quality control, basic food preparation and cooking skills, kitchen and kitchen equipment maintenance, and quantity food measurement and monitoring.

Illustrative example(s)
- assistant cook
- commercial cooking aide
- food preparation
- kitchen help
- professional cooking assistant

Exclusion(s)
- chef (see 12.0503 Culinary arts/chef training)
- cook (see 12.0500 Cooking and related culinary arts, general)
- cooking and other domestic skills (see 36.0112 Cooking and other domestic skills (not for credit))
- food processing technology (see 01.1002 Food technology and processing)
- food service worker (see 12.0508 Institutional food workers)

12.0506 Meat cutting/meat cutter

This instructional program class comprises any program that prepares individuals to receive, cut, and package animal meat products in commercial establishments and to function as licensed meat cutters/butchers. These programs include courses in product recognition for beef, veal, lamb, pork, poultry, and fancy and smoked meats; retail and wholesale cutting and specialty cuts; packaging and counter display; shop safety; meat sanitation, storage and rotation; quality control; meat handling laws and regulations; and customer service.

Illustrative example(s)
- butcher
- butcher shop delicatessen
- butchering
- butchery
- institutional meat cutting
- meat cutter
- meat cutting
- retail butchery
- retail meat cutting

Exclusion(s)
- food processing technology (see 01.1002 Food technology and processing)

12.0507 Food service, waiter/waitress and dining room management/manager

This instructional program class comprises any program that prepares individuals to serve food to customers in formal or informal settings. These programs include courses in the nutritional, sensory, and functional properties of food and its ingredients; food services principles; table and counter services; dining room operations and procedures; service personnel supervision and management; communication skills; business math; safety and sanitation.

Illustrative example(s)
- dining room management
- dining room service
- food and beverage service

- waiter/waitress

Exclusion(s)
- bartender (see 12.0502 Bartending/bartender)
- food service worker (see 12.0508 Institutional food workers)
- restaurant culinary management (see 12.0504 Restaurant, culinary and catering management/manager)
- sommelier (see 12.0510 Wine steward/sommelier)

12.0508 Institutional food workers

This instructional program class comprises any program that prepares individuals in food production and service for governmental, commercial or independently owned institutional food establishments, and related food industry occupations. These programs include courses in selecting, storing, preparing, and serving food and food products; basic nutrition; sanitation, and food safety; the use and care of commercial equipment; serving techniques; and the operation of institutional food establishments.

Illustrative example(s)
- food service worker
- institutional food service

Exclusion(s)
- chef (see 12.0503 Culinary arts/chef training)
- cook (see 12.0500 Cooking and related culinary arts, general)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- food processing technology (see 01.1002 Food technology and processing)

12.0509 Culinary science

This instructional program class comprises any program that focuses on the blending of food science and the culinary arts and that prepares individuals to work as research chefs and related research and development positions in the food industry. These programs include courses in culinary arts, food chemistry, food safety and quality, food processing, nutrition, and business management.

Illustrative example(s)
- culinary science
- culinology

Exclusion(s)
- baker (see 12.0501 Baking and pastry arts/baker/pastry chef)
- chef (see 12.0503 Culinary arts/chef training)
- food science (see 01.1001 Food science)
- professional cooking (see 12.0500 Cooking and related culinary arts, general)

12.0510 Wine steward/sommelier

This instructional program class comprises any program that prepares individuals to manage wine selection, purchasing, storage, sales, and service for a variety of establishments in the hospitality industry. These programs include courses in wine production, wine regions of the world, wine tasting, food and wine matching, service techniques, and wine program management.

Illustrative example(s)
- sommelier
- wine steward
- wine stewardship

Exclusion(s)
- bartending (see 12.0502 Bartending/bartender)
- food and beverage service (see 12.0507 Food service, waiter/waitress and dining room management/manager)
- wine technology (see 01.0309 Viticulture and enology)

12.0599 Culinary arts and related services, other

This instructional program class comprises any program not listed above that relates to Culinary arts and related services.

Illustrative example(s)
- confectioner
- food safe
- foodsafe

Exclusion(s)
- bar management (see 12.0502 Bartending/bartender)
- dining room service (see 12.0507 Food service, waiter/waitress and dining room management/manager)
- food safety (see 01.1001 Food science)
- wine steward (see 12.0510 Wine steward/sommelier)

12.99 Personal and culinary services, other

This subseries comprises instructional program class 12.9999.

12.9999 Personal and culinary services, other

This instructional program class comprises any program not listed above that relates to Personal and culinary services.

Exclusion(s)
- animal grooming (see 01.0504 Dog/pet/animal grooming)
- dry cleaning (see 19.0999 Apparel and textiles, other)
- home care aide (see 51.2602 Home health aide/home attendant)

13. Education

This series comprises instructional programs that focus on the theory and practice of learning and teaching, and related research, administrative and support services.

13.01 Education, general

This subseries comprises instructional program class 13.0101.

13.0101 Education, general

This instructional program class comprises any program that focuses on the general theory and practice of learning and teaching; the basic principles of educational psychology; the art of teaching; the planning and administration of educational activities; school safety and health issues; and the social foundations of education.

Illustrative example(s)
- education
- educational studies
- educational theory
- pedagogy

- school teacher
- teacher development
- teacher education
- teacher training

Exclusion(s)
- educational foundations (see 13.0901 Social and philosophical foundations of education)
- learning sciences research (see 13.0607 Learning sciences)
- normal school (see 13.1202 Elementary education and teaching)
- psychopedagogy (see 42.2806 Educational psychology)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)

13.02 Bilingual, multilingual and multicultural education

This subseries comprises instructional program classes 13.0201 to 13.0299.

13.0201 Bilingual and multilingual education

This instructional program class comprises any program that focuses on the design and provision of teaching and other educational services to bilingual/bicultural children or adults, and/or the design and implementation of educational programs having the goal of producing bilingual/bicultural individuals. Includes preparation to serve as teachers and administrators in bilingual/bicultural education programs.

Illustrative example(s)
- bilingual and multilingual education
- bilingual education

Exclusion(s)
- English teacher (see 13.1305 English/English language arts teacher education)
- French teacher (see 13.1325 French language/French language arts teacher education)
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)
- teaching French as a second language (see 13.1402 Teaching French as a second or foreign language)

13.0202 Multicultural education

This instructional program class comprises any program that focuses on the design, and implementation of instructional and advising services for culturally diverse learning populations. These programs include courses in cultural diversity, at risk populations, multilingual and ESL education, program and curriculum design, instructional technology, information resources, Language Instruction for Newcomers to Canada (LINC), and minority education strategies, counselling and communicating with multicultural populations, laws and regulations, and applications to specific cultural groups, educational services, and research issues.

Illustrative example(s)
- multicultural education

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- First Nations teacher education (see 13.0203 Aboriginal education)
- learning sciences research (see 13.0607 Learning sciences)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

13.0203 Aboriginal education

This instructional program class comprises any program that focuses on the design and implementation of instructional and advising services for First Nations, Inuit and Métis students at various learning levels and that prepares individuals to perform teaching and administrative functions. These programs include courses in the cultural traditions and social patterns, history and politics, learning styles and issues, curriculum design and minority education strategies, counselling techniques and social issues, rural education services, distance education, adult education techniques, school administration, applicable laws and regulations, and research issues.

Illustrative example(s)
- Aboriginal education for certified teachers
- training for teachers of Aboriginals

Exclusion(s)
- Aboriginal language (see 16.1001 Aboriginal languages, literatures and linguistics)
- Aboriginal studies (see 05.0202 Aboriginal studies)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- Native as a second language (see 16.1799 Second language learning, other)
- Native classroom assistant (see 13.1501 Teaching assistants/aides, general)

13.0299 Bilingual, multilingual and multicultural education, other

This instructional program class comprises any program not listed above that relates to Bilingual, multilingual and multicultural education.

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

13.03 Curriculum and instruction

This subseries comprises instructional program class 13.0301.

13.0301 Curriculum and instruction

This instructional program class comprises any program that focuses on the curriculum and related instructional processes and tools, and that prepares individuals to serve as professional curriculum specialists. These programs include courses in curriculum theory, curriculum design and planning, instructional material design and evaluation, curriculum evaluation, and applications to specific subject matter, programs or educational levels.

Illustrative example(s)
- curriculum
- curriculum and instruction
- curriculum development
- curriculum education
- curriculum specialization
- curriculum studies

Exclusion(s)
- courseware development (see 13.0501 Educational/instructional technology)
- educational, instructional and curriculum supervision (see 13.0404 Educational, instructional and curriculum supervision)

13.04 Educational administration and supervision

This subseries comprises instructional program classes 13.0401 to 13.0499.

13.0401 Educational leadership and administration, general

This instructional program class comprises any program that focuses on the general principles and techniques of administering a wide variety of schools and other educational organizations and facilities, supervising educational personnel at the school or staff level, and that prepares individuals as general administrators and supervisors.

Illustrative example(s)
- education administration
- educational administration
- educational administration and foundations
- educational administration and policy
- educational leadership and policy
- educational leadership studies
- K-12 educational administration
- school administration
- school administration and policies
- school management

Exclusion(s)
- administration (see 52.0201 Business administration and management, general)
- institutional administration (see 52.0299 Business administration, management and operations, other)
- non-profit management (see 52.0206 Non-profit/public/organizational management)
- office management (see 52.0204 Office management and supervision)
- organizational leadership (see 52.0213 Organizational leadership)

13.0402 Administration of special education

This instructional program class comprises any program that prepares individuals to plan, supervise, and manage programs for exceptional students and their parents. These programs include courses in special education theory and practice, special education program development, evaluation and assessment in special education, applicable laws and regulations, managing individual education plans, problems of low- and high- disability students, mainstreaming, special education curricula, staff management, parent education, communications and community relations, budgeting, and professional standards and ethics.

Illustrative example(s)
- administration of special education

Exclusion(s)
- educational administration (see 13.0401 Educational leadership and administration, general)
- special needs education (see 13.1001 Special education and teaching, general)

13.0403 Adult and continuing education administration

This instructional program class comprises any program that focuses on the principles and techniques of administering programs and facilities designed to serve the basic education needs of undereducated adults, or the continuing education needs of adults seeking further or specialized instruction, and that prepares individuals to serve as administrators of such programs. These programs include courses in adult education principles, program and facilities planning, personnel management, community and client relations, budgeting and administration, professional standards, and applicable laws and policies.

Illustrative example(s)
- administration of adult education
- administration of continuing education
- adult and continuing education administration

Exclusion(s)
- community college administration (see 13.0407 Community college and general and vocational college (CEGEP) administration)
- higher education administration (see 13.0406 Higher education/higher education administration)

13.0404 Educational, instructional and curriculum supervision

This instructional program class comprises any program that prepares individuals to supervise instructional and support personnel at the school building, facility or staff level. These programs include courses in the principles of staffing and organization, the supervision of learning activities, personnel relations, administrative duties related to departmental or unit management, and specific applications to various educational settings and curricula.

Illustrative example(s)
- educational, instructional and curriculum supervision

Exclusion(s)
- curriculum development (see 13.0301 Curriculum and instruction)

13.0406 Higher education/higher education administration

This instructional program class comprises any program that focuses on the principles and practice of administration in universities and higher education systems, the study of higher education as an object of applied research, and which prepares individuals to function as administrators in such settings. These programs include courses in higher education economics and finance; policy and planning studies; curriculum; faculty and labour relations; higher education law; college student services; research on higher education; institutional research; marketing and promotion; and issues of evaluation, accountability and philosophy.

Illustrative example(s)
- higher education
- higher education administration
- higher education policy

Exclusion(s)
- community college administration (see 13.0407 Community college and general and vocational college (CEGEP) administration)
- education policy studies (see 44.0502 Education policy analysis)

13.0407 Community college and general and vocational college (CEGEP) administration

This instructional program class comprises any program that focuses on the principles and techniques of administering community colleges and other college level institutions and related postsecondary systems, the study of community colleges as objects of applied research, and that prepares individuals to function as administrators in such settings. These programs include courses in community college finance; policy and planning studies; curriculum; faculty and labour relations; higher education law; student services; research on community colleges; institutional research; marketing and promotion; and issues of evaluation, accountability and philosophy.

Illustrative example(s)
- community college administration
- vocational college administration

Exclusion(s)
- higher education administration (see 13.0406 Higher education/higher education administration)

13.0408 Elementary and middle school administration/principalship

This instructional program class comprises any program that focuses on educational administration at the elementary and middle school levels, and prepares individuals to serve as principals and headmasters of elementary and middle schools. These programs include courses in elementary and/or middle school education, program and facilities planning, budgeting and administration, public relations, human resources management, childhood and pre-adolescent growth and development, counselling skills, applicable laws and regulations, school safety, policy studies, and professional standards and ethics.

Illustrative example(s)
- elementary principal
- elementary school administration
- elementary school principal

Exclusion(s)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)
- high school principal (see 13.0409 Secondary school administration/principalship)

13.0409 Secondary school administration/principalship

This instructional program class comprises any program that focuses on educational administration at the junior high, secondary, or senior high school levels, and prepares individuals to serve as principals and headmasters of secondary schools. These programs include courses in secondary school education, program and facilities planning, budgeting and administration, public relations, human resources management, adolescent growth and development, counselling skills, applicable laws and regulations, school safety, policy studies, and professional standards and ethics.

Illustrative example(s)
- high school principal
- secondary school administration

Exclusion(s)
- education of individuals in secondary special education programs (see 13.1019 Education/teaching of individuals in secondary special education programs)
- elementary school principal (see 13.0408 Elementary and middle school administration/principalship)

13.0410 Urban education and leadership

This instructional program class comprises any program that focuses on issues and problems specific to the educational needs of populations and communities located in metropolitan and related areas and prepares individuals to provide educational services and administrative leadership in urban contexts. These programs include courses in multicultural education, at-risk studies, urban sociology, multilingual education, urban studies and planning, human services, health services and nutrition, cross-cultural communication, diversity studies, safety and security, and urban educational administration and leadership.

Illustrative example(s)
- urban education and leadership

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- multicultural education (see 13.0202 Multicultural education)
- urban studies (see 45.1201 Urban studies/affairs)

13.0411 Superintendency and educational system administration

This instructional program class comprises any program that focuses on leading and managing multi-school educational systems and school districts, and prepares individuals to serve as systems administrators and district superintendents. These programs include courses in educational administration; education of students at various levels; system planning and budgeting; educational policy; educational laws and regulations; public relations; professional standards and ethics; and applications to specific issues, cultural context, and geographic locales.

Illustrative example(s)
- educational system administration

Exclusion(s)
- institutional administration (see 52.0299 Business administration, management and operations, other)
- office management (see 52.0204 Office management and supervision)
- operations management (see 52.0205 Operations management and supervision)
- organizational and administrative studies in education (see 13.0401 Educational leadership and administration, general)

13.0499 Educational administration and supervision, other

This instructional program class comprises any program not listed above that relates to Educational administration and supervision.

Exclusion(s)
- administration (see 52.0201 Business administration and management, general)
- education administration (see 13.0401 Educational leadership and administration, general)

13.05 Educational/instructional media design

This subseries comprises instructional program class 13.0501.

13.0501 Educational/instructional technology

This instructional program class comprises any program that focuses on integrating technology into educational curricula. These programs include courses in foundations of educational technology, computer applications, utilizing technology for assessment, multimedia instruction, web-based instruction, distance education, and designing and producing educational software and materials.

Illustrative example(s)
- courseware authoring
- courseware development
- educational media
- educational technology
- instructional media
- instructional technology

Exclusion(s)
- audio visual technician (see 10.0299 Audiovisual communications technologies/technicians, other)
- computer graphics (see 11.0803 Computer graphics)
- digital media (see 09.0702 Digital communication and media/multimedia)
- interactive multimedia and design (see 11.0801 Web page, digital/multimedia and information resources design)
- school librarian (see 13.1334 School librarian/school library media specialist)

13.06 Educational assessment, evaluation and research

This subseries comprises instructional program classes 13.0601 to 13.0699.

13.0601 Educational evaluation and research

This instructional program class comprises any program that focuses on the principles and procedures for generating information about educational programs, personnel and methods, and the analysis of such information for planning purposes. These programs include courses in evaluation theory, evaluation research design and planning, administering evaluations and related data collection activities, data reporting requirements, data analysis and interpretation, and related economic and policy issues.

Illustrative example(s)
- educational evaluation and research
- educational research

Exclusion(s)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- learning sciences research (see 13.0607 Learning sciences)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)

13.0603 Educational statistics and research methods

This instructional program class comprises any program that focuses on the application of statistics to the analysis and solution of educational research problems, and the development of technical designs for research studies. These programs include courses in mathematical statistics, research design, computer applications, instrument design, research methodologies, and applications to research problems in specific education subjects.

Illustrative example(s)
- educational statistics and research methods

Exclusion(s)
- applied statistics (see 27.0501 Statistics, general)
- educational research (see 13.0601 Educational evaluation and research)
- learning sciences research (see 13.0607 Learning sciences)
- mathematical statistics (see 27.0502 Mathematical statistics and probability)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- research methodology and quantitative methods (see 45.0102 Research methodology and quantitative methods)

13.0604 Educational assessment, testing and measurement

This instructional program class comprises any program that focuses on the principles and procedures for designing, developing, implementing and evaluating tests and other mechanisms used to measure learning, evaluate student progress, and assess the performance of specific teaching tools, strategies and curricula. These programs include courses in psychometric measurement, instrument design, test implementation techniques, research evaluation, data reporting requirements, and data analysis and interpretation.

Illustrative example(s)
- measurement and evaluation in education
- measurement, evaluation and research methodology in education

Exclusion(s)
- administration and evaluation in education (see 13.9999 Education, other)

- applied psychology (see 42.2813 Applied psychology)
- educational evaluation and research (see 13.0601 Educational evaluation and research)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- learning sciences research (see 13.0607 Learning sciences)
- psychometrics (see 42.2708 Psychometrics and quantitative psychology)
- research methodology and quantitative methods (see 45.0102 Research methodology and quantitative methods)

13.0607 Learning sciences

This instructional program class comprises any program that focuses on the multiple aspects of learning in different environments, including specific aspects of the content to be mastered, cognitive aspects of the student, the instructional environment and materials, the preparation and activities of the instructor, socio-cultural and linguistic components, and assessment outcomes. These programs include courses in the social, organizational, and cultural dynamics of learning; learning and cognition; learning strategies; educational psychology; educational testing and measurement; instructional design and technology; and statistical design of educational research.

Illustrative example(s)
- learning sciences and policy
- learning sciences research

Exclusion(s)
- educational research (see 13.0601 Educational evaluation and research)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- multicultural education (see 13.0202 Multicultural education)
- music pedagogy (see 50.0912 Music pedagogy)
- pedagogy (see 13.0101 Education, general)

13.0699 Educational assessment, evaluation and research, other

This instructional program class comprises any program not listed above that relates to Educational assessment, evaluation and research.

Exclusion(s)
- educational evaluation and research (see 13.0601 Educational evaluation and research)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)

13.07 International and comparative education

This subseries comprises instructional program class 13.0701.

13.0701 International and comparative education

This instructional program class comprises any program that focuses on the educational phenomena, practices and institutions within different societies and states in comparative perspective, and the study of international educational issues. These programs include courses in comparative research methods, country- or area-specific studies, cross-national studies of learning and teaching styles, international educational policy and development, and analyses of educational migration patterns and experiences.

Illustrative example(s)
- international and comparative education

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- multicultural education (see 13.0202 Multicultural education)

13.09 Social and philosophical foundations of education

This subseries comprises instructional program class 13.0901.

13.0901 Social and philosophical foundations of education

This instructional program class comprises any program that focuses on the systematic study of education as a social and cultural institution, and the educational process as an object of humanistic inquiry. These programs include courses in such subjects as the philosophy of education, history of education, educational literature, educational anthropology, sociology of education, economics and politics of education, educational policy studies, and studies of education in relation to specific populations, issues, social phenomena, and types of work.

Illustrative example(s)
- culture and values in education
- educational contexts
- educational foundations
- history and philosophy of education
- history of education
- philosophy of education
- sociology in education

Exclusion(s)
- educational psychology (see 42.2806 Educational psychology)
- educational theory (see 13.0101 Education, general)
- philosophy (see 38.0101 Philosophy)
- psychological counselling (see 42.2803 Counselling psychology)
- sociology (see 45.1101 Sociology)

13.10 Special education and teaching

This subseries comprises instructional program classes 13.1001 to 13.1099.

13.1001 Special education and teaching, general

This instructional program class comprises any general program that focuses on the design and provision of teaching and other educational services to children or adults with special learning needs or disabilities, and that prepares individuals to function as special education teachers. These programs include courses in diagnosing learning disabilities, developing individual education plans, teaching and supervising special education students, special education counselling, and applicable laws and policies.

Illustrative example(s)
- remedial instruction
- special education
- special education teaching
- special needs education
- teaching special education

Exclusion(s)
- administration of special education (see 13.0402 Administration of special education)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)

- education of individuals in junior high school special education programs (see 13.1018 Education/teaching of individuals in junior high/middle school special education programs)
- education of individuals in secondary special education programs (see 13.1019 Education/teaching of individuals in secondary special education programs)
- special education assistant (see 13.1501 Teaching assistants/aides, general)

13.1003 Education/teaching of individuals with hearing impairments including deafness

This instructional program class comprises any program that focuses on the design of educational services for children or adults with hearing impairments including deafness which adversely affect their educational performance, and that prepares individuals to teach such students. These programs include courses in identifying students with hearing impairments, including deafness, developing individual education plans, teaching and supervising hearing-impaired students, counselling, and applicable laws and policies.

Illustrative example(s)
- deaf education
- education of the deaf
- teacher of the deaf

Exclusion(s)
- audiology (see 51.0202 Audiology/audiologist)
- deaf studies and sign language (see 05.0211 Deaf studies)
- sign language (see 16.1601 American Sign Language (ASL)/Langue des signes québécoise (LSQ))
- speech pathology and audiology (see 51.0204 Audiology/audiologist and speech-language pathology/pathologist)

13.1004 Education/teaching of the gifted and talented

This instructional program class comprises any program that focuses on the design of educational services for children or adults exhibiting exceptional intellectual, psychomotor or artistic talent or potential, or who exhibit exceptional maturity or social leadership talents, and that prepares individuals to teach such students. These programs include courses in identifying gifted and talented students, developing individual education plans, teaching and supervising gifted and talented students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of exceptional children
- gifted education
- teaching gifted and talented individuals

Exclusion(s)
- administration of special education (see 13.0402 Administration of special education)

13.1005 Education/teaching of individuals with emotional disturbances

This instructional program class comprises any program that focuses on the design of educational services for children or adults with emotional conditions which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students with emotional disturbances, developing individual education plans, teaching and supervising emotionally disturbed students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with emotional disturbances
- teaching of individuals with emotional disturbances

Exclusion(s)
- special education (see 13.1001 Special education and teaching, general)

13.1006 Education/teaching of intellectually-impaired individuals

This instructional program class comprises any program that focuses on the design of educational services for children or adults with mental disabilities which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students who are intellectually impaired, developing individual education plans, teaching and supervising mentally-handicapped students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of intellectually-impaired individuals
- teaching of intellectually-impaired individuals

Exclusion(s)
- education of individuals who are developmentally delayed (see 13.1014 Education/teaching of individuals who are developmentally delayed)
- education of individuals with traumatic brain injuries (see 13.1016 Education/teaching of individuals with traumatic brain injuries)

13.1007 Education/teaching of individuals with multiple disabilities

This instructional program class comprises any program that focuses on the design of educational services for children or adults with multiple disabilities which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students with multiple disabilities, developing individual education plans, teaching and supervising multiple handicapped students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with multiple disabilities
- teaching of individuals with multiple disabilities

Exclusion(s)
- assistive/augmentative technology and rehabilitation engineering (see 51.2312 Assistive/augmentative technology and rehabilitation engineering)
- occupational therapist (see 51.2306 Occupational therapy/therapist)
- vocational rehabilitation counselling (see 51.2310 Vocational rehabilitation counselling/counsellor)

13.1008 Education/teaching of individuals with orthopedic and other physical health impairments

This instructional program class comprises any program that focuses on the design of educational services for children or adults with orthopedic and other health impairments which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying physically disabled students, developing individual education plans, teaching and supervising students with orthopedic and other health impairments, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with orthopedic and other physical health impairments
- teaching of individuals with orthopedic and other physical health impairments

Exclusion(s)
- assistive/augmentative technology and rehabilitation engineering (see 51.2312 Assistive/augmentative technology and rehabilitation engineering)
- occupational therapy (see 51.2306 Occupational therapy/therapist)
- vocational rehabilitation counselling (see 51.2310 Vocational rehabilitation counselling/counsellor)

13.1009 Education/teaching of individuals with vision impairments including blindness

This instructional program class comprises any program that focuses on the design of educational services for children or adults with visual disabilities which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students with visual impairments, developing individual education plans, teaching and supervising blind or visually handicapped students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with vision impairments
- teaching of individuals with vision impairments

Exclusion(s)
- education of individuals with multiple disabilities (see 13.1007 Education/teaching of individuals with multiple disabilities)
- orthoptics (see 51.1804 Orthoptics/orthoptist)

13.1011 Education/teaching of individuals with specific learning disabilities

This instructional program class comprises any program that focuses on the design of educational services for children or adults with specific learning disabilities which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students with specific learning disabilities, developing individual education plans, teaching and supervising students with specific learning disabilities, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with specific learning disabilities
- teaching of individuals with specific learning disabilities

Exclusion(s)
- special education (see 13.1001 Special education and teaching, general)

13.1012 Education/teaching of individuals with speech or language impairments

This instructional program class comprises any program that focuses on the study and design of educational services for children or adults with speech and language impairments which adversely affect their educational performance and that prepares individuals to teach such students. These programs include courses in identifying students with speech and language impairments, developing individual education plans, teaching and supervising students with speech disabilities, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with speech or language impairments
- teaching of individuals with speech or language impairments

Exclusion(s)
- communication science (see 09.0100 Communication, general)
- English speech and rhetorical studies (see 23.1304 English rhetoric and composition)
- French speech and rhetoric studies (see 55.1304 French rhetoric and composition)
- speech communication (see 09.0101 Speech communication and rhetoric)
- speech therapy (see 51.0203 Speech-language pathology/pathologist)

13.1013 Education/teaching of individuals with autism

This instructional program class comprises any program that focuses on the design of educational services for children or adults with autism, and that prepares individuals to teach such students. These programs include courses in identifying students with autism, developing individual education plans, teaching and supervising autistic students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with autism
- teaching of individuals with autism

Exclusion(s)
- early childhood education special needs (see 13.1015 Education/teaching of individuals in early childhood special education programs)

13.1014 Education/teaching of individuals who are developmentally delayed

This instructional program class comprises any program that focuses on the design of educational services for children or adults who exhibit slow social, physical, cognitive, and/or emotional growth patterns that affect learning, and that prepares individuals to teach such students. These programs include courses in identification of developmental delay patterns, developing individual education plans, teaching and supervising developmentally delayed students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals who are developmentally delayed
- teaching of individuals who are developmentally delayed

Exclusion(s)
- developmental services worker (see 19.0710 Developmental services worker)
- early childhood education special needs (see 13.1015 Education/teaching of individuals in early childhood special education programs)
- education of intellectually-impaired individuals (see 13.1006 Education/teaching of intellectually-impaired individuals)

13.1015 Education/teaching of individuals in early childhood special education programs

This instructional program class comprises any program that focuses on the design and provision of teaching and other educational services to infant and preschool age children with special learning needs or disabilities, and that prepares individuals to teach such students. These programs include courses in diagnosing learning disabilities, developing individual education plans, teaching and supervising special education students, special education counselling, and applicable laws and policies.

Illustrative example(s)
- early childhood education special needs
- early childhood special education
- teaching early childhood special education programs

Exclusion(s)
- early childhood development (see 19.0706 Child development)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- early childhood education teaching (college) (see 19.0709 Child care provider/assistant)

13.1016 Education/teaching of individuals with traumatic brain injuries

This instructional program class comprises any program that focuses on the design of educational services for children or adults who are surviving and recovering from brain and brain stem injuries affecting their cognitive, perceptive, and motor functions, and that prepares individuals to teach such students. These programs include courses in neurophysiology and neuropathology; speech, other sensory, and motor pathologies; emotional and cognitive disabilities; physical and occupational rehabilitation techniques; developing individual education plans, teaching and supervising brain-injured students, counselling, and applicable laws and policies.

Illustrative example(s)
- education of individuals with traumatic brain injuries
- teaching of individuals with traumatic brain injuries

Exclusion(s)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- vocational rehabilitation counselling (see 51.2310 Vocational rehabilitation counselling/counsellor)

13.1017 Education/teaching of individuals in elementary special education programs

This instructional program class comprises any program that focuses on the design and provision of teaching and other educational services to children with special learning needs or disabilities who are in the elementary grades. These programs include courses in diagnosing learning disabilities; developing individual education plans; curriculum development, instructional strategies, and classroom management for elementary special education; and teaching elementary education subject matter.

Illustrative example(s)
- education of individuals in elementary special education programs
- teaching of individuals in elementary special education programs

Exclusion(s)
- education of individuals in junior high school special education programs (see 13.1018 Education/teaching of individuals in junior high/middle school special education programs)
- elementary education (see 13.1202 Elementary education and teaching)
- elementary school administration (see 13.0408 Elementary and middle school administration/principalship)
- primary and intermediate education (see 13.1206 Teacher education, multiple levels)
- special education (see 13.1001 Special education and teaching, general)
- special education assistant (see 13.1501 Teaching assistants/aides, general)

13.1018 Education/teaching of individuals in junior high/middle school special education programs

This instructional program class comprises any program that focuses on the design and provision of teaching and other educational services to children with special learning needs or disabilities who are in junior high/middle school. These programs include courses in diagnosing learning disabilities; developing individual education plans; curriculum development, instructional strategies, and classroom management for middle school special education; and principles of middle school instruction in specific subjects.

Illustrative example(s)
- education of individuals in intermediate school special education programs
- education of individuals in junior high school special education programs
- education of individuals in middle school special education programs
- teaching of individuals in intermediate school special education programs
- teaching of individuals in junior high school special education programs
- teaching of individuals in middle school special education programs

Exclusion(s)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)
- education of individuals in secondary special education programs (see 13.1019 Education/teaching of individuals in secondary special education programs)
- intermediate education (see 13.1203 Junior high/intermediate/middle school education and teaching)
- primary and intermediate education (see 13.1206 Teacher education, multiple levels)
- special education (see 13.1001 Special education and teaching, general)

13.1019 Education/teaching of individuals in secondary special education programs

This instructional program class comprises any program that focuses on the design and provision of teaching and other educational services to children with special learning needs or disabilities who are in the secondary grades. These programs include courses in diagnosing learning disabilities; developing individual education plans; curriculum development, instructional strategies, and classroom management for secondary grades special education; content, methods, and modifications in specific subject areas; issues in vocational education; and promoting successful transitions to postsecondary settings.

Illustrative example(s)
- education of individuals in secondary special education programs
- teaching of individuals in secondary special education programs

Exclusion(s)
- education of individuals in junior high school special education programs (see 13.1018 Education/teaching of individuals in junior high/middle school special education programs)
- intermediate and secondary education (see 13.1206 Teacher education, multiple levels)
- secondary education (see 13.1205 Secondary education and teaching)
- secondary school administration (see 13.0409 Secondary school administration/principalship)
- special education (see 13.1001 Special education and teaching, general)

13.1099 Special education and teaching, other

This instructional program class comprises any program not listed above that relates to Special education and teaching.

13.11 Student counselling and personnel services

This subseries comprises instructional program classes 13.1101 to 13.1199.

13.1101 Counsellor education/school counselling and guidance services

This instructional program class comprises any program that prepares individuals to apply the theory and principles of guidance and counselling to the provision of support for the personal, social, educational, and vocational development of students, and the organizing of guidance services within elementary, middle and secondary educational institutions. These programs include courses in legal and professional requirements, therapeutic counsellor intervention, vocational counselling, and related sociological and psychological foundations.

Illustrative example(s)
- education counselling
- education guidance
- educational and career counselling
- guidance and counselling
- guidance counselling
- school counsellor

Exclusion(s)
- clinical pastoral counselling (see 51.1506 Clinical pastoral counselling/patient counselling)
- college student counselling and personnel services (see 13.1102 College student counselling and personnel services)
- drug and alcohol counselling (see 51.1501 Substance abuse/addiction counselling)
- marriage and family counselling (see 51.1505 Marriage and family therapy/counselling)
- pastoral counselling (see 39.0701 Pastoral studies/counselling)
- psychological counselling (see 42.2803 Counselling psychology)

13.1102 College student counselling and personnel services

This instructional program class comprises any program that focuses on the organization and provision of counselling, referral, assistance and administrative services to students in postsecondary educational institutions and adult education facilities, and that prepares individuals to function as professional counsellors in such settings. These programs include courses in applicable laws and policies, residential counselling and services, vocational counselling and placement services, remedial skills counselling, and therapeutic counsellor intervention.

Illustrative example(s)
- college student counselling and personnel services

Exclusion(s)
- clinical pastoral counselling (see 51.1506 Clinical pastoral counselling/patient counselling)
- marriage and family counselling (see 51.1505 Marriage and family therapy/counselling)
- pastoral counselling (see 39.0701 Pastoral studies/counselling)
- psychological counselling (see 42.2803 Counselling psychology)
- school counsellor (see 13.1101 Counsellor education/school counselling and guidance services)
- substance abuse counselling (see 51.1501 Substance abuse/addiction counselling)

13.1199 Student counselling and personnel services, other

This instructional program class comprises any program not listed above that relates to Student counselling and personnel services.

Exclusion(s)
- marriage and family counselling (see 51.1505 Marriage and family therapy/counselling)
- pastoral counselling (see 39.0701 Pastoral studies/counselling)
- psychological counselling (see 42.2803 Counselling psychology)
- substance abuse counselling (see 51.1501 Substance abuse/addiction counselling)

13.12 Teacher education and professional development, specific levels and methods

This subseries comprises instructional program classes 13.1201 to 13.1299.

13.1201 Adult and continuing education and teaching

This instructional program class comprises any program that prepares individuals to teach adult students in various settings, including basic and remedial education programs, continuing education programs, and programs designed to develop or upgrade specific employment-related knowledge and skills.

Illustrative example(s)
- adult education
- adult teacher education
- continuing education teacher
- extension education teacher

Exclusion(s)
- adult and vocational education (see 13.9999 Education, other)
- adult literacy instructor (see 13.1502 Adult literacy tutor/instructor)

13.1202 Elementary education and teaching

This instructional program class comprises any program that prepares individuals to teach students in the elementary grades, which may include kindergarten through grade eight, depending on the school system and applicable regulations. Includes preparation to teach all elementary education subject matter.

Illustrative example(s)
- elementary education
- elementary school teacher
- elementary teacher training
- primary education
- primary school teacher
- teaching elementary school

Exclusion(s)
- daycare (see 19.0709 Child care provider/assistant)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)
- kindergarten and elementary education (see 13.1206 Teacher education, multiple levels)
- Montessori teaching (see 13.1207 Montessori teacher education)
- preschool teacher (see 13.1209 Kindergarten/preschool education and teaching)
- Waldorf/Steiner teacher education (see 13.1208 Waldorf/Steiner teacher education)

13.1203 Junior high/intermediate/middle school education and teaching

This instructional program class comprises any program that prepares individuals to teach students in the middle, intermediate or junior high grades, which may include grades four through ten, depending on applicable regulations.

Illustrative example(s)
- intermediate education
- junior and intermediate education

Exclusion(s)
- education of individuals in junior high school special education programs (see 13.1018 Education/teaching of individuals in junior high/middle school special education programs)
- elementary school teacher (see 13.1202 Elementary education and teaching)
- intermediate and secondary education (see 13.1206 Teacher education, multiple levels)
- secondary school teacher (see 13.1205 Secondary education and teaching)

13.1205 Secondary education and teaching

This instructional program class comprises any program that prepares individuals to teach students in the secondary grades, which may include grades seven through twelve, depending on the school system and applicable regulations. May include preparation to teach a comprehensive curriculum or specific subject matter.

Illustrative example(s)
- high school teacher
- secondary education
- secondary school teacher
- secondary school teacher training
- secondary teaching

- senior secondary school education

Exclusion(s)
- education of individuals in secondary special education programs (see 13.1019 Education/teaching of individuals in secondary special education programs)
- intermediate and secondary education (see 13.1206 Teacher education, multiple levels)
- junior and intermediate education (see 13.1203 Junior high/intermediate/middle school education and teaching)
- postsecondary education (see 13.1299 Teacher education and professional development, specific levels and methods, other)

13.1206 Teacher education, multiple levels

This instructional program class comprises any program that prepares individuals to teach students at more than one educational level, such as a combined program in elementary/secondary, early childhood/elementary, elementary/middle school, or junior high/high school teacher education.

Illustrative example(s)
- intermediate and secondary education
- kindergarten and elementary education
- preschool and primary teaching
- primary and intermediate education

Exclusion(s)
- early childhood education special needs (see 13.1015 Education/teaching of individuals in early childhood special education programs)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)
- education of individuals in junior high school special education programs (see 13.1018 Education/teaching of individuals in junior high/middle school special education programs)
- education of individuals in secondary special education programs (see 13.1019 Education/teaching of individuals in secondary special education programs)
- elementary school teacher (see 13.1202 Elementary education and teaching)
- kindergarten teacher (see 13.1209 Kindergarten/preschool education and teaching)
- Montessori teaching (see 13.1207 Montessori teacher education)
- postsecondary education (see 13.1299 Teacher education and professional development, specific levels and methods, other)
- secondary school teacher (see 13.1205 Secondary education and teaching)
- Waldorf/Steiner teacher education (see 13.1208 Waldorf/Steiner teacher education)

13.1207 Montessori teacher education

This instructional program class comprises any program that prepares individuals to teach students at various grade levels according to the pedagogical principles and methods developed by Maria Montessori and her followers.

Illustrative example(s)
- Montessori preschool teacher
- Montessori teacher
- Montessori teaching

Exclusion(s)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- early childhood special education (see 13.1015 Education/teaching of individuals in early childhood special education programs)

- elementary school teacher (see 13.1202 Elementary education and teaching)
- kindergarten teaching (see 13.1209 Kindergarten/preschool education and teaching)
- Waldorf/Steiner teacher education (see 13.1208 Waldorf/Steiner teacher education)

13.1208 Waldorf/Steiner teacher education

This instructional program class comprises any program that prepares individuals to teach students at various grade levels according to the pedagogical principles and methods developed by Rudolf Steiner and his followers.

Illustrative example(s)
- Waldorf/Steiner teacher education

Exclusion(s)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- early childhood special education (see 13.1015 Education/teaching of individuals in early childhood special education programs)
- elementary school teacher (see 13.1202 Elementary education and teaching)
- kindergarten teacher (see 13.1209 Kindergarten/preschool education and teaching)

13.1209 Kindergarten/preschool education and teaching

This instructional program class comprises any program that prepares individuals to teach children, in formal settings, prior to beginning regular elementary school. Depending on the school system and applicable regulations, students may range in age from three to six years. Includes preparation to teach all relevant subject matter.

Illustrative example(s)
- kindergarten teacher
- kindergarten teaching
- preschool education
- preschool teacher
- preschool teaching

Exclusion(s)
- daycare (see 19.0709 Child care provider/assistant)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- early childhood special education (see 13.1015 Education/teaching of individuals in early childhood special education programs)
- kindergarten and elementary education (see 13.1206 Teacher education, multiple levels)
- Montessori preschool teacher (see 13.1207 Montessori teacher education)

13.1210 Early childhood education and teaching

This instructional program class comprises any program that prepares individuals to teach students that can range in age from infancy through eight years, depending on the school system and applicable regulations. Includes preparation to teach all relevant subject matter.

Illustrative example(s)
- early childhood education (Bachelor)
- early childhood education (Masters)
- early childhood education teaching (Bachelor)
- early childhood education teaching (Masters)

Exclusion(s)
- daycare (see 19.0709 Child care provider/assistant)
- early childhood special education (see 13.1015 Education/teaching of individuals in early childhood special education programs)

- kindergarten and elementary education (see 13.1206 Teacher education, multiple levels)
- primary education (see 13.1202 Elementary education and teaching)

13.1299 Teacher education and professional development, specific levels and methods, other

This instructional program class comprises any program not listed above that relates to Teacher education and professional development, specific levels and methods.

Illustrative example(s)
- college teaching
- distance learning teacher
- online teaching
- postsecondary education
- postsecondary instructor education

Exclusion(s)
- teacher librarian (see 13.1334 School librarian/school library media specialist)

13.13 Teacher education and professional development, specific subject areas

This subseries comprises instructional program classes 13.1301 to 13.1399.

13.1301 Agricultural teacher education

This instructional program class comprises any program that prepares individuals to teach vocational agricultural programs at various educational levels.

Illustrative example(s)
- agricultural teacher education
- agriculture education
- agriculture teaching

Exclusion(s)
- agricultural extension (see 01.0801 Agricultural and extension education services)

13.1302 Art teacher education

This instructional program class comprises any program that prepares individuals to teach art and art appreciation programs at various educational levels.

Illustrative example(s)
- art education
- art history education
- art teacher
- art teaching
- ceramic teacher
- fine arts education
- fine arts teaching
- plastic arts teaching
- teaching art
- visual arts education

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- art studies (see 50.0701 Art/art studies, general)
- dance teacher (see 13.1324 Drama and dance teacher education)

- handicrafts and model-making (see 36.0102 Handicrafts and model-making (not for credit))
- industrial arts teacher (see 13.1309 Technology teacher education/industrial arts teacher education)
- music teacher (see 13.1312 Music teacher education)

13.1303 Business teacher education

This instructional program class comprises any program that prepares individuals to teach vocational business programs at various educational levels.

Illustrative example(s)
- accounting teaching
- administration teaching
- business education
- commerce education
- teaching accounting
- teaching administration
- teaching secretarial skills

Exclusion(s)
- business studies (see 52.0101 Business/commerce, general)
- marketing education (see 13.1310 Sales and marketing operations/marketing and distribution teacher education)

13.1304 Driver and safety teacher education

This instructional program class comprises any program that prepares individuals to teach driver and safety education programs at various educational levels.

Illustrative example(s)
- driver instructor
- driving instructor

Exclusion(s)
- truck driving instructor (see 49.0205 Truck and bus driver/commercial vehicle operator and instructor)

13.1305 English/English language arts teacher education

This instructional program class comprises any program that prepares individuals to teach English grammar, composition and literature programs at various educational levels.

Illustrative example(s)
- English education
- English language arts education
- English literature education
- English teacher
- English teaching
- teaching English

Exclusion(s)
- English as a second language (see 16.1701 English as a second language)
- English language and literature (see 23.0101 English language and literature, general)
- English literature (see 23.1401 English literature, general)
- second language teaching (see 13.1499 Teaching English or French as a second or foreign language, other)
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)

13.1306 Aboriginal and foreign language teacher education

This instructional program class comprises any program that prepares individuals to teach Aboriginal and foreign languages at various educational levels. This class does not include the teaching of English, French, Spanish, German or Latin.

Illustrative example(s)
- Aboriginal language teacher
- Chinese teacher
- Hebrew teacher
- teaching foreign languages

Exclusion(s)
- foreign languages and literature (see 16.0101 Aboriginal and foreign languages and literatures, general)
- Native as a second language (see 16.1799 Second language learning, other)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))

13.1307 Health teacher education

This instructional program class comprises any program that prepares individuals to teach health education programs at various educational levels.

Illustrative example(s)
- health teacher education

Exclusion(s)
- dietetics education (see 13.1327 Health occupations teacher education)
- health and fitness studies (see 31.0501 Health and physical education/fitness, general)
- nursing teaching (see 51.3817 Nursing education)
- public health education (see 51.2207 Public health education and promotion)

13.1308 Family and consumer sciences/home economics teacher education

This instructional program class comprises any program that prepares individuals to teach vocational home economics programs at various educational levels.

Illustrative example(s)
- family and consumer studies teaching
- family life education
- family studies education
- home economics education
- home economics teacher
- home economics teaching

Exclusion(s)
- home economics (see 19.0101 Family and consumer sciences/human sciences, general)

13.1309 Technology teacher education/industrial arts teacher education

This instructional program class comprises any program that prepares individuals to teach technology education/industrial arts programs at various educational levels.

Illustrative example(s)
- industrial arts education
- industrial arts teacher
- technology education

Exclusion(s)
- industrial education (see 13.1320 Trade and industrial teacher education)
- introduction to trades (see 21.0101 Pre-technology education/pre-industrial arts programs)
- vocational technical education (see 13.1319 Technical teacher education)

13.1310 Sales and marketing operations/marketing and distribution teacher education

This instructional program class comprises any program that prepares individuals to teach vocational sales and marketing operations/marketing and distributive education programs at various educational levels.

Illustrative example(s)
- marketing education
- teaching marketing

Exclusion(s)
- business education (see 13.1303 Business teacher education)
- marketing communications (see 09.0903 Advertising)
- sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)

13.1311 Mathematics teacher education

This instructional program class comprises any program that prepares individuals to teach mathematics programs at various educational levels.

Illustrative example(s)
- elementary mathematics teacher education
- mathematics education
- middle school mathematics teacher education
- secondary mathematics education
- secondary mathematics teacher education
- teaching mathematics

13.1312 Music teacher education

This instructional program class comprises any program that prepares individuals to teach music and music appreciation programs at various educational levels.

Illustrative example(s)
- music education
- music teacher
- music teaching

Exclusion(s)
- brass instruments (see 50.0914 Brass instruments)
- music - percussion (see 50.0916 Percussion instruments)
- music (not for credit) (see 36.0115 Music (not for credit))
- music (see 50.0901 Music, general)
- music pedagogy (see 50.0912 Music pedagogy)
- religious music (see 39.0501 Religious/sacred music)
- woodwind (see 50.0915 Woodwind instruments)

13.1314 Physical education teaching and coaching

This instructional program class comprises any program that prepares individuals to teach physical education programs and/or to coach sports at various educational levels.

Illustrative example(s)
- physical education teacher
- physical education teaching

Exclusion(s)
- athletic trainer (see 51.0913 Athletic training/trainer)
- equestrian coaching (see 01.0507 Equestrian/equine studies)
- fitness trainer (see 31.0507 Physical fitness technician)
- physical education (see 31.0501 Health and physical education/fitness, general)

13.1315 Reading teacher education

This instructional program class comprises any program that prepares individuals to diagnose reading difficulties and to teach reading programs at various educational levels.

Illustrative example(s)
- education reading specialist
- reading education

Exclusion(s)
- literacy and communication skills (see 32.0108 Literacy and communication skills (not for credit))
- reading (see 36.0116 Reading (not for credit))

13.1316 Science teacher education/general science teacher education

This instructional program class comprises any program that prepares individuals to teach general science programs, or a combination of the biological and physical science subject matter areas, at various educational levels.

Illustrative example(s)
- science education
- science teacher
- science teaching

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biology teacher (see 13.1322 Biology teacher education)
- chemistry teaching (see 13.1323 Chemistry teacher education)
- environmental education (see 13.1338 Environmental teacher education)
- geology education (see 13.1337 Earth science teacher education)
- physics teacher (see 13.1329 Physics teacher education)

13.1317 Social science teacher education

This instructional program class comprises any program that prepares individuals to teach specific social science subjects and programs at various educational levels.

Illustrative example(s)
- anthropology education
- economics education
- political science education
- social sciences education
- social sciences teacher training
- sociology education
- sociology teaching

Exclusion(s)
- social studies education (see 13.1318 Social studies teacher education)

13.1318 Social studies teacher education

This instructional program class comprises any program that prepares individuals to teach general social studies programs at various educational levels.

Illustrative example(s)
- social studies education
- social studies teaching

Exclusion(s)
- social sciences education (see 13.1317 Social science teacher education)
- social studies (see 45.0101 Social sciences, general)

13.1319 Technical teacher education

This instructional program class comprises any program that prepares individuals to teach specific vocational technical education programs at various educational levels.

Illustrative example(s)
- technical education
- technical teacher
- vocational technical education

Exclusion(s)
- computer education (see 13.1321 Computer teacher education)
- electronics education (see 13.1320 Trade and industrial teacher education)

13.1320 Trade and industrial teacher education

This instructional program class comprises any program that prepares individuals to teach specific vocational trades and industries programs at various educational levels.

Illustrative example(s)
- auto mechanic teacher
- carpentry teaching
- electronics education
- electronics teaching
- industrial education
- mechanics teaching
- teaching cooking
- welding teacher

Exclusion(s)
- computer education (see 13.1321 Computer teacher education)
- technology education (see 13.1309 Technology teacher education/industrial arts teacher education)
- vocational technical education (see 13.1319 Technical teacher education)

13.1321 Computer teacher education

This instructional program class comprises any program that prepares individuals to teach computer education programs at various educational levels.

Illustrative example(s)
- computer education
- computer science education

Exclusion(s)
- computing and information science (see 11.0101 Computer and information sciences, general)
- electronics teaching (see 13.1320 Trade and industrial teacher education)
- vocational technical education (see 13.1319 Technical teacher education)

13.1322 Biology teacher education

This instructional program class comprises any program that prepares individuals to teach biology programs at various educational levels.

Illustrative example(s)
- biochemistry education
- biology education
- biology teacher
- biology teaching

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- environmental education (see 13.1338 Environmental teacher education)
- science teacher (see 13.1316 Science teacher education/general science teacher education)

13.1323 Chemistry teacher education

This instructional program class comprises any program that prepares individuals to teach chemistry programs at various educational levels.

Illustrative example(s)
- chemistry education
- chemistry teaching

Exclusion(s)
- chemistry (see 40.0501 Chemistry, general)
- science teacher (see 13.1316 Science teacher education/general science teacher education)

13.1324 Drama and dance teacher education

This instructional program class comprises any program that prepares individuals to teach drama and/or dance programs at various educational levels.

Illustrative example(s)
- ballet teacher
- dance teacher
- drama education

Exclusion(s)
- dance (see 50.0301 Dance, general)
- dancing (not for credit) (see 36.0114 Dancing (not for credit))
- dramatic arts (see 50.0501 Drama and dramatics/theatre arts, general)
- fine arts teaching (see 13.1302 Art teacher education)
- theatre (not for credit) (see 36.0117 Theatre (not for credit))

13.1325 French language/French language arts teacher education

This instructional program class comprises any program that prepares individuals to teach French grammar, composition and literature programs at various educational levels.

Illustrative example(s)
- French education
- French language arts education
- French literature education
- French teacher
- French teaching
- teaching French

Exclusion(s)
- French as a second language (see 16.1702 French as a second language)
- French general literature (see 55.1401 French literature, general)
- French language and literature (see 55.0101 French language and literature, general)
- French studies (see 05.0124 French studies)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- teaching French as a second language (see 13.1402 Teaching French as a second or foreign language)

13.1326 German language teacher education

This instructional program class comprises any program that prepares individuals to teach German language programs at various educational levels.

Illustrative example(s)
- German teacher
- teaching German

Exclusion(s)
- German language and literature (see 16.0501 German language and literature)
- German studies (see 05.0125 German studies)
- Germanic languages (see 16.0500 Germanic languages, literatures and linguistics, general)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))

13.1327 Health occupations teacher education

This instructional program class comprises any program that prepares individuals to teach specific vocational health occupations programs at various educational levels.

Illustrative example(s)
- dental hygiene education
- dietetics education
- dietetics teaching
- pharmacy education

Exclusion(s)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH) (see 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH))
- health teacher education (see 13.1307 Health teacher education)
- nursing teaching (see 51.3817 Nursing education)
- public health education (see 51.2207 Public health education and promotion)

13.1328 History teacher education

This instructional program class comprises any program that prepares individuals to teach history programs at various educational levels.

Illustrative example(s)
- history education
- history teacher
- teaching history

Exclusion(s)
- history (see 54.0101 History, general)
- history of education (see 13.0901 Social and philosophical foundations of education)
- social sciences education (see 13.1317 Social science teacher education)

13.1329 Physics teacher education

This instructional program class comprises any program that prepares individuals to teach physics programs at various educational levels.

Illustrative example(s)
- physics education
- physics teacher
- teaching physics

Exclusion(s)
- engineering physics (see 14.1201 Engineering physics/applied physics)
- physical education teacher (see 13.1314 Physical education teaching and coaching)
- physics (see 40.0801 Physics, general)
- science teacher (see 13.1316 Science teacher education/general science teacher education)

13.1330 Spanish language teacher education

This instructional program class comprises any program that prepares individuals to teach Spanish language programs at various educational levels.

Illustrative example(s)
- Spanish education
- Spanish teacher
- teaching Spanish

Exclusion(s)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- Spanish as a second language (see 16.1799 Second language learning, other)
- Spanish language and literature (see 16.0905 Spanish language and literature)
- Spanish studies (see 05.0130 Spanish and Iberian studies)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

13.1331 Speech teacher education

This instructional program class comprises any program that prepares individuals to teach speech and language arts programs at various educational levels.

Illustrative example(s)
- speech teacher education

Exclusion(s)
- communications (see 09.0100 Communication, general)
- education of individuals with speech or language impairments (see 13.1012 Education/teaching of individuals with speech or language impairments)
- English speech and rhetorical studies (see 23.1304 English rhetoric and composition)
- speech communication (see 09.0101 Speech communication and rhetoric)
- speech therapy (see 51.0203 Speech-language pathology/pathologist)
- speech therapy and audiology (see 51.0204 Audiology/audiologist and speech-language pathology/pathologist)

13.1332 Geography teacher education

This instructional program class comprises any program that prepares individuals to teach geography at various grade levels.

Illustrative example(s)
- geography education
- geography teacher
- teaching geography

Exclusion(s)
- geography (see 45.0701 Geography)
- social sciences education (see 13.1317 Social science teacher education)

13.1333 Latin teacher education

This instructional program class comprises any program that prepares individuals to teach Latin at various grade levels.

Illustrative example(s)
- Latin teacher
- Latin teacher education
- teaching Latin

Exclusion(s)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- Latin (see 16.1203 Latin language and literature)

13.1334 School librarian/school library media specialist

This instructional program class comprises any program that prepares individuals to serve as librarians and media specialists in elementary and secondary schools as well as special instructional centres.

Illustrative example(s)
- school librarian
- school library media specialist

Exclusion(s)
- library science (see 25.0101 Library and information science)
- library technology (see 25.0301 Library and archives assisting)

13.1335 Psychology teacher education

This instructional program class comprises any program that prepares individuals to teach general psychology at the secondary school level.

Illustrative example(s)
- psychology teacher
- psychology teaching

Exclusion(s)
- applied psychology (see 42.2813 Applied psychology)
- educational psychology (see 42.2806 Educational psychology)
- psychological counselling (see 42.2803 Counselling psychology)
- psychology (see 42.0101 Psychology, general)

13.1337 Earth science teacher education

This instructional program class comprises any program that prepares individuals to teach Earth science programs at various educational levels.

Illustrative example(s)
- Earth science teacher education
- geology education
- geosciences education

Exclusion(s)
- Earth science (see 40.0601 Geology/Earth science, general)
- environmental education (see 13.1338 Environmental teacher education)
- science education (see 13.1316 Science teacher education/general science teacher education)

13.1338 Environmental teacher education

This instructional program class comprises any program that prepares individuals to teach environmental education at various educational levels as a K-12 classroom educator. These programs include courses in foundations of environmental education, instructional methods, and related content knowledge.

Illustrative example(s)
- environmental education
- environmental education teacher
- environmental studies teacher

Exclusion(s)
- biology education (see 13.1322 Biology teacher education)
- Earth science teacher education (see 13.1337 Earth science teacher education)
- environmental science (see 03.0104 Environmental science)
- environmental studies (see 03.0103 Environmental studies)
- science education (see 13.1316 Science teacher education/general science teacher education)

13.1399 Teacher education and professional development, specific subject areas, other

This instructional program class comprises any program not listed above that relates to Teacher education and professional development, specific subject areas.

Illustrative example(s)
- classics education
- communication education
- religious education teacher (Bachelor of Education)

Exclusion(s)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH) (see 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH))

- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- second language teaching (see 13.1499 Teaching English or French as a second or foreign language, other)
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)
- teaching French as a second language (see 13.1402 Teaching French as a second or foreign language)

13.14 Teaching English or French as a second or foreign language

This subseries comprises instructional program classes 13.1401 to 13.1499.

13.1401 Teaching English as a second or foreign language/ESL language instructor

This instructional program class comprises any program that focuses on the principles and practice of teaching English to students who are not proficient in English or who do not speak, read or write English, and that prepares individuals to function as teachers and administrators in such programs.

Illustrative example(s)
- teaching English as a second language
- teaching English to Speakers of Other Languages
- teaching ESL
- TESL
- TESOL

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- English as a second language (see 16.1701 English as a second language)
- English language and literature (see 23.0101 English language and literature, general)
- English teacher (see 13.1305 English/English language arts teacher education)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- second language teaching (see 13.1499 Teaching English or French as a second or foreign language, other)

13.1402 Teaching French as a second or foreign language

This instructional program class comprises any program that focuses on the principles and practice of teaching French to students who are not proficient in French or who do not speak, read, or write French, and prepares individuals to serve as teachers and administrators.

Illustrative example(s)
- teaching French as a second language

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- French as a second language (see 16.1702 French as a second language)
- French teacher (see 13.1325 French language/French language arts teacher education)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

13.1499 Teaching English or French as a second or foreign language, other

This instructional program class comprises any program not listed above that relates to Teaching English or French as a second or foreign language.

Illustrative example(s)
- second language teaching

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- English teacher (see 13.1305 English/English language arts teacher education)
- French teacher (see 13.1325 French language/French language arts teacher education)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)
- teaching French as a second language (see 13.1402 Teaching French as a second or foreign language)

13.15 Teaching assistants/aides

This subseries comprises instructional program classes 13.1501 to 13.1599.

13.1501 Teaching assistants/aides, general

This instructional program class comprises any program that prepares individuals to assist a teacher in regular classroom settings or in providing instruction and supervision to special student populations, such as bilingual/bicultural students, special education students, adult learners, and students learning English. These programs include courses in techniques of general classroom supervision, maintaining order, assisting with lessons and carrying out related assignments.

Illustrative example(s)
- early childhood education teacher assistant/aide
- education assistant
- educational assistant
- elementary education teacher assistant/aide
- Native classroom assistant
- special education assistant
- special education teacher assistant/aide
- special needs teacher assistant
- teacher aide
- teaching assistant

Exclusion(s)
- adult literacy instructor (see 13.1502 Adult literacy tutor/instructor)
- early childhood educator assistant (see 19.0709 Child care provider/assistant)
- education of individuals in elementary special education programs (see 13.1017 Education/teaching of individuals in elementary special education programs)

13.1502 Adult literacy tutor/instructor

This instructional program class comprises any program that prepares individuals to serve as instructors and mentors for adults in basic or functional literacy programs in school, institutional, community, and private settings.

Illustrative example(s)
- adult literacy education
- adult literacy instruction
- adult literacy instructor
- adult literacy tutor

Exclusion(s)
- adult education (see 13.1201 Adult and continuing education and teaching)
- educational assistant (see 13.1501 Teaching assistants/aides, general)
- literacy and communication skills (see 32.0108 Literacy and communication skills (not for credit))

13.1599 Teaching assistants/aides, other

This instructional program class comprises any program not listed above that relates to Teaching assistants/aides.

Exclusion(s)
- adult literacy instructor (see 13.1502 Adult literacy tutor/instructor)
- teaching assistant (see 13.1501 Teaching assistants/aides, general)

13.99 Education, other

This subseries comprises instructional program class 13.9999.

13.9999 Education, other

This instructional program class comprises any program not listed above that relates to Education.

Illustrative example(s)
- administration and evaluation in education
- adult and vocational education
- adult, community and higher education

Exclusion(s)
- agricultural extension (see 01.0801 Agricultural and extension education services)
- athletic trainer (see 51.0913 Athletic training/trainer)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH) (see 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH))
- diving instructor (see 49.0304 Diver, professional and instructor)
- flight instructor (see 49.0108 Flight instructor)
- hairdressing instructor (see 12.0413 Cosmetology, barber/styling and nail instructor)
- public health education (see 51.2207 Public health education and promotion)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- yoga teacher (see 51.3602 Yoga teacher training/yoga therapy)

14. Engineering

This series comprises instructional programs that prepare individuals to apply mathematical and scientific principles to the solution of practical problems.

14.01 Engineering, general

This subseries comprises instructional program classes 14.0101 and 14.0102.

14.0101 Engineering, general

This instructional program class comprises any program that generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. These programs include courses in undifferentiated and individualized programs in engineering.

Illustrative example(s)
- engineering
- general engineering

Exclusion(s)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- engineering chemistry (see 14.4401 Engineering chemistry)
- engineering design (see 15.1502 Engineering design)

- locomotive engineer (see 49.0208 Railroad and railway transportation)
- pre-engineering (see 14.0102 Pre-engineering)

14.0102 Pre-engineering

This instructional program class comprises any program that prepares individuals for admission or transfer to a baccalaureate-level program in any of the fields of engineering.

Illustrative example(s)
- pre-engineering
- pre-engineering transfer program

Exclusion(s)
- general engineering (see 14.0101 Engineering, general)

14.02 Aerospace, aeronautical and astronautical/space engineering

This subseries comprises instructional program class 14.0201.

14.0201 Aerospace, aeronautical and astronautical/space engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of aircraft, missiles, space vehicles, and their systems; applied research on flight and orbital characteristics; and the development of systems and procedures for the launching, guidance, and control of air and space vehicles.

Illustrative example(s)
- aeronautical engineering
- aerospace engineering
- aircraft design engineering
- aircraft engineering
- astronautical engineering
- aviation engineering
- avionics engineering
- missile systems engineering
- space facilities engineering
- space systems engineering

Exclusion(s)
- aerospace engineering technology (see 15.0801 Aeronautical/aerospace engineering technology/technician)
- aircraft mechanic (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- aviation sciences (see 49.0101 Aeronautics/aviation/aerospace science and technology, general)

14.03 Agricultural engineering

This subseries comprises instructional program class 14.0301.

14.0301 Agricultural engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems, equipment and facilities used to produce, process and store agricultural products; to improve the productivity of agricultural methods; and to develop improved agricultural biological systems.

Illustrative example(s)
- agricultural engineering
- bioprocess engineering
- bioprocessing engineering
- bio-resource engineering
- food engineering
- food processing engineering
- soil engineering

Exclusion(s)
- agricultural mechanization (see 01.0201 Agricultural mechanization, general)
- bioengineering (see 14.0501 Bioengineering and biomedical engineering)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- biotechnology (see 26.1201 Biotechnology)
- food processing technology (see 01.1002 Food technology and processing)
- food science (see 01.1001 Food science)
- soil science (see 01.1201 Soil science and agronomy, general)

14.04 Architectural engineering

This subseries comprises instructional program class 14.0401.

14.0401 Architectural engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of materials, systems, and methods used to construct and equip buildings intended for human habitation or other purposes.

Illustrative example(s)
- architectural engineering

Exclusion(s)
- architectural drafting (see 15.1303 Architectural drafting and architectural CAD/CADD)
- architectural engineering technology (see 15.0101 Architectural engineering technology/technician)
- architectural science (see 04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- interior architecture (see 04.0501 Interior architecture)
- naval architecture (see 14.2201 Naval architecture and marine engineering)

14.05 Bioengineering and biomedical engineering

This subseries comprises instructional program class 14.0501.

14.0501 Bioengineering and biomedical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of biomedical and health systems and products such as integrated biomedical systems, instrumentation, medical information systems, artificial organs and prostheses, and health management and care delivery systems.

Illustrative example(s)
- bioengineering
- biomaterials engineering
- biomedical engineering
- cell and tissue engineering
- medical engineering
- neural engineering

Exclusion(s)
- biochemical engineering (see 14.4301 Biochemical engineering)
- biomedical engineering technology (see 15.0401 Biomedical technology/technician)
- bioprocess engineering (see 14.0301 Agricultural engineering)
- genetic engineering (see 14.9999 Engineering, other)
- medical biology (see 26.0102 Biomedical sciences, general)

14.06 Ceramic sciences and engineering

This subseries comprises instructional program class 14.0601.

14.0601 Ceramic sciences and engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of inorganic non-metallic materials, such as porcelains, cements, industrial ceramics, ceramic superconductors, abrasives, and related materials and systems.

Illustrative example(s)
- ceramic engineering
- ceramic sciences

Exclusion(s)
- ceramics (see 50.0711 Ceramic arts and ceramics)
- materials engineering (see 14.1801 Materials engineering)
- materials science and engineering (see 40.1001 Materials science)

14.07 Chemical engineering

This subseries comprises instructional program classes 14.0701 to 14.0799.

14.0701 Chemical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems employing chemical processes, such as chemical reactors, kinetic systems, electrochemical systems, energy conservation processes, heat and mass transfer systems, and separation processes; and the applied analysis of chemical problems such as corrosion, particle abrasion, energy loss, pollution, and fluid mechanics.

Illustrative example(s)
- chemical engineering

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- chemical and biomolecular engineering (see 14.0702 Chemical and biomolecular engineering)
- chemical and petroleum engineering (see 14.2501 Petroleum engineering)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- chemical process technology (see 41.0303 Chemical process technology)
- chemical technician (see 41.0301 Chemical technology/technician)
- chemistry (see 40.0501 Chemistry, general)
- engineering chemistry (see 14.4401 Engineering chemistry)
- materials chemistry (see 40.1002 Materials chemistry)
- physical chemistry (see 40.0506 Physical chemistry)
- plastics engineering (see 14.3201 Polymer/plastics engineering)

14.0702 Chemical and biomolecular engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems at the interface of chemical engineering and biology, with an emphasis at the molecular level, such as biopharmaceutical processes, protein engineering, metabolic engineering, gene therapy, biomaterials, cell and tissue engineering, and drug delivery. These programs include courses in chemical engineering, thermodynamics, organic chemistry, biochemistry, momentum and heat transfer, cellular and molecular biotechnology, process design, and chemical reactor design.

Illustrative example(s)
- chemical and biomolecular engineering

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)

14.0799 Chemical engineering, other

This instructional program class comprises any program not listed above that relates to Chemical engineering.

Illustrative example(s)
- pharmaceutical engineering

Exclusion(s)
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)

14.08 Civil engineering

This subseries comprises instructional program classes 14.0801 to 14.0899.

14.0801 Civil engineering, general

This instructional program class comprises any program that generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of structural, load-bearing, material moving, transportation, water resource, and material control systems; and environmental safety measures.

Illustrative example(s)
- civil engineering

Exclusion(s)
- civil engineering drafting (see 15.1304 Civil drafting and civil engineering CAD/CADD)
- civil engineering technology (see 15.0201 Civil engineering technology/technician)
- civil structural engineering (see 14.0803 Structural engineering)
- construction engineering (see 14.3301 Construction engineering)

14.0802 Geotechnical and geoenvironmental engineering

This instructional program class comprises any program that prepares individuals to apply geotechnical engineering methods, which deal with the analysis, design and construction of earth and earth supported structures, to the application of environmental problems, such as waste containment, waste disposal, construction of land fills, soil permeation, soil analysis, and soil improvement. These programs include courses in soil mechanics, soil dynamics, soil behaviour, waste management and containment systems, geosynthetics, geochemistry, earth structures, geoenvironmental engineering, geotechnical engineering, earthquake engineering, and foundation engineering.

Illustrative example(s)
- geoenvironmental engineering
- geotechnical and geoenvironmental engineering

- geotechnical engineering
- hydrological engineering

Exclusion(s)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geological science (see 40.0601 Geology/Earth science, general)
- hydraulic engineering (see 14.0805 Water resources engineering)
- land surveying (see 15.1102 Surveying technology/surveying)
- mining engineering technology (see 15.0901 Mining technology/technician)

14.0803 Structural engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of materials and systems used in building load-bearing structures for various purposes and in different environments, including buildings, roads, rail lines, bridges, dams, conduits, offshore platforms and work stations, and other structural shells; and the analysis of structural problems such as, failure, fabrication, safety, and natural hazards.

Illustrative example(s)
- bridge engineering
- civil structural engineering
- structural engineering
- wood engineering

Exclusion(s)
- architectural engineering technician (see 15.0101 Architectural engineering technology/technician)
- architectural science (see 04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- construction engineering (see 14.3301 Construction engineering)
- construction engineering technician (see 15.1001 Construction engineering technology/technician)
- forest engineering (see 14.3401 Forest engineering)

14.0804 Transportation and highway engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of total systems for the physical movement of people, materials and information, including general network design and planning, facilities planning, site evaluation, transportation management systems, needs projections and analysis, and analysis of costs.

Illustrative example(s)
- highway engineering
- traffic engineering
- transportation engineering

Exclusion(s)
- locomotive engineer (see 49.0208 Railroad and railway transportation)
- nautical science (see 49.0309 Nautical science/merchant marine officer)
- traffic control - flagging (see 49.0207 Flagging and traffic control)
- transportation clerk (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation management (see 52.0209 Transportation/mobility management)
- urban transportation planning (see 04.0301 City/urban, community and regional planning)

14.0805 Water resources engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems for collecting, storing, moving, conserving and controlling surface water and groundwater, including water quality control, water cycle management, management of human and industrial water requirements, water delivery, and flood control.

Illustrative example(s)
- hydraulic engineering
- water engineering
- water resources engineering

Exclusion(s)
- hydraulic engineering technician (see 15.1103 Hydraulics and fluid power technology/technician)
- hydrological engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- mechanical engineering (see 14.1901 Mechanical engineering)
- natural resource science (see 03.0101 Natural resources/conservation, general)
- ocean engineering (see 14.2401 Ocean engineering)
- water quality technology (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)
- water resources science (see 40.0605 Hydrology and water resources science)
- water resources technology (see 03.0205 Water, wetlands and marine resources management)

14.0899 Civil engineering, other

This instructional program class comprises any program not listed above that relates to Civil engineering.

Exclusion(s)
- construction engineering (see 14.3301 Construction engineering)

14.09 Computer engineering

This subseries comprises instructional program classes 14.0901 to 14.0999.

14.0901 Computer engineering, general

This instructional program class comprises any program that generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer hardware and software systems and related equipment and facilities; and the analysis of specific problems of computer applications to various tasks.

Illustrative example(s)
- computer engineering
- computer systems engineering

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer science (see 11.0701 Computer science)
- network engineering (see 14.0999 Computer engineering, other)
- software engineering (see 14.0903 Computer software engineering)
- systems engineering (see 14.2701 Systems engineering)

14.0902 Computer hardware engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development, and evaluation of computer hardware and related peripheral equipment. These programs include courses in computer circuit and chip design, circuitry, computer systems design, computer equipment design, computer layout planning, testing procedures, and related computer theory and software topics.

Illustrative example(s)
- computer hardware engineering

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer network engineering (see 14.0999 Computer engineering, other)
- computer science (see 11.0701 Computer science)
- computer systems engineering (see 14.0901 Computer engineering, general)
- systems engineering (see 14.2701 Systems engineering)

14.0903 Computer software engineering

This instructional program class comprises any program that prepares individuals to apply scientific and mathematical principles to the design, analysis, verification, validation, implementation, and maintenance of computer software systems using a variety of computer languages. These programs include courses in discrete mathematics, probability and statistics, computer science, managerial science, and applications to complex computer systems.

Illustrative example(s)
- computer software engineering
- software engineering
- software systems development

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer network engineering (see 14.0999 Computer engineering, other)
- computer science (see 11.0701 Computer science)
- computer software technology (see 15.1204 Computer software technology/technician)
- computer systems engineering (see 14.0901 Computer engineering, general)
- software design (see 11.0201 Computer programming/programmer, general)
- systems engineering (see 14.2701 Systems engineering)

14.0999 Computer engineering, other

This instructional program class comprises any program not listed above that relates to Computer engineering.

Illustrative example(s)
- computer network engineering
- network engineering
- telematics and networking engineering

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer science (see 11.0701 Computer science)
- computer systems engineering (see 14.0901 Computer engineering, general)
- network engineering technology (see 15.1299 Computer engineering technologies/technicians, other)

- software engineering (see 14.0903 Computer software engineering)
- systems engineering (see 14.2701 Systems engineering)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

14.10 Electrical, electronics and communications engineering

This subseries comprises instructional program classes 14.1001 to 14.1099.

14.1001 Electrical and electronics engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of electrical and electronic systems and their components, including electrical power generation systems; and the analysis of problems such as superconductor, wave propagation, energy storage and retrieval, and reception and amplification.

Illustrative example(s)
- electrical and electronic engineering
- electrical engineering
- electrical power engineering
- electrodynamic engineering
- electronic engineering
- total ship systems engineering

Exclusion(s)
- audio engineering (see 10.0203 Recording arts technology/technician)
- broadcast engineering technology (see 10.0202 Radio and television broadcasting technology/technician)
- communications engineering (see 14.1004 Telecommunications engineering)
- communications technician (see 10.0105 Communications technology/technician)
- digital communications (see 09.0702 Digital communication and media/multimedia)
- electro-mechanical engineering (see 14.4101 Electromechanical engineering)
- electromechanical engineering technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- electronic and communications engineering (see 14.1099 Electrical, electronics and communications engineering, other)
- electronic engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- telecommunications engineering technology (see 15.0305 Telecommunications technology/technician)

14.1003 Laser and optical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of optical systems, lasers and related electronic devices. These programs include courses in wave theory and mechanics, electromagnetic applications, linear and non-linear optics, photon detecting, laser beam properties, directed energy, harmonic generation, optical systems, shielding and the design and implementation of related systems and equipment.

Illustrative example(s)
- electro-optic engineering
- laser and optical engineering
- optical engineering

Exclusion(s)
- engineering physics (see 14.1201 Engineering physics/applied physics)

14.1004 Telecommunications engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development, and maintenance of telecommunications technology, networks, and systems. These programs include courses in telecommunications, computer networking, communications networks and systems, signals, circuits, fiber optics, and wireless systems and technology.

Illustrative example(s)
- communications engineering
- communications systems engineering
- telecommunication engineering

Exclusion(s)
- communications (see 09.0100 Communication, general)
- computer network management (see 11.1002 System, networking and LAN/WAN management/manager)
- computer network specialist (see 11.1001 Network and system administration/administrator)
- computer systems telecommunications (university) (see 11.0901 Computer systems networking and telecommunications)
- electrical and electronic engineering (see 14.1001 Electrical and electronics engineering)
- emergency telecommunications (see 43.0399 Security and protective services, specialized programs, other)
- network engineering technology (see 15.1299 Computer engineering technologies/technicians, other)
- network telecommunications engineering technology (see 15.0305 Telecommunications technology/technician)
- telecommunications management (see 52.2101 Telecommunications management)
- telematics and networking engineering (see 14.0999 Computer engineering, other)

14.1099 Electrical, electronics and communications engineering, other

This instructional program class comprises any program not listed above that relates to Electrical, electronics and communications engineering.

Illustrative example(s)
- electronic and communications engineering

14.11 Engineering mechanics

This subseries comprises instructional program class 14.1101.

14.1101 Engineering mechanics

This instructional program class comprises any program with a general focus on the application of the mathematical and scientific principles of classical mechanics to the analysis and evaluation of the behaviour of structures, forces and materials in engineering problems. These programs include courses in statics, kinetics, dynamics, kinematics, celestial mechanics, stress and failure, and electromagnetism.

Illustrative example(s)
- applied mechanics
- engineering mechanics

Exclusion(s)
- electromechanical engineering technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- mechanical drafting (see 15.1306 Mechanical drafting and mechanical drafting CAD/CADD)
- mechanical engineering (see 14.1901 Mechanical engineering)

- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

14.12 Engineering physics/applied physics

This subseries comprises instructional program class 14.1201.

14.1201 Engineering physics/applied physics

This instructional program class comprises any program focusing on the use of physics principles in the analysis and evaluation of engineering problems and other scientific applications. These programs include courses in high- and low-temperature phenomena, computational physics, superconductivity, applied thermodynamics, molecular and particle physics applications, and space science research.

Illustrative example(s)
- applied physics
- directed energy physics
- engineering physics
- laser physics
- semiconductor physics

Exclusion(s)
- high-temperature physics (see 40.0805 Plasma and high-temperature physics)
- low-temperature physics (see 40.0808 Condensed matter and materials physics)
- molecular physics (see 40.0802 Atomic/molecular physics)
- nuclear engineering (see 14.2301 Nuclear engineering)
- optical engineering (see 14.1003 Laser and optical engineering)
- particle physics (see 40.0804 Elementary particle physics)
- physics (see 40.0801 Physics, general)
- semiconductor manufacturing technology (see 15.0616 Semiconductor manufacturing technology)

14.13 Engineering science

This subseries comprises instructional program class 14.1301.

14.1301 Engineering science

This instructional program class comprises any program with a general focus on the general application of various combinations of mathematical and scientific principles to the analysis and evaluation of engineering problems, including applied research in human behaviour, statistics, biology, chemistry, the Earth and planetary sciences, atmospherics and meteorology, and computer applications.

Illustrative example(s)
- engineering science

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- behavioural sciences (see 30.1701 Behavioural sciences)
- engineering technology (see 15.0000 Engineering technology, general)

14.14 Environmental/environmental health engineering

This subseries comprises instructional program class 14.1401.

14.1401 Environmental/environmental health engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems for controlling contained living environments and for monitoring and controlling factors in the external natural environment, including pollution control, waste and hazardous material disposal, health and safety protection, conservation, life support, and requirements for protection of special materials and related work environments.

Illustrative example(s)
- environmental engineering
- environmental health engineering
- environmental management engineering

Exclusion(s)
- environmental biology (see 26.1305 Environmental biology)
- environmental engineering technology (see 15.0507 Environmental engineering technology/environmental technology)
- environmental science (see 03.0104 Environmental science)
- environmental systems (see 03.0101 Natural resources/conservation, general)
- environmental systems engineering technology (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- environmental toxicology (see 26.1006 Environmental toxicology)
- water quality technology (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)

14.18 Materials engineering

This subseries comprises instructional program class 14.1801.

14.1801 Materials engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and materials science principles to the design, development and operational evaluation of materials and related processes used in manufacturing in a wide variety of settings; the synthesis of new industrial materials, including marrying and bonding composites; analysis of materials requirements and specifications; and related problems of system design dependent on materials factors.

Illustrative example(s)
- chemical and materials engineering
- corrosion engineering
- materials engineering
- materials processing and manufacturing
- materials science engineering
- metals and materials engineering

Exclusion(s)
- ceramic engineering (see 14.0601 Ceramic sciences and engineering)
- materials chemistry (see 40.1002 Materials chemistry)
- materials science (see 40.1001 Materials science)
- metallurgical engineering (see 14.2001 Metallurgical engineering)
- plastics engineering (see 14.3201 Polymer/plastics engineering)

14.19 Mechanical engineering

This subseries comprises instructional program class 14.1901.

14.1901 Mechanical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of physical systems used in manufacturing and end-product systems used for specific uses, including machine tools, jigs and other manufacturing equipment; stationary power units and appliances; engines; self-propelled vehicles; housings and containers; hydraulic and electric systems for controlling movement; and the integration of computers and remote control with operating systems.

Illustrative example(s)
- mechanical engineering

Exclusion(s)
- engineering mechanics (see 14.1101 Engineering mechanics)
- hydraulic engineering (see 14.0805 Water resources engineering)
- mechanical engineering drafting technician (see 15.1306 Mechanical drafting and mechanical drafting CAD/CADD)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

14.20 Metallurgical engineering

This subseries comprises instructional program class 14.2001.

14.2001 Metallurgical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and metallurgical principles to the design, development and operational evaluation of metal components of structural, load-bearing, power, transmission, and moving systems; and the analysis of engineering problems such as stress, creep, failure, alloy behaviour, environmental fluctuations, stability, electromagnetic and thermodynamic characteristics, optimal manufacturing processes, and related design considerations.

Illustrative example(s)
- metal engineering
- metallurgical engineering
- metallurgy engineering

Exclusion(s)
- metallurgy technology (see 15.0611 Metallurgical technology/technician)
- metals and materials engineering (see 14.1801 Materials engineering)

14.21 Mining and mineral engineering

This subseries comprises instructional program class 14.2101.

14.2101 Mining and mineral engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of mineral extraction, processing and refining systems, including open pit and shaft mines, prospecting and site analysis equipment and instruments, environmental and safety systems, mine equipment and facilities, mineral processing and refining methods and systems, and logistics and communications systems.

Illustrative example(s)
- mineral engineering
- mining and mineral engineering

- mining and mineral process engineering
- mining engineering

Exclusion(s)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geological science (see 40.0601 Geology/Earth science, general)
- mining engineering technology (see 15.0901 Mining technology/technician)
- oil and gas drilling (see 46.0504 Well drilling/driller)
- oil and gas engineering (see 14.2501 Petroleum engineering)
- petroleum engineering technology (see 15.0903 Petroleum technology/technician)

14.22 Naval architecture and marine engineering

This subseries comprises instructional program class 14.2201.

14.2201 Naval architecture and marine engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of self-propelled, stationary, or towed vessels operating on or under the water, including inland, coastal and ocean environments; and the analysis of related engineering problems such as corrosion, power transfer, pressure, hull efficiency, stress factors, safety and life support, environmental hazards and factors, and specific use requirements.

Illustrative example(s)
- marine engineering
- naval architecture
- naval engineering
- shipbuilding engineering

Exclusion(s)
- architectural science (see 04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- marine engineering technology (see 15.0899 Mechanical engineering related technologies/technicians, other)
- marine sciences (see 30.3201 Marine sciences)
- nautical science (see 49.0309 Nautical science/merchant marine officer)
- naval architecture technology (see 15.9999 Engineering technologies and engineering-related fields, other)
- outboard mechanic (see 47.0616 Marine maintenance/fitter and ship repair technology/technician)

14.23 Nuclear engineering

This subseries comprises instructional program class 14.2301.

14.2301 Nuclear engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems for controlling and manipulating nuclear energy, including nuclear power plant design, fission reactor design, fusion reactor design, reactor control and safety systems design, power transfer systems, containment vessels and structures design; and the analysis of related engineering problems such as fission and fusion processes, human and environmental factors, construction, and operational considerations.

Illustrative example(s)
- nuclear engineering
- nuclear fuels engineering
- nuclear power engineering

- nuclear reactor engineering

Exclusion(s)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- nuclear medicine technology (see 51.0905 Nuclear medical technology/technologist)
- nuclear physics (see 40.0806 Nuclear physics)
- nuclear power technology (see 41.0205 Nuclear/nuclear power technology/technician)
- site assessment, decontamination and restoration (see 15.0508 Hazardous materials management and waste technology/technician)

14.24 Ocean engineering

This subseries comprises instructional program class 14.2401.

14.2401 Ocean engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems to monitor, control, manipulate and operate within coastal or ocean environments, such as underwater platforms, flood control systems, dikes, hydroelectric power systems, tide and current control and warning systems, and communications equipment; the planning and design of total systems for working and functioning in water or underwater environments; and the analysis of related engineering problems such as the action of water properties and behaviour on physical systems and people, tidal forces, current movements, and wave motion.

Illustrative example(s)
- ocean engineering

Exclusion(s)
- biological oceanography (see 26.1302 Marine biology and biological oceanography)
- hydrological engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- hydrology (see 40.0605 Hydrology and water resources science)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)
- physical oceanography (see 40.0607 Oceanography, chemical and physical)
- water resources engineering (see 14.0805 Water resources engineering)

14.25 Petroleum engineering

This subseries comprises instructional program class 14.2501.

14.2501 Petroleum engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems for locating, extracting, processing and refining crude petroleum and natural gas, including prospecting instruments and equipment, mining and drilling systems, processing and refining systems and facilities, storage facilities, transportation systems, and related environmental and safety systems.

Illustrative example(s)
- chemical and petroleum engineering
- oil and gas engineering
- petrochemical engineering
- petroleum engineering

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- mining and mineral engineering (see 14.2101 Mining and mineral engineering)

- oil and gas drilling (see 46.0504 Well drilling/driller)
- petroleum engineering technology (see 15.0903 Petroleum technology/technician)
- plastics engineering (see 14.3201 Polymer/plastics engineering)

14.27 Systems engineering

This subseries comprises instructional program class 14.2701.

14.2701 Systems engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of total systems solutions to a wide variety of engineering problems, including the integration of human, physical, energy, communications, management, and information requirements as needed, and the application of requisite analytical methods to specific situations.

Illustrative example(s)
- logistics engineering
- product development engineering
- systems design engineering
- systems engineering

Exclusion(s)
- computer networking technology (see 11.1001 Network and system administration/administrator)
- computer systems networking (university) (see 11.0901 Computer systems networking and telecommunications)
- control engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- energy systems technology (see 15.0503 Energy management and systems technology/technician)
- industrial systems engineering (see 14.3501 Industrial engineering)
- management information systems (see 52.1201 Management information systems, general)
- manufacturing engineering (see 14.3601 Manufacturing engineering)
- systems science (see 30.0601 Systems science and theory)

14.28 Textile sciences and engineering

This subseries comprises instructional program class 14.2801.

14.2801 Textile sciences and engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems to test and manufacture fibres and fibre products, both synthetic and natural; to develop new and improved fibres, textiles and their uses; and to the analysis of related engineering problems such as structural factors, molecular synthesis, chemical manufacturing, weaves, strength and stress, useful life, dyes, and applications to composite systems.

Illustrative example(s)
- textile engineering

Exclusion(s)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- textile design (see 19.0902 Apparel and textile manufacture)
- textile science (see 19.0904 Textile science)
- weaving (see 50.0712 Fibre, textile and weaving arts)

14.32 Polymer/plastics engineering

This subseries comprises instructional program class 14.3201.

14.3201 Polymer/plastics engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of synthesized macromolecular compounds and their application to specific engineering uses, including the development of industrial materials with tailored properties, the design of lightweight structural components, the use of liquid or solid polymers, and the analysis and control of polymerization processes.

Illustrative example(s)
- plastics engineering
- polymer engineering

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- materials engineering (see 14.1801 Materials engineering)
- materials science (see 40.1001 Materials science)
- polymer chemistry (see 40.0507 Polymer chemistry)
- polymer engineering technology (see 15.0607 Plastics and polymer engineering technology/technician)

14.33 Construction engineering

This subseries comprises instructional program class 14.3301.

14.3301 Construction engineering

This instructional program class comprises any program that prepares individuals to apply scientific, mathematical, and management principles to the planning, design, and building of facilities and structures. These programs include courses in civil engineering, structural principles, site analysis, computer-assisted design, geology, evaluation and testing, materials, contracting, project management, graphic communications, and applicable laws and regulations.

Illustrative example(s)
- construction engineering
- construction engineering and management

Exclusion(s)
- architectural and building technology (see 04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- architectural science (see 04.0201 Architecture (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- civil engineering (see 14.0801 Civil engineering, general)
- construction engineering technology (see 15.1001 Construction engineering technology/technician)
- construction management (see 52.2001 Construction management)
- structural engineering (see 14.0803 Structural engineering)

14.34 Forest engineering

This subseries comprises instructional program class 14.3401.

14.3401 Forest engineering

This instructional program class comprises any program that prepares individuals to apply scientific, mathematical, and forestry principles to the design of mechanical devices and processes for efficient forest management, timber production and related forest logistics systems. These programs include courses in forest products processing, forest management, forest harvesting, timber structure design, production analysis, road and bridge construction, vehicle adaptation and design, and harvesting equipment design.

Illustrative example(s)
- forest engineering

Exclusion(s)
- forest products processing technology (see 03.0509 Wood science and wood products/pulp and paper technology)
- forest science (see 03.0502 Forest sciences and biology)
- forest technology (see 03.0511 Forest technology/technician)
- forestry (see 03.0501 Forestry, general)
- wood engineering (see 14.0803 Structural engineering)

14.35 Industrial engineering

This subseries comprises instructional program class 14.3501.

14.3501 Industrial engineering

This instructional program class comprises any program that prepares individuals to apply scientific and mathematical principles to the design, improvement, and installation of integrated systems of people, material, information, and energy. These programs include courses in applied mathematics, physical sciences, the social sciences, engineering analysis, systems design, computer applications, and forecasting and evaluation methodology.

Illustrative example(s)
- ergonomics engineering
- human factors engineering
- industrial engineering
- industrial systems engineering

Exclusion(s)
- industrial design (see 50.0404 Industrial and product design)
- industrial engineering technology (see 15.0612 Industrial technology/technician)
- industrial management (see 15.1501 Engineering/industrial management)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)
- manufacturing engineering (see 14.3601 Manufacturing engineering)
- manufacturing engineering technology (see 15.0613 Manufacturing engineering technology/technician)

14.36 Manufacturing engineering

This subseries comprises instructional program class 14.3601.

14.3601 Manufacturing engineering

This instructional program class comprises any program that prepares individuals to apply scientific and mathematical principles to the design, development, and implementation of manufacturing systems. These programs include courses in materials science and engineering, manufacturing processes, process engineering, assembly and product engineering, manufacturing systems design, and manufacturing competitiveness.

Illustrative example(s)
- automated manufacturing engineering
- manufacturing engineering

Exclusion(s)
- automation engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- electromechanical engineering (see 14.4101 Electromechanical engineering)
- industrial engineering (see 14.3501 Industrial engineering)
- industrial engineering technology (see 15.0612 Industrial technology/technician)
- manufacturing engineering technology (see 15.0613 Manufacturing engineering technology/technician)
- systems engineering (see 14.2701 Systems engineering)

14.37 Operations research

This subseries comprises instructional program class 14.3701.

14.3701 Operations research

This instructional program class comprises any program that focuses on the development and application of complex mathematical or simulation models to solve problems involving operational systems, where the system concerned is subject to human intervention. These programs include courses in advanced multivariate analysis, application of judgment and statistical tests, optimization theory and techniques, resource allocation theory, mathematical modelling, control theory, statistical analysis, and applications to specific research problems.

Illustrative example(s)
- operations research

Exclusion(s)
- analysis and functional analysis (see 27.0103 Analysis and functional analysis)
- computational mathematics (see 27.0303 Computational mathematics)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- management science (see 52.1301 Management science)
- mathematics (see 27.0101 Mathematics, general)
- mathematics science (see 27.0301 Applied mathematics, general)
- research and development management (see 52.0210 Research and development management)

14.38 Surveying engineering

This subseries comprises instructional program class 14.3801.

14.3801 Surveying engineering

This instructional program class comprises any program that prepares individuals to apply scientific and mathematical principles to the determination of the location, elevations, and alignment of natural and man-made topographic features. These programs include courses in property line location, surveying, surface measurement, aerial and terrestrial photogrammetry, remote sensing, satellite imagery, global positioning systems, computer applications, and photographic data processing.

Illustrative example(s)
- geodetic engineering
- geomatics engineering
- survey engineering
- surveying engineering

Exclusion(s)
- geodetic sciences (see 40.0699 Geological and Earth sciences/geosciences, other)

- photogrammetry (see 45.0702 Geographic information science and cartography)
- physical geography (see 45.0701 Geography)
- surveying (see 15.1102 Surveying technology/surveying)
- topology (see 27.0105 Topology and foundations)

14.39 Geological/geophysical engineering

This subseries comprises instructional program class 14.3901.

14.3901 Geological/geophysical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and geological principles to the analysis and evaluation of engineering problems, including the geological evaluation of construction sites, the analysis of geological forces acting on structures and systems, the analysis of potential natural resource recovery sites, and applied research on geological phenomena.

Illustrative example(s)
- geological engineering
- geophysical engineering

Exclusion(s)
- geological science (see 40.0601 Geology/Earth science, general)
- geophysics (see 40.0603 Geophysics and seismology)
- geotechnical engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- mining engineering technician (see 15.0901 Mining technology/technician)

14.40 Paper science and engineering

This subseries comprises instructional program class 14.4001.

14.4001 Paper science and engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development, and manufacturing of pulp and paper products. These programs include courses in pulp and paper science, pulping and bleaching processes, paper structure and processes, pulp and paper manufacturing, coating technology, surface and colloid science, and fibers.

Illustrative example(s)
- paper engineering
- paper science
- paper science engineering
- pulp and paper engineering
- pulp and paper science
- wood and paper science

Exclusion(s)
- paper making (see 03.0509 Wood science and wood products/pulp and paper technology)

14.41 Electromechanical engineering

This subseries comprises instructional program class 14.4101.

14.4101 Electromechanical engineering

This instructional program class comprises any program that prepares individuals to apply scientific and mathematical principles to the problems associated with combining electrical and mechanical components with special emphasis on manufacturing and automated processes. These programs include courses in applied mechanics, instrumentation and monitoring, machine design, automated control techniques, fluid and thermal dynamics, circuit analysis, and solid state electronics.

Illustrative example(s)
- electromechanical engineering
- electromechanical systems engineering

Exclusion(s)
- automated manufacturing engineering (see 14.3601 Manufacturing engineering)
- automation engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- automation engineering technology (see 15.0406 Automation engineer technology/technician)
- robotics and automation technology (see 15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other)

14.42 Mechatronics, robotics, and automation engineering

This subseries comprises instructional program class 14.4201.

14.4201 Mechatronics, robotics, and automation engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer controlled electro-mechanical systems and products with embedded electronics, sensors, and actuators; and which includes, but is not limited to, automata, robots and automation systems. These programs include courses in mechanical engineering, electronic and electrical engineering, computer and software engineering, and control engineering.

Illustrative example(s)
- automation and robotics engineering
- automation engineering
- control engineering
- mechatronics engineering
- robotics engineering

Exclusion(s)
- automated manufacturing engineering (see 14.3601 Manufacturing engineering)
- automation engineering technology (see 15.0406 Automation engineer technology/technician)
- electromechanical engineering (see 14.4101 Electromechanical engineering)
- robotics and automation technology (see 15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other)
- robotics programming (see 11.0102 Artificial intelligence)
- robotics technology (see 15.0405 Robotics technology/technician)
- systems engineering (see 14.2701 Systems engineering)

14.43 Biochemical engineering

This subseries comprises instructional program class 14.4301.

14.4301 Biochemical engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the study of biochemical processes in living organisms, properties of biological materials, and processes using biochemical agents such as cells, enzymes, and antibodies. These programs include courses in biology, chemistry, physics, biochemistry, thermodynamics, fluid dynamics, bioprocesses, and chemical engineering.

Illustrative example(s)
- biochemical engineering
- chemical and biochemical engineering

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- engineering chemistry (see 14.4401 Engineering chemistry)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)

14.44 Engineering chemistry

This subseries comprises instructional program class 14.4401.

14.4401 Engineering chemistry

This instructional program class comprises any program that focuses on the general application of chemical principles to the analysis and evaluation of engineering problems, such as development of electronic materials, solid-state science and technology, polymers, ceramics, and biomaterials. These programs include courses in physical chemistry, organic chemistry, materials science, chemical processes and systems, chemical reaction engineering, biochemical engineering, engineering mathematics, classical and modern physics, and computer science.

Illustrative example(s)
- applied chemistry
- engineering chemistry

Exclusion(s)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- chemistry (see 40.0501 Chemistry, general)
- engineering (see 14.0101 Engineering, general)

14.45 Biological/biosystems engineering

This subseries comprises instructional program class 14.4501.

14.4501 Biological/biosystems engineering

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the design, development and management of biological systems; and includes applications to biology, biochemistry, ecology, and microbiology. These programs include courses in organic chemistry; microbiology; biochemistry; chemical, biological, biochemical, and process engineering; thermodynamics; process control; kinetics and reactor design; electric circuits; biosystem modeling; and bioelectronics and instrumentation.

Illustrative example(s)
- biological and biosystems engineering
- biological engineering
- biological systems engineering
- biomass engineering
- biosystems engineering
- microbiological engineering

Exclusion(s)
- applied biology (see 26.0101 Biology/biological sciences, general)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biological chemistry (see 26.0202 Biochemistry)
- biological technology (see 41.0101 Biology technician/biotechnology laboratory technician)
- bioprocess engineering (see 14.0301 Agricultural engineering)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- engineering (see 14.0101 Engineering, general)

14.99 Engineering, other

This subseries comprises instructional program class 14.9999.

14.9999 Engineering, other

This instructional program class comprises any program not listed above that relates to Engineering.

Illustrative example(s)
- acoustic engineering
- automotive engineering
- design engineering
- fire safety engineering
- HVAC engineering (university)
- instrumentation engineering
- mining and materials engineering
- power engineering (university)
- renewable energy engineering
- welding engineering (university)

Exclusion(s)
- arson prevention and investigation (see 43.0205 Fire/arson investigation and prevention)
- defence engineering (see 29.0501 Military technologies and applied sciences)
- engineering design (see 15.1502 Engineering design)
- engineering management (see 15.1501 Engineering/industrial management)
- fire systems technology (see 43.0204 Fire systems technology)
- molecular genetics (see 26.0802 Molecular genetics)
- nuclear engineering (see 14.2301 Nuclear engineering)
- sound engineering (see 10.0203 Recording arts technology/technician)
- steam engineering (see 47.0501 Stationary energy sources installer and operator)
- sustainability studies (see 30.3301 Sustainability studies)
- welding engineering technology (see 15.0614 Welding engineering technology/technician)

15. Engineering technologies and engineering-related fields

This series comprises instructional programs that prepare individuals to apply basic engineering principles and technical skills in support of engineering and related projects.

15.00 Engineering technology, general

This subseries comprises instructional program class 15.0000.

15.0000 Engineering technology, general

This instructional program class comprises any program that generally prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects. These programs include courses in various engineering support functions for research, production, and operations, and applications to specific engineering specialties.

Illustrative example(s)
- engineering technician
- engineering technologist
- engineering technology

Exclusion(s)
- automation engineering technology (see 15.0406 Automation engineer technology/technician)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- engineering (see 14.0101 Engineering, general)
- welding engineering technology (see 15.0614 Welding engineering technology/technician)

15.01 Architectural engineering technology/technician

This subseries comprises instructional program class 15.0101.

15.0101 Architectural engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of architects, engineers and planners engaged in designing and developing buildings, urban complexes, and related systems. These programs include courses in design testing procedures, building site analysis, model building and computer graphics, engineering drawing, structural systems testing, analysis of prototype mechanical and interior systems, test equipment operation and maintenance, and report preparation.

Illustrative example(s)
- architectural engineering technician
- architectural engineering technologist
- architectural engineering technology

Exclusion(s)
- architectural and building technology (see 04.0902 Architectural and building sciences/technology (BArch, BA, BS, BSc, MArch, MA, MS, MSc, PhD))
- architectural design technology (see 04.0901 Architectural technology/technician)
- architectural engineering (see 14.0401 Architectural engineering)
- building design and architecture CAD (see 15.1303 Architectural drafting and architectural CAD/CADD)
- environmental design (see 04.0401 Environmental design/architecture)
- housing and human environments (see 19.0601 Housing and human environments, general)
- landscape architectural technology (see 04.0601 Landscape architecture (BS, BSc, BSLA, BLA, MSLA, MLA, PhD))
- naval architecture technology (see 15.9999 Engineering technologies and engineering-related fields, other)

15.02 Civil engineering technology/technician

This subseries comprises instructional program class 15.0201.

15.0201 Civil engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of civil engineers engaged in designing and executing public works projects such as highways, dams, bridges, tunnels and other facilities. These programs include courses in site analysis, structural testing procedures, field and laboratory testing procedures, plan and specification preparation, test equipment operation and maintenance, and report preparation.

Illustrative example(s)
- civil and structural engineering technology
- civil engineering technologist
- civil engineering technology
- structural engineering technology

Exclusion(s)
- civil engineering (see 14.0801 Civil engineering, general)
- civil structural engineering (see 14.0803 Structural engineering)
- geotechnical engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- transportation engineering (see 14.0804 Transportation and highway engineering)
- water resources engineering (see 14.0805 Water resources engineering)

15.03 Electrical and electronic engineering technologies/technicians

This subseries comprises instructional program classes 15.0303 to 15.0399.

15.0303 Electrical, electronic and communications engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of electrical, electronics and communication engineers. These programs include courses in electrical circuitry, prototype development and testing; systems analysis and testing, systems maintenance, instrument calibration, and report preparation.

Illustrative example(s)
- electrical engineering technology
- electrical technician
- electrical technology
- electrical, electronic and communications engineering technology
- electronic engineering technology
- electronic systems technician
- electronic technician
- electronics technician

Exclusion(s)
- communications (see 09.0100 Communication, general)
- communications engineering technology (see 15.0305 Telecommunications technology/technician)
- communications technician (see 10.0105 Communications technology/technician)
- control engineering technology (see 15.0404 Instrumentation technology/technician)
- electrical repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- electrician (see 46.0302 Electrician)
- electrodynamics technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- electronic and communications engineering (see 14.1001 Electrical and electronics engineering)
- integrated circuit design (see 15.0306 Integrated circuit design)

15.0304 Laser and optical technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using lasers and other optical instruments for commercial or research purposes. These programs include courses in laser and optical principles, testing and maintenance procedures, safety precautions, specific applications to various tasks, and report preparation.

Illustrative example(s)
- laser and optical technician
- laser and optical technology
- optical technician
- photonics engineering technology
- photonics technology

Exclusion(s)
- engineering physics (see 14.1201 Engineering physics/applied physics)
- optical engineering (see 14.1003 Laser and optical engineering)
- optical science (see 40.0807 Optics/optical sciences)
- opticianry (see 51.1801 Opticianry/ophthalmic dispensing optician)
- orthoptics (see 51.1804 Orthoptics/orthoptist)

15.0305 Telecommunications technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to help design and implement telecommunications systems. These programs include courses in communications protocol, data networking, digital compression algorithms, digital signal processing, Internet access, object-oriented and relational databases, and programming languages.

Illustrative example(s)
- communications engineering technology
- network telecommunications engineering technology
- telecommunications engineering technician
- telecommunications engineering technology
- telecommunications technician
- telecommunications technology
- wireless communications technician
- wireless communications technology

Exclusion(s)
- communications technician (see 10.0105 Communications technology/technician)
- computer systems networking (university) (see 11.0901 Computer systems networking and telecommunications)
- digital communications (see 09.0702 Digital communication and media/multimedia)
- electrical engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- telecommunication engineering (see 14.1004 Telecommunications engineering)
- telephone line installation (see 47.0103 Communications systems installation and repair technology)

15.0306 Integrated circuit design

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to design circuits in microelectronics. These programs include courses in circuit design, circuit layout, circuit analysis, computer-aided drafting, and semi-conductor technologies.

Illustrative example(s)
- integrated circuit design
- integrated circuit design and layout
- microcircuit mask design
- printed circuit board design
- printed circuit drafting

Exclusion(s)
- electronic engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electronics drafting (see 15.1305 Electrical/electronics drafting and electrical/electronics CAD/CADD)

15.0399 Electrical and electronic engineering technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Electrical and electronic engineering technologies/technicians.

Illustrative example(s)
- microelectronics technology

Exclusion(s)
- computer networking technology (see 11.1001 Network and system administration/administrator)
- computer systems networking (university) (see 11.0901 Computer systems networking and telecommunications)

15.04 Electromechanical and instrumentation and maintenance technologies/technicians

This subseries comprises instructional program classes 15.0401 to 15.0499.

15.0401 Biomedical technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in developing biological or medical systems and products. These programs include courses in instrument calibration, design and installation testing, system safety and maintenance procedures, procurement and installation procedures, and report preparation.

Illustrative example(s)
- bioengineering technology
- biomedical electronics
- biomedical engineering technology
- biomedical technician
- biomedical technology

Exclusion(s)
- biomedical engineering (see 14.0501 Bioengineering and biomedical engineering)
- biomedical laboratory technologist (see 51.1005 Clinical laboratory science/medical technology/technologist)
- biotechnology laboratory technician (see 41.0101 Biology technician/biotechnology laboratory technician)
- forensic science (see 43.0106 Forensic science and technology)
- medical biology (see 26.0102 Biomedical sciences, general)

15.0403 Electromechanical technology/electromechanical engineering technology

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in developing and testing automated, servomechanical, and other electromechanical systems. These programs include courses in prototype testing, manufacturing and operational testing, systems analysis and maintenance procedures, and report preparation.

Illustrative example(s)
- electrodynamics technology
- electromechanical engineering technology
- electromechanical technician
- electromechanical technology

Exclusion(s)
- automated systems electromechanics (see 15.0406 Automation engineer technology/technician)
- electrical and electronic engineering (see 14.1001 Electrical and electronics engineering)
- electrical engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- industrial electronics technician (see 47.0105 Industrial electronics technology/technician)
- mechanical engineering (see 14.1901 Mechanical engineering)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

15.0404 Instrumentation technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in developing control and measurement systems and procedures. These programs include courses in instrumentation design and maintenance, calibration, design and production testing and scheduling, automated equipment functions, applications to specific industrial tasks, and report preparation.

Illustrative example(s)
- control engineering technology
- electrical instrumentation
- industrial control technician
- industrial instrument mechanic
- industrial instrumentation technology
- instrumentation and control engineering technician
- instrumentation and control technician
- instrumentation engineering technology
- instrumentation technician
- instrumentation technology

Exclusion(s)
- electrical engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- industrial electronics technology (see 47.0105 Industrial electronics technology/technician)
- instrumentation engineering (see 14.9999 Engineering, other)
- quality control technology (see 15.0702 Quality control technology/technician)

15.0405 Robotics technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using robots. These programs include courses in the principles of robotics, design and operational testing, system maintenance and repair procedures, robot computer systems and control language, specific system types and applications to specific industrial tasks, and report preparation.

Illustrative example(s)
- robotics technician
- robotics technology

Exclusion(s)
- industrial engineering (see 14.3501 Industrial engineering)
- industrial technology (see 15.0612 Industrial technology/technician)
- robotics and automation technology (see 15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other)
- robotics engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- robotics programming (see 11.0102 Artificial intelligence)

15.0406 Automation engineer technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, installing, calibrating, modifying and maintaining automated systems. These programs include courses in computer systems; electronics and instrumentation; programmable logic controllers (PLCs); electric, hydraulic and pneumatic control systems; actuator and sensor systems; process control; robotics; applications to specific industrial tasks; and report preparation.

Illustrative example(s)
- automated engineering technician
- automated engineering technology
- automated systems electromechanics
- automated systems engineering technology
- automation engineering technology

Exclusion(s)
- automation engineering (see 14.4201 Mechatronics, robotics, and automation engineering)
- electromechanical engineering (see 14.4101 Electromechanical engineering)
- electromechanical engineering technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- engineering technology (see 15.0000 Engineering technology, general)
- robotics and automation technology (see 15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other)

15.0499 Electromechanical and instrumentation and maintenance technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Electromechanical and instrumentation and maintenance technologies/technicians.

Illustrative example(s)
- robotics and automation technology

Exclusion(s)
- automation and robotics engineering (see 14.4201 Mechatronics, robotics, and automation engineering)

- automation engineering technology (see 15.0406 Automation engineer technology/technician)
- electromechanical engineering (see 14.4101 Electromechanical engineering)

15.05 Environmental control technologies/technicians

This subseries comprises instructional program classes 15.0501 to 15.0599.

15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using air conditioning, refrigeration, ventilation, and heating systems. These programs include courses in principles of heating and cooling technology, design and operational testing, inspection and maintenance procedures, installation and operation procedures, and report preparation.

Illustrative example(s)
- air conditioning and heating technician
- air conditioning and refrigeration engineering technician
- air conditioning technology
- air conditioning, heating and refrigeration technician
- environmental systems engineering technology
- heating engineering technology
- heating, refrigeration and air conditioning technology
- heating, ventilation and air conditioning technician
- heating, ventilation, air conditioning and refrigeration technology
- refrigeration engineering technology

Exclusion(s)
- building service technician (see 46.0401 Building/property maintenance)
- electronics repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- heating, air conditioning and refrigeration mechanic (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- heating, ventilation and air conditioning engineering (university) (see 14.9999 Engineering, other)

15.0503 Energy management and systems technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing energy-efficient systems or monitoring energy use. These programs include courses in principles of energy conservation, instrumentation calibration, monitoring systems and test procedures, energy loss inspection procedures, energy conservation techniques, and report preparation.

Illustrative example(s)
- energy management technology
- energy systems management technology
- energy systems technician
- energy systems technology

Exclusion(s)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental engineering technology (see 15.0507 Environmental engineering technology/environmental technology)
- environmental systems (see 03.0101 Natural resources/conservation, general)
- solar energy technology (see 15.0505 Solar energy technology/technician)
- stationary engineer (see 47.0501 Stationary energy sources installer and operator)
- systems engineering (see 14.2701 Systems engineering)

15.0505 Solar energy technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing solar-powered energy systems. These programs include courses in solar energy principles, energy storage and transfer technologies, testing and inspection procedures, system maintenance procedures, and report preparation.

Illustrative example(s)
- solar energy technology

Exclusion(s)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental engineering technology (see 15.0507 Environmental engineering technology/environmental technology)
- environmental science (see 03.0104 Environmental science)

15.0506 Water quality and wastewater treatment management and recycling technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using water storage, waterpower, and wastewater treatment systems. These programs include courses in water storage, power and/or treatment systems and equipment; testing and inspection procedures; system maintenance procedures; and report preparation.

Illustrative example(s)
- waste water treatment
- water and waste water treatment
- water purification
- water quality technology
- water resources engineering technology
- water systems maintenance
- water technician
- water treatment

Exclusion(s)
- environmental toxicology (see 26.1006 Environmental toxicology)
- hydrological engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- hydrology (see 40.0605 Hydrology and water resources science)
- marine environment technology (see 15.0507 Environmental engineering technology/environmental technology)
- water resources engineering (see 14.0805 Water resources engineering)
- water resources technology (see 03.0205 Water, wetlands and marine resources management)
- water wells drilling (see 46.0504 Well drilling/driller)

15.0507 Environmental engineering technology/environmental technology

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using indoor and outdoor environmental pollution control systems. These programs include courses in environmental safety principles, testing and sampling procedures, laboratory techniques, instrumentation calibration, safety and protection procedures, equipment maintenance, and report preparation.

Illustrative example(s)
- environmental engineering technology
- environmental science technology

- environmental technician
- environmental technology
- marine environment technology

Exclusion(s)
- environmental biology (see 26.1305 Environmental biology)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental health (see 51.2202 Environmental health)
- environmental psychology (see 42.2808 Environmental psychology)
- environmental science (see 03.0104 Environmental science)
- environmental systems (see 03.0101 Natural resources/conservation, general)
- environmental toxicology (see 26.1006 Environmental toxicology)
- hazardous waste technology (see 15.0508 Hazardous materials management and waste technology/technician)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)
- marine sciences (see 30.3201 Marine sciences)
- natural resource management (see 03.0201 Natural resources management and policy, general)

15.0508 Hazardous materials management and waste technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in identifying and disposing of hazardous materials. These programs include courses in environmental safety principles, biohazard identification, testing and sampling procedures, laboratory techniques, instrumentation calibration, hazardous waste disposal procedures and systems, safety and protection procedures, equipment maintenance, and report preparation.

Illustrative example(s)
- hazardous materials and waste treatment technician
- hazardous materials and waste treatment technologist
- hazardous materials management
- hazardous waste technology
- site assessment, decontamination and restoration

Exclusion(s)
- environmental health engineering (see 14.1401 Environmental/environmental health engineering)
- hazardous materials information systems technology (see 15.0704 Hazardous materials information systems technology/technician)
- industrial safety technology (see 15.0703 Industrial safety technology/technician)
- occupational health and safety technology (see 15.0701 Occupational safety and health technology/technician)
- radiation protection/health physics technician (see 51.0916 Radiation protection/health physics technician)
- waste water treatment (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)

15.0599 Environmental control technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Environmental control technologies/technicians.

Illustrative example(s)
- environmental performance of organizations

Exclusion(s)
- environmental health (see 51.2202 Environmental health)

- occupational health and safety nursing (see 51.3815 Occupational and environmental health nurse/nursing)

15.06 Industrial production technologies/technicians

This subseries comprises instructional program classes 15.0607 to 15.0699.

15.0607 Plastics and polymer engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using industrial polymers. These programs include courses in the principles of macromolecular chemistry, polymerization and plastic manufacturing processes and equipment, design and operational testing procedures, equipment maintenance and repair procedures, safety procedures, applications to specific products, and report preparation.

Illustrative example(s)
- plastics engineering technician
- plastics engineering technology
- plastics processing technology
- plastics technician
- plastics technology
- polymer engineering technology
- polymer processing technology

Exclusion(s)
- petrochemical engineering (see 14.2501 Petroleum engineering)
- petroleum engineering technology (see 15.0903 Petroleum technology/technician)
- petrology (see 40.0606 Geochemistry and petrology)
- plastic arts (see 50.0702 Fine/studio arts, general)
- plastics engineering (see 14.3201 Polymer/plastics engineering)
- polymer chemistry (see 40.0507 Polymer chemistry)

15.0611 Metallurgical technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and metallurgists engaged in developing and using industrial metals and manufacturing processes. These programs include courses in principles of metallurgy, related manufacturing systems, laboratory techniques, testing and inspection procedures, instrument calibration, system and equipment maintenance and repair, applications to specific processes, and report preparation.

Illustrative example(s)
- metallurgical engineering technology
- metallurgical technician
- metallurgical technology
- metallurgy technology

Exclusion(s)
- goldsmithing (see 50.0713 Metal and jewellery arts)
- ironworker (see 48.0509 Ironworking/ironworker)
- manufacturing technology (see 15.0613 Manufacturing engineering technology/technician)
- metallurgical engineering (see 14.2001 Metallurgical engineering)
- mining engineering technology (see 15.0901 Mining technology/technician)
- sheet metal (see 48.0506 Sheet metal technology/sheetworking)

15.0612 Industrial technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of industrial engineers and managers. These programs include courses in optimization theory, human factors, organizational behaviour, industrial processes, industrial planning procedures, computer applications, and report and presentation preparation.

Illustrative example(s)
- industrial engineering technology
- industrial technician
- industrial technology

Exclusion(s)
- industrial education (see 13.1320 Trade and industrial teacher education)
- industrial electronics technician (see 47.0105 Industrial electronics technology/technician)
- industrial engineering (see 14.3501 Industrial engineering)
- industrial equipment technology (see 47.0303 Industrial mechanics and maintenance technology)
- industrial management (see 15.1501 Engineering/industrial management)
- vocational technical education (see 13.1319 Technical teacher education)

15.0613 Manufacturing engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. These programs include courses in machine operations, production line operations, engineering analysis, systems analysis, instrumentation, physical controls, automation, computer-aided manufacturing (CAM), manufacturing planning, quality control, and informational infrastructure.

Illustrative example(s)
- CAM
- computer-aided manufacturing technology
- manufacturing engineering technician
- manufacturing engineering technology
- manufacturing technician
- manufacturing technologist
- manufacturing technology
- mechanical manufacturing
- mechanical manufacturing technology

Exclusion(s)
- industrial engineering (see 14.3501 Industrial engineering)
- industrial engineering technology (see 15.0612 Industrial technology/technician)
- manufacturing engineering (see 14.3601 Manufacturing engineering)
- semiconductor manufacturing technology (see 15.0616 Semiconductor manufacturing technology)

15.0614 Welding engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to the design and engineering of welding and joining systems and the implementation of welding processes. These programs include courses in materials science; computer-aided design; welding design; welding processes; welding metallurgy; automation and robotics; and codes, inspections, testing, and quality assurance.

Illustrative example(s)
- welding engineering technician
- welding engineering technologist

- welding engineering technology

Exclusion(s)
- engineering technology (see 15.0000 Engineering technology, general)
- welding (see 48.0508 Welding technology/welder)
- welding engineering (university) (see 14.9999 Engineering, other)

15.0615 Chemical engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in the production and utilization of chemicals on an industrial scale. These programs include courses in organic chemistry, inorganic chemistry, analytical chemistry, biochemistry, thermodynamics, fluid mechanics, industrial processes, instrumental analysis, sampling and monitoring, and chemical and environmental safety.

Illustrative example(s)
- chemical engineering technician
- chemical engineering technology

Exclusion(s)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical process technology (see 41.0303 Chemical process technology)
- chemistry (see 40.0501 Chemistry, general)
- engineering technology (see 15.0000 Engineering technology, general)

15.0616 Semiconductor manufacturing technology

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to operate and monitor equipment for the fabrication of semiconductors or microchips from silicon wafers, and to troubleshoot, maintain, and repair the specialized equipment used in this process. These programs include courses in AC and DC circuits, digital fundamentals, solid state devices, manufacturing processes, vacuum principles and technology, industrial electronics, quality assurance, and semiconductor manufacturing technology.

Illustrative example(s)
- semiconductor manufacturing technology

Exclusion(s)
- manufacturing technology (see 15.0613 Manufacturing engineering technology/technician)
- semiconductor physics (see 14.1201 Engineering physics/applied physics)

15.0699 Industrial production technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Industrial production technologies/technicians.

Illustrative example(s)
- corrosion engineering technician
- fibreglass technician
- materials engineering technology

Exclusion(s)
- materials science (see 40.1001 Materials science)
- metals and materials engineering (see 14.1801 Materials engineering)

15.07 Quality control and safety technologies/technicians

This subseries comprises instructional program classes 15.0701 to 15.0799.

15.0701 Occupational safety and health technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in maintaining job-related health and safety standards. These programs include courses in safety engineering principles, inspection and monitoring procedures, testing and sampling procedures, laboratory techniques, applications to specific work environments, and report preparation.

Illustrative example(s)
- occupational health and safety technician
- occupational health and safety technology
- workplace health and safety

Exclusion(s)
- industrial safety technology (see 15.0703 Industrial safety technology/technician)
- occupational health and industrial hygiene (see 51.2206 Occupational health and industrial hygiene)

15.0702 Quality control technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in maintaining consistent manufacturing and construction standards. These programs include courses in quality control systems management principles, technical standards applicable to specific engineering and manufacturing projects, testing procedures, inspection procedures, related instrumentation and equipment operation and maintenance, and report preparation.

Illustrative example(s)
- quality assurance
- quality assurance technician
- quality control technician
- quality control technologist
- quality control technology
- quality inspector training
- quality technician

Exclusion(s)
- materiel management (see 52.0203 Logistics, materials, and supply chain management)
- production management (see 52.0205 Operations management and supervision)
- water quality technology (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)

15.0703 Industrial safety technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to assist engineers and other professionals in implementing and enforcing industrial safety standards. These programs include courses in industrial processes, industrial hygiene, toxicology, ergonomics, system and process safety, safety performance measurement, human factors, human behaviour, and applicable laws and regulations.

Illustrative example(s)
- industrial safety technology

Exclusion(s)
- industrial engineering (see 14.3501 Industrial engineering)
- occupational health and industrial hygiene (see 51.2206 Occupational health and industrial hygiene)
- occupational health and safety technician (see 15.0701 Occupational safety and health technology/technician)
- security and loss prevention services (see 43.0109 Security and loss prevention services)

15.0704 Hazardous materials information systems technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to assist engineers and other professionals in implementing, monitoring, and enforcing hazardous materials management and removal. These programs include courses in environmental science, environmental health, human behaviour, economics, management science, information systems and applications, and communication skills.

Illustrative example(s)
- hazardous materials information systems technology
- WHMIS training
- workplace hazardous materials information systems training

Exclusion(s)
- environmental toxicology (see 26.1006 Environmental toxicology)
- hazardous waste technology (see 15.0508 Hazardous materials management and waste technology/technician)
- occupational health and industrial hygiene (see 51.2206 Occupational health and industrial hygiene)
- occupational health and safety technician (see 15.0701 Occupational safety and health technology/technician)

15.0799 Quality control and safety technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Quality control and safety technologies/technicians.

Illustrative example(s)
- non-destructive testing technology

15.08 Mechanical engineering related technologies/technicians

This subseries comprises instructional program classes 15.0801 to 15.0899.

15.0801 Aeronautical/aerospace engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, manufacturing and testing aircraft, spacecraft and their systems. These programs include courses in aircraft/spacecraft systems technology, design and development testing, prototype and operational testing, inspection and maintenance procedures, instrument calibration, test equipment operation and maintenance, and report preparation.

Illustrative example(s)
- aeronautical engineering technology
- aeronautical manufacturing
- aeronautical manufacturing technology
- aeronautical technician
- aeronautical technology
- aerospace engineering technology
- aerospace manufacturing

- aerospace technician
- aerospace technology

Exclusion(s)
- aeronautical engineering (see 14.0201 Aerospace, aeronautical and astronautical/space engineering)
- aircraft engine technician (see 47.0608 Aircraft powerplant technology/technician)
- aircraft mechanic (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- aviation sciences (see 49.0101 Aeronautics/aviation/aerospace science and technology, general)
- avionics technician (see 47.0609 Avionics maintenance technology/technician)

15.0803 Automotive engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, manufacturing and testing self-propelled ground vehicles and their systems. These programs include courses in vehicular systems technology, design and development testing, prototype and operational testing, inspection and maintenance procedures, instrument calibration, test equipment operation and maintenance, and report preparation.

Illustrative example(s)
- automotive engineering technician
- automotive engineering technology
- automotive manufacturing technology
- automotive product design technology

Exclusion(s)
- automotive electronics (see 47.0604 Automobile/automotive mechanics technology/technician)
- automotive engineering (see 14.9999 Engineering, other)
- diesel mechanics (see 47.0605 Diesel mechanics technology/technician)
- fuel and lube technician (see 47.0699 Vehicle maintenance and repair technologies, other)
- mechanical design drafting (see 15.1306 Mechanical drafting and mechanical drafting CAD/CADD)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

15.0805 Mechanical engineering/mechanical technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in the design and development phases of a wide variety of projects involving mechanical systems. These programs include courses in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, and report preparation.

Illustrative example(s)
- mechanical design (college)
- mechanical engineering technician
- mechanical engineering technology
- mechanical technician
- mechanical technology

Exclusion(s)
- agricultural mechanics (see 01.0205 Agricultural mechanics and equipment/machine technology)
- electromechanical technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- engineering mechanics (see 14.1101 Engineering mechanics)
- general mechanic (see 47.0000 Mechanics and repairers, general)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)

- instrumentation engineering (see 14.9999 Engineering, other)
- mechanical engineering (see 14.1901 Mechanical engineering)
- mechanical engineering drafting technician (see 15.1306 Mechanical drafting and mechanical drafting CAD/CADD)
- robotic engineering (see 14.4201 Mechatronics, robotics, and automation engineering)

15.0899 Mechanical engineering related technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Mechanical engineering related technologies/technicians.

Illustrative example(s)
- marine engineering technology
- marine mechanical engineering technology

Exclusion(s)
- diesel mechanic (see 47.0605 Diesel mechanics technology/technician)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

15.09 Mining and petroleum technologies/technicians

This subseries comprises instructional program classes 15.0901 to 15.0999.

15.0901 Mining technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in the development and operation of mines and related mineral processing facilities. These programs include courses in principles of mineral extraction and related geology, mineral field mapping and site analysis, testing and sampling methods, instrument calibration, assay analysis, test equipment operation and maintenance, mine environment and safety monitoring procedures, mine inspection procedures, and report preparation.

Illustrative example(s)
- metal and mineral processing technology
- mining and mineral processing
- mining and mineral processing technician
- mining engineering technician
- mining engineering technology
- mining technician
- mining technology
- surface mining
- underground mining

Exclusion(s)
- blasting technician (see 46.0505 Blasting/blaster)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geology (see 40.0601 Geology/Earth science, general)
- mineralogy (see 40.0606 Geochemistry and petrology)
- mining and mineral engineering (see 14.2101 Mining and mineral engineering)

15.0903 Petroleum technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in the development and operation of oil and natural gas extraction and processing facilities. These programs include courses in principles of petroleum extraction and related geology, petroleum field mapping and site analysis, testing and sampling methods, instrument calibration, laboratory analysis, test equipment operation and maintenance, environment and safety monitoring procedures for oil/gas fields and facilities, facility inspection procedures, and report preparation.

Illustrative example(s)
- gas processing
- oil and gas field operations
- oil field safety
- oil field technology
- oil refining
- petroleum and natural gas
- petroleum engineering technology
- petroleum operations technician
- petroleum technician
- petroleum technology

Exclusion(s)
- gas and oil burner technician (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- geologist (see 40.0601 Geology/Earth science, general)
- mining engineering technology (see 15.0901 Mining technology/technician)
- oil and gas drilling (see 46.0504 Well drilling/driller)
- petrology (see 40.0606 Geochemistry and petrology)
- polymer engineering (see 14.3201 Polymer/plastics engineering)

15.0999 Mining and petroleum technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Mining and petroleum technologies/technicians.

Illustrative example(s)
- prospecting

15.10 Construction engineering technology/technician

This subseries comprises instructional program class 15.1001.

15.1001 Construction engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers, engineering contractors and other professionals engaged in the construction of buildings and related structures. These programs include courses in basic structural engineering principles and construction techniques, building site inspection, site supervision, construction personnel supervision, plan and specification interpretation, supply logistics and procurement, applicable building codes, and report preparation.

Illustrative example(s)
- building construction engineering technology
- building engineering technology
- construction engineering technician
- construction engineering technology

Exclusion(s)
- architectural engineering technician (see 15.0101 Architectural engineering technology/technician)
- building inspection (see 46.0403 Building/home/construction inspection/inspector)
- civil structural engineering (see 14.0803 Structural engineering)
- construction drafting (see 15.1303 Architectural drafting and architectural CAD/CADD)
- construction engineering (see 14.3301 Construction engineering)
- construction management (see 52.2001 Construction management)
- construction supervision (see 46.0412 Building/construction site management/manager)
- residential construction technician (see 46.0415 Building construction technology)

15.11 Engineering-related technologies

This subseries comprises instructional program classes 15.1102 to 15.1199.

15.1102 Surveying technology/surveying

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to the delineation, determination, planning and positioning of land tracts, land and water boundaries, land contours and features; and the preparation of related maps, charts and reports. These programs include courses in applied geodesy, computer graphics, photointerpretation, plane and geodetic surveying, mensuration, traversing, survey equipment operation and maintenance, instrument calibration, and basic cartography.

Illustrative example(s)
- construction surveying
- geodetic surveying
- hydrographic surveying
- land survey technician
- land surveyor
- survey technician
- survey technologist
- survey technology
- surveying
- surveyor

Exclusion(s)
- geodetic sciences (see 40.0699 Geological and Earth sciences/geosciences, other)
- marine geomatics (see 45.0702 Geographic information science and cartography)
- physical geography (see 45.0701 Geography)
- surveying engineering (see 14.3801 Surveying engineering)
- topology (see 27.0105 Topology and foundations)

15.1103 Hydraulics and fluid power technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using fluid power and transportation systems. These programs include courses in fluid mechanics and hydraulics principles, fluid power systems, pipeline and pumping systems, design and operational testing, inspection and maintenance procedures, related instrumentation, and report preparation.

Illustrative example(s)
- fluid power technician
- fluid power technology
- hydraulic engineering technician
- hydraulic technician
- hydraulics technician

Exclusion(s)
- electromechanical engineering technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- hydraulic engineering (see 14.0805 Water resources engineering)
- hydraulic mechanics (see 47.0302 Heavy equipment maintenance technology/technician)
- industrial mechanics (see 47.0303 Industrial mechanics and maintenance technology)
- manufacturing technology (see 15.0613 Manufacturing engineering technology/technician)
- mechanical engineering (see 14.1901 Mechanical engineering)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

15.1199 Engineering-related technologies, other

This instructional program class comprises any program not listed above that relates to Engineering-related technologies.

15.12 Computer engineering technologies/technicians

This subseries comprises instructional program classes 15.1201 to 15.1299.

15.1201 Computer engineering technology/technician, general

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of computer engineers engaged in designing and developing computer systems and installations. These programs include courses in computer electronics and programming, prototype development and testing, systems installation and testing, solid state and microminiature circuitry, peripheral equipment, and report preparation.

Illustrative example(s)
- computer electronics
- computer electronics technician
- computer engineering technician
- computer engineering technology

Exclusion(s)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer programming technology (see 11.0201 Computer programming/programmer, general)
- computer science technology (see 11.0701 Computer science)
- computer systems engineering (see 14.0901 Computer engineering, general)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)

15.1202 Computer technology/computer systems technology

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills in support of professionals who use computer systems. These programs include courses in basic computer design and architecture, programming, problems of specific computer applications, component and system maintenance and inspection procedures, hardware and software problem diagnosis and repair, and report preparation.

Illustrative example(s)
- applied computer technology
- computer systems technician
- computer systems technology
- computer technician
- computer technology

- microcomputer technician

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- computer hardware technology (see 15.1203 Computer hardware technology/technician)
- computer science technology (see 11.0701 Computer science)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- computer systems engineering (see 14.0901 Computer engineering, general)
- computer systems technician - networking (see 11.1001 Network and system administration/administrator)
- systems engineering (see 14.2701 Systems engineering)

15.1203 Computer hardware technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to support engineers in designing computer hardware and peripheral systems. These programs include courses in computer systems design, computer architecture, computer electronics, processors, peripherals, testing equipment, and computer manufacturing processes.

Illustrative example(s)
- computer hardware technician
- computer hardware technology

Exclusion(s)
- computer engineering (see 14.0901 Computer engineering, general)
- computer hardware engineering (see 14.0902 Computer hardware engineering)
- computer science technology (see 11.0701 Computer science)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- computer technology (see 15.1202 Computer technology/computer systems technology)
- manufacturing design CAD technology (see 15.1302 CAD/CADD drafting and/or design technology/technician)

15.1204 Computer software technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering principles and technical skills to support engineers in developing, implementing, and evaluating computer software and program applications. These programs include courses in computer programming, programming languages, databases, user interfaces, networking and warehousing, encryption and security, software testing and evaluation, and customization.

Illustrative example(s)
- computer software technician
- computer software technology

Exclusion(s)
- computer science technology (see 11.0701 Computer science)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- database management (see 11.0802 Data modelling/warehousing and database administration)
- information technology (see 11.0103 Information technology)
- software design (see 11.0201 Computer programming/programmer, general)
- software systems development (see 14.0903 Computer software engineering)

15.1299 Computer engineering technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Computer engineering technologies/technicians.

Illustrative example(s)
- computer network engineering technician
- computer network engineering technology
- network engineering technician
- network engineering technology

Exclusion(s)
- computer network engineering (see 14.0999 Computer engineering, other)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

15.13 Drafting/design engineering technologies/technicians

This subseries comprises instructional program classes 15.1301 to 15.1399.

15.1301 Drafting and design technology/technician, general

This instructional program class comprises any program that prepares individuals to generally apply technical skills to create working drawings and computer simulations for a variety of applications. These programs include courses in specification interpretation, dimensioning techniques, drafting calculations, material estimation, technical communications, computer applications, and interpersonal communications.

Illustrative example(s)
- drafting
- drafting and design technician
- drafting and design technology
- drafting technician
- drafting technology
- engineering graphics and design
- engineering graphics technology
- general drafting
- industrial drafting
- technical drawing

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- computer-aided design (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- design arts (see 50.0401 Design and visual communications, general)
- design engineering (see 14.9999 Engineering, other)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- drawing (see 50.0705 Drawing)
- environmental design (see 04.0401 Environmental design/architecture)
- graphic design (see 50.0409 Graphic design)
- illustration (see 50.0410 Illustration)

15.1302 CAD/CADD drafting and/or design technology/technician

This instructional program class comprises any program that prepares individuals to apply technical skills and advanced computer software and hardware to the creation of graphic representations and simulations in support of engineering projects. These programs include courses in engineering graphics, two-dimensional and three-dimensional engineering design, solids modelling, engineering animation, computer-aided drafting (CAD), computer-aided design (CADD), and auto-CAD techniques.

Illustrative example(s)
- autoCAD
- autoCAD drafting
- CAD drafting

- CAD technology
- computer-aided design
- computer-aided design and drafting technology
- computer-assisted drafting
- drafting CAD

Exclusion(s)
- computer graphics (see 11.0803 Computer graphics)
- design engineering (see 14.9999 Engineering, other)
- drafting and design technology (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- graphic design (see 50.0409 Graphic design)
- illustration (see 50.0410 Illustration)
- industrial design (see 50.0404 Industrial and product design)

15.1303 Architectural drafting and architectural CAD/CADD

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to develop working drawings and electronic simulations for architectural and related construction projects. These programs include courses in basic construction and structural design, architectural rendering, architectural-aided drafting (CAD), layout and designs, architectural blueprint interpretation, building materials, and basic structural wiring diagramming.

Illustrative example(s)
- architectural CAD technology
- architectural drafting
- building design and architecture CAD
- building design CAD technology
- computer-aided architectural drafting
- residential drafting and design

Exclusion(s)
- architectural design technology (see 04.0901 Architectural technology/technician)
- architectural engineering (see 14.0401 Architectural engineering)
- architectural engineering technician (see 15.0101 Architectural engineering technology/technician)
- CAD technology (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- design engineering (see 14.9999 Engineering, other)
- drafting and design technology (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- structural CAD technology (see 15.1304 Civil drafting and civil engineering CAD/CADD)

15.1304 Civil drafting and civil engineering CAD/CADD

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to develop working drawings and electronic simulations in support of civil engineers, geological engineers, and related professionals. These programs include courses in basic civil engineering principles, geological and seismographic mapping, machine drafting, computer-aided drafting (CAD), pipe drafting, survey interpretation, and blueprint reading.

Illustrative example(s)
- civil drafting
- civil engineering CAD
- civil engineering computer-assisted design and drafting
- civil engineering drafting
- steel structure drafting
- structural CAD technology

- structural drafting

Exclusion(s)
- architectural CAD technology (see 15.1303 Architectural drafting and architectural CAD/CADD)
- CAD drafting (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- civil engineering (see 14.0801 Civil engineering, general)
- civil engineering technology (see 15.0201 Civil engineering technology/technician)
- drafting (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- industrial design (see 50.0404 Industrial and product design)

15.1305 Electrical/electronics drafting and electrical/electronics CAD/CADD

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to develop working schematics and representations in support of electrical/electronic engineers, computer engineers, and related professionals. These programs include courses in basic electronics, electrical systems and computer layouts; electrode-mechanical drafting; manufacturing circuitry; computer-aided drafting (CAD); and electrical systems specification interpretation.

Illustrative example(s)
- electrical CAD
- electrical drafting
- electrical facility drafting technologist
- electronics drafting
- electronics CAD

Exclusion(s)
- computer engineering technology (see 15.1201 Computer engineering technology/technician, general)
- drafting technology (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- electrical and electronic engineering (see 14.1001 Electrical and electronics engineering)
- electrical engineering technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electromechanical engineering technology (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- printed circuit drafting (see 15.0306 Integrated circuit design)

15.1306 Mechanical drafting and mechanical drafting CAD/CADD

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to develop working drawings and electronic simulations in support of mechanical and industrial engineers, and related professionals. These programs include courses in manufacturing materials and processes, mechanical drafting, electrode-mechanical drafting, basic metallurgy, geometric dimensioning and tolerancing, blueprint reading and technical communication.

Illustrative example(s)
- computer-assisted mechanical drafting
- computerized mechanical design
- mechanical CAD
- mechanical drafting
- mechanical engineering computer-assisted design
- mechanical engineering drafting technician

Exclusion(s)
- applied mechanics (see 14.1101 Engineering mechanics)
- automotive product design technology (see 15.0803 Automotive engineering technology/technician)

- CAD technology (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- drafting (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- mechanical engineering (see 14.1901 Mechanical engineering)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

15.1399 Drafting/design engineering technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Drafting/design engineering technologies/technicians.

Illustrative example(s)
- architectural and civil drafting
- architectural and electrical drafting
- architectural and industrial drafting
- engineering design and drafting technology
- engineering drafting technology

Exclusion(s)
- architectural design technology (see 04.0901 Architectural technology/technician)
- computer graphics (see 11.0803 Computer graphics)
- design arts (see 50.0401 Design and visual communications, general)
- drafting and design technology (see 15.1301 Drafting and design technology/technician, general)
- drawing (see 50.0705 Drawing)
- graphic design (see 50.0409 Graphic design)
- illustration (see 50.0410 Illustration)
- industrial design (see 50.0404 Industrial and product design)

15.14 Nuclear engineering technology/technician

This subseries comprises instructional program class 15.1401.

15.1401 Nuclear engineering technology/technician

This instructional program class comprises any program that prepares individuals to apply basic engineering, knowledge and technical skills in support of engineers and other professionals operating nuclear facilities and engaged in nuclear applications and safety procedures. These programs include courses in physics, nuclear science, nuclear systems, nuclear plant and systems design, radiological safety, radiological applications, and applicable laws and regulations.

Illustrative example(s)
- nuclear engineering technician
- nuclear engineering technology

Exclusion(s)
- nuclear engineering (see 14.2301 Nuclear engineering)
- nuclear medicine technology (see 51.0905 Nuclear medical technology/technologist)
- nuclear power technology (see 41.0205 Nuclear/nuclear power technology/technician)

15.15 Engineering-related fields

This subseries comprises instructional program classes 15.1501 to 15.1599.

15.1501 Engineering/industrial management

This instructional program class comprises any program that focuses on the application of engineering principles to the planning and operational management of industrial and manufacturing operations, and prepares individuals to plan and manage such operations. These programs include courses in accounting, engineering economy, financial management, industrial and human resources management, industrial psychology, management information systems, mathematical modelling and optimization, quality control, operations research, safety and health issues, and environmental program management.

Illustrative example(s)
- engineering management

Exclusion(s)
- business management (see 52.0201 Business administration and management, general)
- human resources management (see 52.1001 Human resources management/personnel administration, general)
- industrial engineering technology (see 15.0612 Industrial technology/technician)
- operations management (see 52.0205 Operations management and supervision)

15.1502 Engineering design

This instructional program class comprises any program that prepares individuals to apply mathematical and scientific principles to engineering problems involving marrying or coordinating multiple dissimilar systems to carry out single functions or achieve common purposes, organizing system components for maximum flexibility and utility, planning engineering projects involving multiple tasks and design solutions, planning design testing and evaluation procedures, resolving specification and requirement conflicts, and choosing among competing theoretical solutions.

Illustrative example(s)
- engineering design

Exclusion(s)
- design engineering (see 14.9999 Engineering, other)
- engineering (see 14.0101 Engineering, general)

15.1503 Packaging science

This instructional program class comprises any program that focuses on the application of scientific, technological, design, and business principles to the development of packages and packaging materials, including raw material production, conversion of raw materials into usable forms, design, distribution, and post-use recycling and reuse. These programs include courses in principles of packaging, materials sciences, distribution and transportation, engineering and technology, graphic design, packaging regulations, and business and marketing.

Illustrative example(s)
- packaging science

15.1599 Engineering-related fields, other

This instructional program class comprises any program not listed above that relates to Engineering-related fields.

15.16 Nanotechnology

This subseries comprises instructional program class 15.1601.

15.1601 Nanotechnology

This instructional program class comprises any program that prepares individuals to apply mathematical, scientific, and engineering principles and technical skills to manipulate matter at the atomic and molecular level (in the range of 1-100 nanometers) and to design, fabricate, and integrate nanoscale structures, devices, and systems. These programs include courses in materials science, thermodynamics, nanomaterials, nanoelectronics, and nano/micro device fabrication and testing.

Illustrative example(s)
- nanoengineering
- nanoengineering technology
- nanofabrication technology
- nanoscience technician
- nanoscience technology
- nanotechnology

15.99 Engineering technologies and engineering-related fields, other

This subseries comprises instructional program class 15.9999.

15.9999 Engineering technologies and engineering-related fields, other

This instructional program class comprises any program not listed above that relates to Engineering technologies and engineering-related fields.

Illustrative example(s)
- agricultural engineering technician
- agricultural engineering technology
- bio-resources engineering technician
- fire protection engineering technician
- fire protection engineering technologist
- geological engineering technology
- naval architecture technology
- product design engineering technology

Exclusion(s)
- agricultural engineering (see 14.0301 Agricultural engineering)
- arson prevention and investigation (see 43.0205 Fire/arson investigation and prevention)
- bioengineering (see 14.0501 Bioengineering and biomedical engineering)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- fire systems technology (see 43.0204 Fire systems technology)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- naval engineering (see 14.2201 Naval architecture and marine engineering)

16. Aboriginal and foreign languages, literatures and linguistics

This series comprises instructional programs that focus on Aboriginal and foreign languages and literatures, the humanistic and scientific study of linguistics, and the provision of professional interpretation and translation services.

16.01 Linguistic, comparative and related language studies and services

This subseries comprises instructional program classes 16.0101 to 16.0199.

16.0101 Aboriginal and foreign languages and literatures, general

This instructional program class comprises any general program that focuses on one or more modern Aboriginal or foreign languages that is not specific as to the name of the language(s) studied; that is otherwise undifferentiated; or that introduces students to language studies at the basic/elementary level.

Illustrative example(s)
- applied language studies
- foreign languages
- foreign languages and literature
- foreign literature
- modern languages

Exclusion(s)
- English literature (see 23.1401 English literature, general)
- French general literature (see 55.1401 French literature, general)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- Native as a second language (see 16.1799 Second language learning, other)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

16.0102 Linguistics

This instructional program class comprises any program that focuses on language, language development, and relationships among languages and language groups from a humanistic and/or scientific perspective. These programs include courses in subjects such as psycholinguistics, behavioural linguistics, language acquisition, sociolinguistics, mathematical and computational linguistics, grammatical theory and theoretical linguistics, philosophical linguistics, philology and historical linguistics, comparative linguistics, phonetics, phonemics, dialectology, semantics, functional grammar and linguistics, language typology, lexicography, morphology and syntax, orthography, stylistics, structuralism, rhetoric, and applications to artificial intelligence.

Illustrative example(s)
- computational linguistics
- linguistics
- mathematical linguistics
- philology
- semiology
- semiotics

Exclusion(s)
- applied linguistics (see 16.0105 Applied linguistics)
- English language, literature and linguistics (see 23.0101 English language and literature, general)
- French language, literature and linguistics (see 55.0101 French language and literature, general)
- psycholinguistics (see 42.2701 Cognitive psychology and psycholinguistics)
- scientific computing (see 30.3001 Computational science)

16.0103 Language interpretation and translation

This instructional program class comprises any program that prepares individuals to be professional interpreters and/or translators of documents and data files, either from English or French into another language or languages or vice versa. These programs include courses of an intensive nature in one or more languages plus courses in subjects such as single and multiple-language interpretation, one- or two-way interpretation, simultaneous interpretation, general and literary translation, business translation, technical translation, and other specific applications of linguistic skills.

Illustrative example(s)
- health care interpreting

- interpreter translator
- languages and translation
- translation
- translation and interpretation

Exclusion(s)
- health (see 51.0000 Health services/allied health/health sciences, general)
- music performance (see 50.0903 Music performance, general)
- sign language interpretation (see 16.1603 Sign language interpretation and translation)

16.0104 Comparative literature

This instructional program class comprises any program that focuses on two or more literary traditions in the original languages or in translation. These programs include courses in comparative linguistics; applicable foreign languages; English/French language and literature; literary criticism; and applications to genre, period, national, and textual studies as well as literary forms such as poetry, prose, and drama.

Illustrative example(s)
- comparative Canadian literature
- comparative literature

Exclusion(s)
- English literature (see 23.1401 English literature, general)
- French general literature (see 55.1401 French literature, general)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)

16.0105 Applied linguistics

This instructional program class comprises any program that focuses on language-related concerns in the everyday world, including language education, acquisition of first and additional languages, discourse analysis, language assessment, literacy, and language policy and planning. These programs include courses in linguistic theory; language teaching and learning; discourse analysis; language and cognition; and language, culture, and identity.

Illustrative example(s)
- applied linguistics

Exclusion(s)
- English language, literature and linguistics (see 23.0101 English language and literature, general)
- French language, literature and linguistics (see 55.0101 French language and literature, general)
- linguistics (see 16.0102 Linguistics)
- linguistics of signed languages (see 16.1602 Linguistics of sign language)
- psycholinguistics (see 42.2701 Cognitive psychology and psycholinguistics)

16.0199 Linguistic, comparative and related language studies and services, other

This instructional program class comprises any program not listed above that relates to Linguistic, Comparative and related language studies and services.

Illustrative example(s)
- terminology and translation

Exclusion(s)
- interpreter translator (see 16.0103 Language interpretation and translation)

16.02 African languages, literatures and linguistics

This subseries comprises instructional program class 16.0201.

16.0201 African languages, literatures and linguistics

This instructional program class comprises any program that focuses on one or more of the languages native to the African continent, including, but not limited to, Bantu languages; Nilo-Saharan languages; Niger-Congo languages; Khoisan languages; and the Chadic and Ethiopic languages of the Hamito-Semitic language family. These programs include courses in philology, dialects, and oral and written literatures.

Illustrative example(s)
- African languages
- African languages and literature

Exclusion(s)
- African studies (see 05.0101 African studies)

16.03 East Asian languages, literatures and linguistics

This subseries comprises instructional program classes 16.0300 to 16.0399.

16.0300 East Asian languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on one or more of the languages of East Asia, including, but not limited to, the Sino-Tibetan, Japanese, and Korean languages. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- East Asian languages
- East Asian languages and literature

Exclusion(s)
- East Asian studies (see 05.0104 East Asian studies)
- oriental languages (see 16.9999 Aboriginal and foreign languages, literatures and linguistics, other)

16.0301 Chinese language and literature

This instructional program class comprises any program that focuses on the languages of China and associated dialects and literature. These programs include courses in philology, linguistics, dialects and pidgins, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Chinese
- Chinese language
- Chinese language and literature
- Chinese literature
- Mandarin

Exclusion(s)
- Chinese studies (see 05.0123 Chinese studies)

16.0302 Japanese language and literature

This instructional program class comprises any program that focuses on the Japanese language. These programs include courses in philology; ancient, medieval, and modern Japanese; dialects; and applications to business, science/technology, and other settings.

Illustrative example(s)
- Japanese
- Japanese language
- Japanese language and literature
- Japanese literature

Exclusion(s)
- Japanese studies (see 05.0127 Japanese studies)

16.0303 Korean language and literature

This instructional program class comprises any program that focuses on the Korean language. These programs include courses in philology; dialects; and applications to business, science/technology, and other settings.

Illustrative example(s)
- Korean
- Korean language
- Korean language and literature
- Korean literature

Exclusion(s)
- Korean studies (see 05.0128 Korean studies)

16.0304 Tibetan language and literature

This instructional program class comprises any program that focuses on the Tibetan language. These programs include courses in philology, secular and religious Tibetan, dialects, and applications to business, science/technology, Buddhist studies, and other settings.

Illustrative example(s)
- Tibetan language and literature

Exclusion(s)
- Tibetan Buddhism (see 38.0202 Buddhist studies)
- Tibetan studies (see 05.0131 Tibetan studies)

16.0399 East Asian languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to East Asian languages, literatures and linguistics.

Illustrative example(s)
- Ainu
- Formosan
- Manchu
- Miao
- Yuan

Exclusion(s)
- East Asian languages (see 16.0300 East Asian languages, literatures and linguistics, general)

16.04 Slavic, Baltic and Albanian languages, literatures and linguistics

This subseries comprises instructional program classes 16.0400 to 16.0499.

16.0400 Slavic languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on the Slavic languages of Central and Eastern Europe. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Slavic languages
- Slavic languages and literature
- Slavic linguistics
- Slavic literature
- Slavic philology

Exclusion(s)
- Slavic and East European studies (see 05.0199 Area studies, other)
- Slavic studies (see 05.0118 Slavic studies)

16.0401 Baltic languages, literatures and linguistics

This instructional program class comprises any program that focuses on the languages of the Baltic peoples, including, but not limited to, the modern languages of Latvian and Lithuanian, and extinct languages such as Old Prussian and Curionian. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Baltic languages
- Baltic languages and literature
- Latvian
- Lithuanian

Exclusion(s)
- Baltic studies (see 05.0117 Baltic studies)

16.0402 Russian language and literature

This instructional program class comprises any program that focuses on the Russian language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Russian
- Russian language
- Russian language and literature
- Russian literature
- Russian philology

Exclusion(s)
- European and Russian studies (see 05.0199 Area studies, other)
- Soviet and East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- Soviet studies (see 05.0110 Russian studies)

16.0404 Albanian language and literature

This instructional program class comprises any program that focuses on the Albanian language. These programs include courses in Albanian/Illyrian philology, Ghegg and Tosk dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Albanian
- Albanian language and literature
- Albanian literature

Exclusion(s)
- Balkan studies (see 05.0116 Balkan studies)

16.0405 Bulgarian language and literature

This instructional program class comprises any program that focuses on the Bulgarian language. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Bulgarian
- Bulgarian language and literature
- Bulgarian literature

Exclusion(s)
- Balkan studies (see 05.0116 Balkan studies)
- Slavic studies (see 05.0118 Slavic studies)

16.0406 Czech language and literature

This instructional program class comprises any program that focuses on the Czech language. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Czech
- Czech language and literature
- Czech literature

Exclusion(s)
- Slavic and East European studies (see 05.0199 Area studies, other)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)
- Slavic studies (see 05.0118 Slavic studies)

16.0407 Polish language and literature

This instructional program class comprises any program that focuses on the Polish language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Polish
- Polish language
- Polish language and literature
- Polish literature
- Polish philology

Exclusion(s)
- Polish studies (see 05.0129 Polish studies)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)

16.0408 Bosnian, Serbian, and Croatian languages and literatures

This instructional program class comprises any program that focuses on the Bosnian, Serbian and/or Croatian languages. These programs include courses in philology, dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Bosnian
- Croatian
- Croatian language and literature
- Croatian literature
- Serbian
- Serbian language and literature
- Serbian literature
- Serbo-Croatian

Exclusion(s)
- Balkan studies (see 05.0116 Balkan studies)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)
- Slavic studies (see 05.0118 Slavic studies)

16.0409 Slovak language and literature

This instructional program class comprises any program that focuses on the Slovak language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Slovak
- Slovak language and literature
- Slovak literature

Exclusion(s)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)
- Slavic studies (see 05.0118 Slavic studies)

16.0410 Ukrainian language and literature

This instructional program class comprises any program that focuses on the Ukrainian language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Ukrainian
- Ukrainian language and literature
- Ukrainian literature

Exclusion(s)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)
- Ukrainian studies (see 05.0132 Ukraine studies)

16.0499 Slavic, Baltic and Albanian languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Slavic, Baltic and Albanian languages, literatures and linguistics.

Illustrative example(s)
- Belarusian
- Kashubian
- Lusatian
- Macedonian
- Old Church Slavonic
- Slovenian
- Sorbian languages
- Wendish

Exclusion(s)
- Albanian language and literature (see 16.0404 Albanian language and literature)
- Baltic languages (see 16.0401 Baltic languages, literatures and linguistics)
- Slavic languages and literature (see 16.0400 Slavic languages, literatures and linguistics, general)

16.05 Germanic languages, literatures and linguistics

This subseries comprises instructional program classes 16.0500 to 16.0599.

16.0500 Germanic languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on the Germanic languages of Western, Central, and Northern Europe. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Germanic languages
- Germanic languages and literature
- Germanic linguistics
- Germanic literature
- Germanic philology

Exclusion(s)
- German language and literature (see 16.0501 German language and literature)
- German teacher (see 13.1326 German language teacher education)
- Germanic studies (see 05.0125 German studies)

16.0501 German language and literature

This instructional program class comprises any program that focuses on the German language and related dialects. These programs include courses in philology; dialects; and applications to business, science/technology, and other settings.

Illustrative example(s)
- German
- German language
- German language and literature
- German linguistics
- German literature
- German philology

Exclusion(s)
- German studies (see 05.0125 German studies)
- German teacher (see 13.1326 German language teacher education)
- Germanic languages (see 16.0500 Germanic languages, literatures and linguistics, general)

16.0502 Scandinavian languages, literatures and linguistics

This instructional program class comprises any program that focuses on one or more of the languages, literatures, and linguistics of the peoples of Scandinavia and associated Northern European island groups. These programs include courses that may involve multiple languages and language families, not be specific as to the name of the language(s) studied, or be otherwise undifferentiated.

Illustrative example(s)
- Scandinavian
- Scandinavian languages and literature
- Scandinavian languages, literature and linguistics
- Scandinavian literature

Exclusion(s)
- Scandinavian studies (see 05.0111 Scandinavian studies)

16.0503 Danish language and literature

This instructional program class comprises any program that focuses on the Danish language and related dialects. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Danish
- Danish language and literature
- Danish literature

Exclusion(s)
- Scandinavian languages, literature and linguistics (see 16.0502 Scandinavian languages, literatures and linguistics)
- Scandinavian studies (see 05.0111 Scandinavian studies)

16.0504 Dutch/Flemish language and literature

This instructional program class comprises any program that focuses on the Dutch language and related dialects. These programs include courses in philology, literature, Dutch Creoles, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Dutch
- Dutch language and literature
- Flemish
- Flemish literature

Exclusion(s)
- European studies (see 05.0106 European studies/civilization)
- Germanic languages (see 16.0500 Germanic languages, literatures and linguistics, general)

16.0505 Norwegian language and literature

This instructional program class comprises any program that focuses on the Norwegian language and related dialects. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Norwegian
- Norwegian language
- Norwegian language and literature
- Norwegian literature

Exclusion(s)
- Scandinavian languages, literature and linguistics (see 16.0502 Scandinavian languages, literatures and linguistics)
- Scandinavian studies (see 05.0111 Scandinavian studies)

16.0506 Swedish language and literature

This instructional program class comprises any program that focuses on the Swedish language and related dialects. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Swedish
- Swedish language
- Swedish language and literature
- Swedish literature

Exclusion(s)
- Scandinavian languages, literature and linguistics (see 16.0502 Scandinavian languages, literatures and linguistics)
- Scandinavian studies (see 05.0111 Scandinavian studies)

16.0599 Germanic languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Germanic languages, literatures and linguistics.

Illustrative example(s)
- Afrikaans
- Faeroese
- Frisian
- Gothic
- Icelandic
- Luxembourgetsch
- Old Norse
- Old Saxon
- Yiddish

Exclusion(s)
- German language and literature (see 16.0501 German language and literature)
- Germanic languages (see 16.0500 Germanic languages, literatures and linguistics, general)
- Germanic studies (see 05.0125 German studies)

16.06 Modern Greek language and literature

This subseries comprises instructional program class 16.0601.

16.0601 Modern Greek language and literature

This instructional program class comprises any program that focuses on the development and use of the Greek language in the period dating from the late 15th century to the present. These programs include courses in modern Greek literature, current Greek dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Greek
- Greek language and literature
- Greek literature
- modern Greek

Exclusion(s)
- ancient Greek (see 16.1202 Ancient/classical Greek language and literature)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)

16.07 South Asian languages, literatures and linguistics

This subseries comprises instructional program classes 16.0700 to 16.0799.

16.0700 South Asian languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on one or more of the languages, literatures, and linguistics of the peoples speaking languages of the Indian subcontinent and associated borderlands and island groups. These programs include courses that may involve multiple languages and language families, not be specific as to the name of the language(s) studied, or be otherwise undifferentiated.

Illustrative example(s)
- South Asian languages
- South Asian languages and literature
- South Asian literature

Exclusion(s)
- South Asian studies (see 05.0112 South Asian studies)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)

16.0701 Hindi language and literature

This instructional program class comprises any program that focuses on the Hindi language, antecessors, and related dialects. These programs include courses in philology, modern Hindi, Hindustani, related dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Hindi
- Hindi language
- Hindi language and literature
- Hindi literature

Exclusion(s)
- Hinduism (see 38.0204 Hindu studies)
- South Asian studies (see 05.0112 South Asian studies)

16.0702 Sanskrit and classical Indian languages, literatures and linguistics

This instructional program class comprises any program that focuses on Sanskrit and related ancient and classical Indo-Aryan languages. These programs include courses in Vedic and classical Sanskrit, Pali and other Prakrits, and the historical development of Indo-Aryan languages and their relation to Indo-European languages such as Greek, Latin and the Baltic languages.

Illustrative example(s)
- Sanskrit
- Sanskrit language and literature
- Sanskrit literature

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)
- South Asian studies (see 05.0112 South Asian studies)

16.0704 Bengali language and literature

This instructional program class comprises any program that focuses on the Bengali language (Bangla) and related dialects. These programs include courses in philology, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Bengali
- Bengali language and literature
- Bengali literature

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)

16.0705 Punjabi language and literature

This instructional program class comprises any program that focuses on the Punjabi language (Punjabi) and related dialects. These programs include courses in philology, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Punjabi
- Punjabi language
- Punjabi language and literature

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)

16.0706 Tamil language and literature

This instructional program class comprises any program that focuses on the Tamil language and related dialects. These programs include courses in philology, classical and modern Tamil, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Tamil
- Tamil language
- Tamil language and literature
- Tamil literature

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)

16.0707 Urdu language and literature

This instructional program class comprises any program that focuses on the Urdu language and related dialects. These programs include courses in philology, modern Urdu, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Urdu
- Urdu language and literature
- Urdu literature

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)

16.0799 South Asian languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to South Asian languages, literatures and linguistics.

Illustrative example(s)
- Assamese
- Gujarati
- Kannanda
- Marathi
- Nepalese
- Rajasthani
- Romany
- Sindhi
- Sinhalese
- Telugu

Exclusion(s)
- South Asian languages (see 16.0700 South Asian languages, literatures and linguistics, general)
- South Asian studies (see 05.0112 South Asian studies)

16.08 Iranian languages, literatures and linguistics

This subseries comprises instructional program class 16.0801.

16.0801 Iranian languages, literatures and linguistics

This instructional program class comprises any program that focuses on the languages used in ancient, medieval, and modern Iran and its border regions, including Persian; Avestan/Old Persian; and related modern and extinct languages. These programs include courses in applications of modern Persian and other languages in business, science/technology, and other settings.

Illustrative example(s)
- Iranian literature
- Persian
- Persian language and literature
- Persian literature

Exclusion(s)
- Near Eastern studies (see 05.0108 Near and Middle Eastern studies)

16.09 Romance languages, literatures and linguistics

This subseries comprises instructional program classes 16.0900 to 16.0999.

16.0900 Romance languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on the Romance languages of Western, Central, and Southern Europe. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Romance language and literature
- Romance languages
- Romance languages, literature and linguistics
- Romance linguistics
- Romance literature

Exclusion(s)
- European studies (see 05.0106 European studies/civilization)
- Romanian language and literature (see 16.0906 Romanian language and literature)

16.0902 Italian language and literature

This instructional program class comprises any program that focuses on the Italian language and related dialects. These programs include courses in philology, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Italian
- Italian language
- Italian language and literature
- Italian literature

Exclusion(s)
- Italian studies (see 05.0126 Italian studies)
- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)

16.0904 Portuguese language and literature

This instructional program class comprises any program that focuses on the Portuguese language and related dialects. These programs include courses in philology, Metropolitan Portuguese, Luso-Brazilian Portuguese, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Portuguese
- Portuguese language and literature
- Portuguese literature

Exclusion(s)
- Hispanic studies (see 05.0130 Spanish and Iberian studies)
- Latin American literature (see 16.0908 Hispanic and Latin American languages, literatures and linguistics, general)

- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)

16.0905 Spanish language and literature

This instructional program class comprises any program that focuses on the Spanish language and related dialects. These programs include courses in philology, modern Castillan, Latin American and regional Spanish dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Spanish
- Spanish language
- Spanish language and literature
- Spanish literature

Exclusion(s)
- Hispanic literature (see 16.0908 Hispanic and Latin American languages, literatures and linguistics, general)
- Hispanic studies (see 05.0130 Spanish and Iberian studies)
- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)
- Spanish as a second language (see 16.1799 Second language learning, other)
- Spanish teacher (see 13.1330 Spanish language teacher education)

16.0906 Romanian language and literature

This instructional program class comprises any program that focuses on the Romanian language and related dialects. These programs include courses in philology, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Romanian
- Romanian language and literature
- Romanian literature

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)

16.0907 Catalan language and literature

This instructional program class comprises any program that focuses on the Catalan language and related dialects. These programs include courses in philology, dialects, and applications in business, science/technology, and other settings.

Illustrative example(s)
- Catalan
- Catalan language and literature
- Catalan literature

Exclusion(s)
- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)
- Spanish studies (see 05.0130 Spanish and Iberian studies)

16.0908 Hispanic and Latin American languages, literatures and linguistics, general

This instructional program class comprises any program that focuses on the languages and literatures of the Spanish- and Portuguese-speaking areas of the world, including the Iberian, Latin American, and Lusophone worlds. These programs include courses in Spanish and Portuguese language and linguistics; regional and Latin American dialects; and Spanish, Portuguese, Spanish American, Luso-Brazilian, and Chicano literature.

Illustrative example(s)
- Hispanic language and literature
- Hispanic literature
- Latin American literature

Exclusion(s)
- Portuguese language and literature (see 16.0904 Portuguese language and literature)
- Spanish language and literature (see 16.0905 Spanish language and literature)

16.0999 Romance languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Romance languages, literatures and linguistics.

Illustrative example(s)
- Friulian
- Galician
- langue d'oc
- Occitan
- Provençal
- Rhaeto-Romansch
- Sardinian

Exclusion(s)
- Romance languages, literature and linguistics (see 16.0900 Romance languages, literatures and linguistics, general)
- Romanian language and literature (see 16.0906 Romanian language and literature)

16.10 Aboriginal languages, literatures and linguistics

This subseries comprises instructional program class 16.1001.

16.1001 Aboriginal languages, literatures and linguistics

This instructional program class comprises any program that focuses on the languages native to the Western Hemisphere. These programs include courses in philology; oral and written literatures; Inuit and Aleut languages; Hawaiian; North American language families, including, but not limited to, Algonkian, Athabascan, Siouan, Muskogean, Iroquoian, Yuman, Mayan, Zapotecan, and Uto-Aztecan; South American language families, including, but not limited to, Andean-Equatorial, Ge-Pano-Carib, and Macro-Chibchan, and other minor languages.

Illustrative example(s)
- Aboriginal language
- Aboriginal languages and literature
- Cree language
- Cree language studies
- Cree linguistics
- Dakota language studies
- First Nations language
- Innu language

- Native language studies
- Saulteaux language studies

Exclusion(s)
- Aboriginal studies (see 05.0202 Aboriginal studies)
- Polynesian languages (see 16.1401 Australian/Oceanic/Pacific languages, literatures and linguistics)

16.11 Middle/Near Eastern and Semitic languages, literatures and linguistics

This subseries comprises instructional program classes 16.1100 to 16.1199.

16.1100 Middle/Near Eastern and Semitic languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on one or more of the Middle/Near Eastern and Semitic languages of the ancient and modern Middle/Near East, Western Asia, North Africa, and Europe. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Semitic languages and literature

Exclusion(s)
- Arabic language, literature and linguistics (see 16.1101 Arabic language and literature)
- Hebrew language (see 16.1102 Hebrew language and literature)
- Near Eastern studies (see 05.0108 Near and Middle Eastern studies)
- Yiddish (see 16.0599 Germanic languages, literatures and linguistics, other)

16.1101 Arabic language and literature

This instructional program class comprises any program that focuses on the Arabic language. These programs include courses in philology, classical Arabic, modern Standard Arabic, dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Arabic
- Arabic language
- Arabic language, literature and linguistics
- Arabic literature

Exclusion(s)
- Islamic studies (see 38.0205 Islamic studies)
- Near Eastern studies (see 05.0108 Near and Middle Eastern studies)

16.1102 Hebrew language and literature

This instructional program class comprises any program that focuses on the Hebrew language. These programs include courses in philology, Biblical Hebrew (including Pre- and Post-Exilic scripts), modern Hebrew, dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Hebrew
- Hebrew language
- Hebrew language and literature

Exclusion(s)
- Biblical languages (see 16.1103 Ancient Near Eastern and Biblical languages, literatures and linguistics)

- Jewish studies (see 38.0206 Jewish/Judaic studies)
- Semitic languages and literature (see 16.1100 Middle/Near Eastern and Semitic languages, literatures and linguistics, general)

16.1103 Ancient Near Eastern and Biblical languages, literatures and linguistics

This instructional program class comprises any program that focuses on one or more of the extinct Semitic and/or Non-Semitic languages spoken in the ancient Near East, including those used to write historical Jewish and Christian religious texts. These languages include, but are not limited to, Egyptian/Coptic, Sumerian, Akkadian, Babylonian, Assyrian, Aramaic, Cannanite, Phonecian, Samarian, Ugaritic, Syriac, Mandean, Hattic, Elamite, Hurrian, Hittite, Urartian, Lydian, Luwian, Lycian, Palaic, Sabaean/South Arabian, and other associated languages. These programs include courses in philology, epigraphy, papyrology, numismatics, and textual studies.

Illustrative example(s)
- Biblical languages
- Biblical languages and literature
- Biblical literature

Exclusion(s)
- Biblical studies (see 39.0201 Bible/Biblical studies)
- Semitic languages and literature (see 16.1100 Middle/Near Eastern and Semitic languages, literatures and linguistics, general)

16.1199 Middle/Near Eastern and Semitic languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Middle/Near Eastern and Semitic languages, literatures and linguistics.

Illustrative example(s)
- Berber languages
- Cushitic languages
- Maltese
- modern Assyrian

Exclusion(s)
- Semitic languages and literature (see 16.1100 Middle/Near Eastern and Semitic languages, literatures and linguistics, general)

16.12 Classics and classical languages, literatures and linguistics

This subseries comprises instructional program classes 16.1200 to 16.1299.

16.1200 Classics and classical languages, literatures and linguistics, general

This instructional program class comprises any general program that focuses on the literary culture of the ancient Graeco-Roman world and the Greek and Latin languages and literatures and their development prior to the fall of the Roman Empire.

Illustrative example(s)
- classical languages
- classical literature
- classics

Exclusion(s)
- classical Greek (see 16.1202 Ancient/classical Greek language and literature)

- classical studies (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- English literature (see 23.1401 English literature, general)
- French general literature (see 55.1401 French literature, general)
- Greek language and literature (see 16.0601 Modern Greek language and literature)
- Latin (see 16.1203 Latin language and literature)
- Latin teacher education (see 13.1333 Latin teacher education)
- medieval studies (see 30.1301 Medieval and renaissance studies)

16.1202 Ancient/classical Greek language and literature

This instructional program class comprises any program that focuses on the Greek language and literature from its origins through the fall of the Byzantine (Eastern Roman) Empire, as a secular and/or theological subject. These programs include courses in philology, Attic and Hellenistic dialects, Koine (Biblical) Greek, and Medieval or Byzantine Greek.

Illustrative example(s)
- ancient Greek
- ancient Greek language and literature
- classical Greek

Exclusion(s)
- ancient Greek and Roman studies (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- Greek language and literature (see 16.0601 Modern Greek language and literature)

16.1203 Latin language and literature

This instructional program class comprises any program that focuses on the Latin language and literature from its origins through its decline and its current ecclesiastical usage, as a secular and/or theological subject. These programs include courses in philology, related Italic dialects, Late Roman and Medieval Latin, and modern Church Latin.

Illustrative example(s)
- Latin
- Latin language and literature
- Latin studies

Exclusion(s)
- Byzantine civilization (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- Latin teacher education (see 13.1333 Latin teacher education)
- medieval studies (see 30.1301 Medieval and renaissance studies)
- religious studies (see 38.0201 Religion/religious studies, general)

16.1299 Classics and classical languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Classics and classical languages, literatures and linguistics.

Illustrative example(s)
- Etruscan
- Oscan
- Samnian

Exclusion(s)
- ancient Greek (see 16.1202 Ancient/classical Greek language and literature)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- Latin (see 16.1203 Latin language and literature)

16.13 Celtic languages, literatures and linguistics

This subseries comprises instructional program class 16.1301.

16.1301 Celtic languages, literatures and linguistics

This instructional program class comprises any program that focuses on the historical and modern languages spoken by the Celtic peoples of the British Isles, Continental Europe, and Asia Minor including, but not limited to, modern languages such as Irish, Scots Gaelic, Welsh, and Breton; and extinct or revived languages such as Cornish, Manx, Galatian, and others. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Celtic languages
- Celtic languages and literature
- Celtic literature
- Welsh

Exclusion(s)
- Irish studies (see 05.0133 Irish studies)
- Western European studies (see 05.0114 Western European studies)

16.14 Southeast Asian and Australasian/Pacific languages, literatures and linguistics

This subseries comprises instructional program classes 16.1400 to 16.1499.

16.1400 Southeast Asian languages, literatures and linguistics, general

This instructional program class comprises any program that generally focuses on one or more of the modern languages spoken in mainland Southeast Asia and the Indonesian and Philippines Archipelagoes, including, but not limited to, members of the Thai, Tibeto-Burman, and Malayo-Polynesian language families. These programs include courses that may involve multiple languages and language families, not be specific as to the name of the language(s) studied, or be otherwise undifferentiated.

Illustrative example(s)
- Southeast Asian languages
- Southeast Asian languages and literature
- Southeast Asian literature

Exclusion(s)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1401 Australian/Oceanic/Pacific languages, literatures and linguistics

This instructional program class comprises any program that focuses on the languages native to Papua/New Guinea, Australia, New Zealand, and the island groups of the Pacific Ocean, including, but not limited to, the Papuan languages; the Australian languages; the Micronesian languages; and the Polynesian languages. These programs include courses in philology, linguistics, dialects and pidgins, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Australian languages
- Australian languages and literature
- Indo-Pacific languages
- Oceanic languages
- Oceanic languages and literature
- Oceanic literature
- Polynesian languages

Exclusion(s)
- Pacific and Asian studies (see 05.0109 Pacific Area/Pacific Rim studies)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)

16.1402 Indonesian/Malay languages and literatures

This instructional program class comprises any program that focuses on the Malay and Indonesian languages. These programs include courses in philology, dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Bahasa Indonesian
- Bahasa Indonesian languages and literature

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1403 Burmese language and literature

This instructional program class comprises any program that focuses on the Burmese language. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Burmese language
- Burmese language and literature

Exclusion(s)
- South Asian studies (see 05.0112 South Asian studies)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)

16.1404 Philippine/Tagalog language and literature

This instructional program class comprises any program that focuses on the modern Filipino/Tagalog language as used in the Philippines. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Filipino
- Tagalog
- Tagalog language and literature

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1405 Khmer/Cambodian language and literature

This instructional program class comprises any program that focuses on the Khmer language as spoken in Cambodia. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Cambodian
- Cambodian literature
- Khmer
- Khmer language and literature

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1406 Lao language and literature

This instructional program class comprises any program that focuses on the Lao language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Lao
- Laotian language and literature
- Laotian language

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1407 Thai language and literature

This instructional program class comprises any program that focuses on the Thai languages. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Thai
- Thai language and literature
- Thai literature

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1408 Vietnamese language and literature

This instructional program class comprises any program that focuses on the Vietnamese language. These programs include courses in philology, dialects, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Vietnamese
- Vietnamese language and literature
- Vietnamese literature

Exclusion(s)
- East Asian languages and literature (see 16.0300 East Asian languages, literatures and linguistics, general)
- Oriental languages (see 16.9999 Aboriginal and foreign languages, literatures and linguistics, other)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.1499 Southeast Asian and Australasian/Pacific languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Southeast Asian and Australasian/Pacific languages, literatures and linguistics.

Illustrative example(s)
- Achinese
- Batak
- Bisayan
- Kachin
- Karen
- Lolo-Moso
- Madurese
- Makasarese
- Malagasy
- Sundan

Exclusion(s)
- Southeast Asian languages (see 16.1400 Southeast Asian languages, literatures and linguistics, general)
- Southeast Asian studies (see 05.0113 Southeast Asian studies)

16.15 Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics

This subseries comprises instructional program classes 16.1501 to 16.1599.

16.1501 Turkish language and literature

This instructional program class comprises any program that focuses on the Turkish language in either or both of its pre-modern and modern variants. These programs include courses in philology, Ottoman Turkish, modern Turkish, dialects, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Turkish
- Turkish language and literature
- Turkish literature

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- Near Eastern studies (see 05.0108 Near and Middle Eastern studies)

16.1502 Uralic languages, literatures and linguistics

This instructional program class comprises any program that focuses on Uralic languages, including, but not limited to, Finnish, Estonian, Karelian, and Sami. These programs include courses in philology, oral and written literatures, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Estonian
- Finnish

- Finnish language and literature
- Finnish literature

Exclusion(s)
- Scandinavian languages, literature and linguistics (see 16.0502 Scandinavian languages, literatures and linguistics)
- Scandinavian studies (see 05.0111 Scandinavian studies)

16.1503 Hungarian/Magyar language and literature

This instructional program class comprises any program that focuses on the Hungarian language. These programs include courses in philology, literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Hungarian
- Hungarian language and literature
- Hungarian literature

Exclusion(s)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)

16.1504 Mongolian language and literature

This instructional program class comprises any program that focuses on the Mongolian language. These programs include courses in philology, dialects, oral and written literature, and applications to business, science/technology, and other settings.

Illustrative example(s)
- Mongolian
- Mongolian language and literature
- Mongolian literature

Exclusion(s)
- Central Asian studies (see 05.0120 Ural-Altaic and Central Asian studies)
- Oriental languages (see 16.9999 Aboriginal and foreign languages, literatures and linguistics, other)

16.1599 Turkic, Uralic-Altaic, Caucasian and Central Asian languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Turkic, Uralic-Altaic, Caucasian, and Central Asian languages, literatures, and linguistics.

Illustrative example(s)
- Altaic
- Armenian
- Bashkir
- Chechen-Ingushetian
- Georgian
- Kazakh
- Kirghiz
- Turkmen
- Uighur
- Uzbek

16.16 Sign language

This subseries comprises instructional program classes 16.1601 to 16.1699.

16.1601 American Sign Language (ASL)/Langue des signes québécoise (LSQ)

This instructional program class comprises any program that focuses on American Sign Language (ASL) and/or Langue des signes québécoise (LSQ) as visual and motor media of communication and discourse for deaf individuals and deaf culture. These programs include courses in the development of ASL/LSQ, ASL/LSQ morphology and syntax, signing technique, English and/or French translation of ASL/LSQ, formal and colloquial ASL/LSQ, and ASL/LSQ transcription.

Illustrative example(s)
- American Sign Language
- ASL
- langue des signes québécoise
- LSQ
- sign language

Exclusion(s)
- deaf studies and ASL (see 05.0211 Deaf studies)
- linguistics of signed languages (see 16.1602 Linguistics of sign language)
- sign language interpretation (see 16.1603 Sign language interpretation and translation)
- teacher of the deaf (see 13.1003 Education/teaching of individuals with hearing impairments including deafness)

16.1602 Linguistics of sign language

This instructional program class comprises any program that focuses on the scientific and scholarly study of the development, structure, and use of American Sign Language (ASL), Langue des signes québécoise (LSQ) and other visual signed languages, both as vehicles for communication within the deaf community and in relation to spoken and written languages. These programs include courses in cognitive linguistics; sign language phonology, syntax, and morphology; sociolinguistics of the deaf community; comparative linguistics; and studies of specific sign languages, including, but not limited to, ASL, LSQ, Auslan (Australian Sign Language), LSF (Langue des signes française), Shuwa jiten (Japanese Sign Language), HamNoSys (German Sign Language), and Gestuno.

Illustrative example(s)
- linguistics of signed languages

Exclusion(s)
- American Sign Language (see 16.1601 American Sign Language (ASL)/Langue des signes québécoise (LSQ))
- applied linguistics (see 16.0105 Applied linguistics)
- sign language interpretation (see 16.1603 Sign language interpretation and translation)

16.1603 Sign language interpretation and translation

This instructional program class comprises any program that prepares individuals to function as simultaneous interpreters of American Sign Language (ASL), Langue des signes québécoise (LSQ), and other sign language systems employed to assist the hearing impaired, both one-way and two-way. These programs include courses in sign language, finger spelling, vocabulary and expressive nuances, oral and physical translation skills, cross-cultural communications, slang and colloquialisms, and technical interpretation.

Illustrative example(s)
- American Sign Language interpreting
- ASL interpreting

- sign language communicator
- sign language interpretation

16.1699 Sign language, other

This instructional program class comprises any program not listed above that relates to Sign language.

16.17 Second language learning CAN

This subseries comprises instructional program classes 16.1701 to 16.1799.

16.1701 English as a second language CAN

This instructional program class comprises any program that focuses on the development of proficiency in reading, writing, and speaking English for those for whom English is not their mother tongue. These programs include courses in the use of basic communication skills to develop and transmit ideas and thoughts in English as well as specialized programs that focus on the development of proficiency in English sufficient to meet specific occupational or academic demands. Note: These programs are for academic credit towards a postsecondary credential. For second language programs that are not for academic credit towards a postsecondary credential, see 32.0109.

Illustrative example(s)
- English as a second language
- ESL

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- English as a second language (not for credit) (see 32.0109 Second language learning (not for credit))
- English teacher (see 13.1305 English/English language arts teacher education)
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)

16.1702 French as a second language CAN

This instructional program class comprises any program that focuses on the development of proficiency in reading, writing, and speaking French for those for whom French is not their mother tongue. These programs include courses in the use of basic communication skills to develop and transmit ideas and thoughts in French as well as specialized programs that focus on the development of proficiency in French sufficient to meet specific occupational or academic demands. Note: These programs are for academic credit towards a postsecondary credential. For second language programs that are not for academic credit towards a postsecondary credential, see 32.0109.

Illustrative example(s)
- French as a second language
- FSL

Exclusion(s)
- bilingual and multilingual education (see 13.0201 Bilingual and multilingual education)
- French as a second language (not for credit) (see 32.0109 Second language learning (not for credit))
- French teacher (see 13.1325 French language/French language arts teacher education)
- teaching French as a second language (see 13.1402 Teaching French as a second or foreign language)

16.1799 Second language learning, other CAN

This instructional program class comprises any program not listed above that relates to Second language learning. Note: These programs are for academic credit towards a postsecondary credential. For second language programs that are not for academic credit towards a postsecondary credential, see 32.0109.

Illustrative example(s)
- Native as a second language
- second language learning
- Spanish as a second language

Exclusion(s)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))

16.99 Aboriginal and foreign languages, literatures and linguistics, other

This subseries comprises instructional program class 16.9999.

16.9999 Aboriginal and foreign languages, literatures and linguistics, other

This instructional program class comprises any program not listed above that relates to Aboriginal and foreign languages, literatures and linguistics.

Illustrative example(s)
- Basque
- Oriental languages

Exclusion(s)
- teaching foreign languages (see 13.1306 Aboriginal and foreign language teacher education)

19. Family and consumer sciences/human sciences

This series comprises instructional programs that focus on the human interface with the physical, social, emotional, and intellectual environments and the developmental stages and needs of individuals in the interrelated spheres of family, workplace, and community.

19.00 Work and family studies

This subseries comprises instructional program class 19.0000.

19.0000 Work and family studies

This instructional program class comprises any introductory program that focuses on family and consumer science concepts and principles at the basic and vocational levels, and the various potential career paths open to interested students. These programs include courses in career, community, and family connections; family and family/consumer resources; human development; interpersonal relationships; nutrition and wellness; parenting; and career possibilities in various related areas.

Illustrative example(s)
- family studies

Exclusion(s)
- family and child studies (see 19.0701 Human development and family studies, general)
- family and consumer sciences communications (see 19.0202 Family and consumer sciences/human sciences communication)

- family and consumer studies (see 19.0201 Business, family and consumer sciences/human sciences)
- family systems (see 19.0704 Family systems)
- home economics (see 19.0101 Family and consumer sciences/human sciences, general)
- human services (see 44.0000 Human services, general)

19.01 Family and consumer sciences/human sciences, general

This subseries comprises instructional program class 19.0101.

19.0101 Family and consumer sciences/human sciences, general

This instructional program class comprises any general program that focuses on family and consumer sciences, including how individuals develop and function in family, work, and community settings and how they relate to their physical, social, emotional, and intellectual environments.

Illustrative example(s)
- applied human sciences
- domestic science
- family science
- family social sciences
- home economics
- household science
- human ecology

Exclusion(s)
- consumer economics (see 19.0402 Consumer economics)
- consumer sciences (see 19.0201 Business, family and consumer sciences/human sciences)
- consumer services (see 19.0403 Consumer services and advocacy)
- ecology (see 26.1301 Ecology)
- family and consumer sciences communications (see 19.0202 Family and consumer sciences/human sciences communication)
- family and consumer studies teaching (see 13.1308 Family and consumer sciences/home economics teacher education)
- family resource management (see 19.0401 Family resource management studies, general)
- family studies (see 19.0000 Work and family studies)
- human services (see 44.0000 Human services, general)
- humanities, art and literature (see 24.0103 Humanities/humanistic studies)
- sociology (see 45.1101 Sociology)

19.02 Family and consumer sciences/human sciences business services

This subseries comprises instructional program classes 19.0201 to 19.0299.

19.0201 Business, family and consumer sciences/human sciences

This instructional program class comprises any program that focuses on the relationship between the economy and the consuming individual and family. These programs include courses in consumption theory and practice, the production and distribution of retail goods and services, and the management of business enterprises.

Illustrative example(s)
- consumer behaviour
- consumer sciences
- consumer studies
- family and consumer studies

Exclusion(s)
- family and consumer sciences communications (see 19.0202 Family and consumer sciences/human sciences communication)
- family and consumer studies teaching (see 13.1308 Family and consumer sciences/home economics teacher education)

19.0202 Family and consumer sciences/human sciences communication

This instructional program class comprises any program that focuses on communication of human sciences subject matter and related consumer information to a variety of audiences through print and non-print media.

Illustrative example(s)
- family and consumer sciences communications

Exclusion(s)
- communication studies (see 09.0100 Communication, general)
- consumer sciences (see 19.0201 Business, family and consumer sciences/human sciences)
- family and consumer studies teaching (see 13.1308 Family and consumer sciences/home economics teacher education)

19.0203 Consumer merchandising/retailing management

This instructional program class comprises any program that focuses on product and service promotion from the perspective of individual and family consumers and that prepares individuals to function as consumer management and marketing consultants in for-profit and non-profit enterprises. These programs include courses in applied market research; consumer behaviour; product sourcing and distribution; profitability; customer feedback and evaluation methods; promotion and retailing campaign development; and applications to specific domestic and international consumer markets.

Exclusion(s)
- marketing (see 52.1401 Marketing/marketing management, general)
- marketing research (see 52.1402 Marketing research)
- retail merchandising (see 52.1802 Merchandising and buying operations)

19.0299 Family and consumer sciences/human sciences business services, other

This instructional program class comprises any program not listed above that relates to Family and consumer sciences/human sciences business services.

19.04 Family and consumer economics and related services

This subseries comprises instructional program classes 19.0401 to 19.0499.

19.0401 Family resource management studies, general

This instructional program class comprises any general program that focuses on the design and implementation of policies and processes contributing to successful individual and family resource management. These programs include courses in financial goal-setting and strategies; household income, assets, and debt management; preventing and resolving financial difficulties; and the use of relevant public resources.

Illustrative example(s)
- family resource management

Exclusion(s)
- consumer economics (see 19.0402 Consumer economics)
- financial planning (see 52.0804 Financial planning and services)

- home economics education (see 13.1308 Family and consumer sciences/home economics teacher education)

19.0402 Consumer economics

This instructional program class comprises any program that focuses on the application of micro- and macro-economic theory to consumer behaviour and individual and family consumption of goods and services. These programs include courses in modelling, economic forecasting, indexing, price theory, and analysis of individual commodities and services and/or groups of related commodities and services.

Illustrative example(s)
- consumer economics

Exclusion(s)
- economics (see 45.0601 Economics, general)
- family resource management (see 19.0401 Family resource management studies, general)
- home economics (see 19.0101 Family and consumer sciences/human sciences, general)
- social economics (see 45.0699 Economics, other)

19.0403 Consumer services and advocacy

This instructional program class comprises any program that focuses on providing end-use advice and representational services to individuals and groups within a variety of settings, and the analytical and research techniques needed to protect consumers from unsafe, unreliable, and/or unhealthy products and services. These programs include courses in consumer advocacy, family management systems, ecological impacts of consumption practices, and analyzing and testing product quality and safety.

Illustrative example(s)
- consumer education and advocacy
- consumer protection
- consumer services

Exclusion(s)
- community advocacy (see 44.0201 Community organization and advocacy)
- consumer studies (see 19.0201 Business, family and consumer sciences/human sciences)
- family and consumer sciences communications (see 19.0202 Family and consumer sciences/human sciences communication)

19.0499 Family and consumer economics and related services, other

This instructional program class comprises any program not listed above that relates to Family and consumer economics and related services.

19.05 Foods, nutrition and related services

This subseries comprises instructional program classes 19.0501 to 19.0599.

19.0501 Foods, nutrition and wellness studies, general

This instructional program class comprises any general program that focuses on the role of foods and nutrition in human health and wellness. These programs include courses in nutritional care and education, the planning and provision of food services, the development of consumable food products, life-span nutrition and wellness, the principles of nutritional assessment, and food safety and food composition.

Illustrative example(s)
- food and nutrition

- food, nutrition and health
- nutrition
- nutrition and wellness

Exclusion(s)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- food science (see 01.1001 Food science)
- nutrition science (see 30.1901 Nutrition sciences)
- nutritionist (see 51.3102 Clinical nutrition/nutritionist)

19.0504 Human nutrition

This instructional program class comprises any program that focuses on the relationships between food consumption and human development and health. These programs include courses in the cellular and molecular processes of food processing in the human body, related metabolic processes, the relationship of food and nutrition to disease, and nutritional needs across the lifespan.

Illustrative example(s)
- applied human nutrition
- food and human nutrition
- human nutrition

Exclusion(s)
- animal nutrition (see 01.0904 Animal nutrition)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)
- food science (see 01.1001 Food science)
- nutrition science (see 30.1901 Nutrition sciences)
- nutritionist (see 51.3102 Clinical nutrition/nutritionist)

19.0505 Foodservice systems administration/management

This instructional program class comprises any program that focuses on the principles and practices relating to the administration of food service systems in institutional settings, and that prepares individuals to manage such operations in public and private facilities. These programs include courses in human nutrition, food safety, the design and organization of food service systems, purchasing, personnel management, and related business practices.

Illustrative example(s)
- dietary and food service management
- food services management
- nutrition and food service management

Exclusion(s)
- food and beverage service (see 12.0507 Food service, waiter/waitress and dining room management/manager)
- hospitality administration (see 52.0901 Hospitality administration/management, general)
- hotel management (see 52.0904 Hotel/motel administration/management)
- restaurant culinary management (see 12.0504 Restaurant, culinary and catering management/manager)
- restaurant manager (see 52.0905 Restaurant/food services management)

19.0599 Foods, nutrition and related services, other

This instructional program class comprises any program not listed above that relates to Foods, nutrition and related services.

19.06 Housing and human environments

This subseries comprises instructional program classes 19.0601 to 19.0699.

19.0601 Housing and human environments, general

This instructional program class comprises any general program that focuses on the behavioural, social, economic, functional, and aesthetic aspects of housing, interiors, and other built environments. These programs include courses in analyzing, planning, designing, furnishing, and equipping residential, work, and leisure spaces to meet user needs and the study of related public policies.

Illustrative example(s)
- housing and human environments

Exclusion(s)
- environmental design (see 04.0401 Environmental design/architecture)
- home decorating (see 19.0605 Home furnishings and equipment installers)
- interior architecture (see 04.0501 Interior architecture)
- interior design (see 50.0408 Interior design)

19.0604 Facilities planning and management

This instructional program class comprises any program that focuses on strategic workplace and facility planning and that prepares individuals to function as facility and event managers and workplace consultants. These programs include courses in the principles of aesthetic and functional design; environmental psychology and organizational behaviour; real estate planning; principles of occupational health and safety; event planning and management; operations management; and applicable regulatory and policy issues.

Illustrative example(s)
- facilities management
- facility planning

Exclusion(s)
- building service technician (see 46.0401 Building/property maintenance)
- hotel management (see 52.0904 Hotel/motel administration/management)
- meeting and event planning (see 52.0907 Meeting and event planning)
- recreation administration (see 31.0504 Sport and fitness administration/management)
- sports centre management (see 31.0301 Parks, recreation and leisure facilities management, general)

19.0605 Home furnishings and equipment installers

This instructional program class comprises any program that prepares individuals to assist in home furnishings and decorations. These programs include courses in selecting, purchasing, designing and decorating; home furnishings and equipment; floral design; accessory construction; textiles; and upholstery.

Illustrative example(s)
- home decorating
- interior decorating
- residential decorator

Exclusion(s)
- carpet, flooring, and tile technician (see 46.0413 Carpet, floor, and tile worker)
- environmental design (see 04.0401 Environmental design/architecture)
- floral design (see 01.0608 Floriculture/floristry operations and management)
- house painting (see 46.0408 Painting/painter and wall coverer)
- interior architecture (see 04.0501 Interior architecture)

- interior design (see 50.0408 Interior design)

19.0699 Housing and human environments, other

This instructional program class comprises any program not listed above that relates to Housing and human environments.

19.07 Human development, family studies and related services

This subseries comprises instructional program classes 19.0701 to 19.0799.

19.0701 Human development and family studies, general

This instructional program class comprises any general program that focuses on basic human developmental and behavioural characteristics of the individual within the context of the family. These programs include courses in the conditions that influence human growth and development; strategies that promote growth and development across the lifespan; and the study of family systems.

Illustrative example(s)
- child and youth care
- family and child studies
- human development studies
- Native family and child development

Exclusion(s)
- applied human sciences (see 19.0101 Family and consumer sciences/human sciences, general)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child development (see 19.0706 Child development)
- family studies (see 19.0000 Work and family studies)
- family systems (see 19.0704 Family systems)

19.0702 Adult development and aging

This instructional program class comprises any program that focuses on the characteristics of aging populations and the needs of older individuals in family and institutional settings. These programs include courses in the biological and psychological stages of aging; the provision of dependent care; serving the social, economic, and psychological needs of aging adults; related public policy issues; and adult community resources.

Illustrative example(s)
- adult development
- gerontological services

Exclusion(s)
- adult health nursing (see 51.3803 Adult health nurse/nursing)
- geriatric medicine - residency (see 60.0520 Geriatric medicine residency programs)
- geriatric nursing (see 51.3821 Geriatric nurse/nursing)
- gerontology (see 30.1101 Gerontology)
- geropsychology (see 42.2809 Geropsychology)
- home support aide (see 51.2602 Home health aide/home attendant)

19.0704 Family systems

This instructional program class comprises any program that focuses on the family as a social unit in its developmental, dynamic, comparative, and structural aspects, and the significance of the family as a system that impacts individuals and society. These programs include courses in related principles of sociology, psychology, behavioural sciences, and the humanities.

Illustrative example(s)
- family relations
- family systems

Exclusion(s)
- behavioural science (see 30.1701 Behavioural sciences)
- family and child studies (see 19.0701 Human development and family studies, general)
- family psychology (see 42.2811 Family psychology)
- family studies (see 19.0000 Work and family studies)
- family therapy (see 51.1505 Marriage and family therapy/counselling)

19.0706 Child development

This instructional program class comprises any program that focuses on the intellectual, social, emotional, and biological development of children and the planning and design of related human services. These programs include courses in parent-child relations; parenting practices; special needs of children; parental and environmental influences on child development; external support services; and related public policy issues.

Illustrative example(s)
- applied child studies
- child and youth studies
- child development
- child growth, care and development studies
- child studies
- childhood development
- early child development
- early childhood development

Exclusion(s)
- birthing and parenting knowledge and skills (see 34.0102 Birthing and parenting knowledge and skills (not for credit))
- child and youth care (see 19.0701 Human development and family studies, general)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child care (see 19.0709 Child care provider/assistant)
- child psychology (see 42.2703 Developmental and child psychology)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)

19.0707 Family and community services

This instructional program class comprises any program that focuses on the development and implementation of public, private, and voluntary support services for individuals, families, and localities and that prepares individuals to function in a variety of occupations promoting family life, and family/community development. These programs include courses in family systems, human development, social services, community social and economic development, social policy, voluntary sector activities, and outreach and community education.

Illustrative example(s)
- community development worker
- community service worker
- community services
- community support worker

Exclusion(s)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- community advocacy (see 44.0201 Community organization and advocacy)
- community awareness (see 33.0103 Community awareness (not for credit))
- community health services (see 51.1504 Community health services/liaison/counselling)

- community involvement (see 33.0104 Community involvement (not for credit))
- disability and community rehabilitation (see 19.0710 Developmental services worker)
- human services counsellor (see 44.0000 Human services, general)
- social work (see 44.0701 Social work, general)

19.0708 Child care and support services management

This instructional program class comprises any program that focuses on the provision and management of child care services and that prepares individuals to plan, design, and manage child care facilities and programs that meet children's developmental needs and interests and that provide safe and healthy environments. These programs include courses in child development and psychology; home- and institution-based child care; identification of diseases, injuries, and psychological trauma and applicable referrals; parent relations; personnel and business management principles; and related laws and policies.

Illustrative example(s)
- child care administration
- child care centre administration
- child care management
- child day care management
- daycare management

Exclusion(s)
- child and youth care (see 19.0701 Human development and family studies, general)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child care (see 19.0709 Child care provider/assistant)
- child development (see 19.0706 Child development)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)
- guidance counsellor (see 13.1101 Counsellor education/school counselling and guidance services)

19.0709 Child care provider/assistant

This instructional program class comprises any program that prepares individuals to be primary providers of home, family, residential, or institutional-based child care services. These programs include courses in child growth and development; nutrition; recreation; planning and supervision of play and learning activities; child abuse and neglect prevention; parent-child relationships; and applicable legal and administrative requirements.

Illustrative example(s)
- child care
- child care assistant
- child care services
- child care worker
- day care services
- daycare assistant
- daycare provider
- daycare worker
- early childhood education (college)
- early childhood educator assistant

Exclusion(s)
- child and youth care (see 19.0701 Human development and family studies, general)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child and youth studies (see 19.0706 Child development)
- child care management (see 19.0708 Child care and support services management)
- early childhood education teaching (Bachelor) (see 13.1210 Early childhood education and teaching)

19.0710 Developmental services worker

This instructional program class comprises any program that prepares individuals to apply practical knowledge and skills to support individuals with a variety of physical, mental or developmental disabilities in a family or community setting. These programs include courses in health care, basic nutrition, pharmacology, nursing, autism, mental health, psychology, sociology, behavioural analysis, communication, intervention, counselling and community services, and developmental services, such as literacy and life skills training.

Illustrative example(s)
- developmental services worker
- disability and community rehabilitation
- DSW

Exclusion(s)
- child and youth worker (see 44.0702 Youth services/administration)
- community development worker (see 19.0707 Family and community services)
- developmental education, general (see 32.0101 Basic skills, general (not for credit))
- disability studies (see 05.0210 Disability studies)
- education of individuals who are developmentally delayed (see 13.1014 Education/teaching of individuals who are developmentally delayed)
- human services (see 44.0000 Human services, general)

19.0799 Human development, family studies and related services, other

This instructional program class comprises any program not listed above that relates to Human development, family studies and related services.

19.09 Apparel and textiles

This subseries comprises instructional program classes 19.0901 to 19.0999.

19.0901 Apparel and textiles, general

This instructional program class comprises any general program that focuses on the development of textile products and their distribution and use in terms of the psychological, social, economic, and physical needs of consumers. These programs include courses in the production, distribution, marketing, and end use of various apparel and textile products.

Illustrative example(s)
- clothing and textiles

Exclusion(s)
- textile arts (see 50.0712 Fibre, textile and weaving arts)
- textile engineering (see 14.2801 Textile sciences and engineering)
- textile manufacturing (see 19.0902 Apparel and textile manufacture)
- textile science (see 19.0904 Textile science)

19.0902 Apparel and textile manufacture

This instructional program class comprises any program that focuses on the design, development, and production of textile products and related processes and systems. These programs include courses in functional and aesthetic design, human factors research, production planning, manufacturing processes, quality assessment, and distribution systems.

Illustrative example(s)
- apparel production management

- fabric design
- fashion production
- industrial production of clothing
- textile design
- textile manufacturing
- textile production

Exclusion(s)
- apparel design (see 50.0407 Fashion/apparel design)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- dressmaking (see 19.0999 Apparel and textiles, other)
- textile arts (see 50.0712 Fibre, textile and weaving arts)
- textile engineering (see 14.2801 Textile sciences and engineering)
- textile science (see 19.0904 Textile science)

19.0904 Textile science

This instructional program class comprises any program that focuses on the properties and processing of fibres, yarns, whole fabrics, dyes, and finishes, both natural and synthetic. These programs include courses in the chemical and physical properties of textile materials; end-use analysis; interior furnishing applications; and industrial applications.

Illustrative example(s)
- dye chemistry
- textile chemist
- textile chemistry
- textile science
- textile technology

Exclusion(s)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- textile arts (see 50.0712 Fibre, textile and weaving arts)
- textile engineering (see 14.2801 Textile sciences and engineering)
- textile manufacturing (see 19.0902 Apparel and textile manufacture)

19.0905 Apparel and textile marketing management

This instructional program class comprises any program that focuses on marketing research and management as applied to the products and services of the apparel and textile industries. These programs include courses in applicable principles of textile and apparel design and manufacturing, sales and distribution systems, domestic and international market research, profitability, consumer research, and the design and implementation of marketing campaigns.

Illustrative example(s)
- apparel marketing management
- fashion management
- international fashion development and management

Exclusion(s)
- apparel production management (see 19.0902 Apparel and textile manufacture)
- fashion retail (see 52.1904 Apparel and accessories marketing operations)
- marketing management (see 52.1401 Marketing/marketing management, general)
- sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)
- textile technology (see 19.0904 Textile science)

19.0906 Fashion and fabric consultant

This instructional program class comprises any program that prepares individuals to assist in apparel and fashion selection, style coordination, customer sales and consulting, fabric selection, clothing specifications, and contract buying activities. These programs include courses in supplying regular clothing needs or acting as a consultant for special events such as weddings.

Illustrative example(s)
- fabric consultant
- fashion consultant
- fashion sales and consulting

Exclusion(s)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- fashion design and technology (see 50.0407 Fashion/apparel design)
- fashion merchandising (see 52.1902 Fashion merchandising)
- fashion sales representative (see 52.1904 Apparel and accessories marketing operations)

19.0999 Apparel and textiles, other

This instructional program class comprises any program not listed above that relates to Apparel and textiles.

Illustrative example(s)
- custom tailoring and alterations
- dressmaker
- dry cleaning
- dry cleaning and clothing maintenance
- furrier
- industrial power sewing
- leather apparel tailoring and accessory production
- sewing
- tailor

Exclusion(s)
- fashion design (see 50.0407 Fashion/apparel design)
- shoe making (see 48.0304 Shoe, boot and leather repair)

19.99 Family and consumer sciences/human sciences, other

This subseries comprises instructional program class 19.9999.

19.9999 Family and consumer sciences/human sciences, other

This instructional program class comprises any program not listed above that relates to Family and consumer sciences/human sciences.

21. Pre-technology education/pre-industrial arts programs CAN

This series comprises instructional programs that provide individuals with knowledge, learning experiences and competencies pertaining to aspects of industry and technology. The programs are also designed to assist individuals in making informed occupational choices and provide preparation for entry into occupational training or education programs.

21.01 Pre-technology education/pre-industrial arts programs CAN

This subseries comprises instructional program class 21.0101.

21.0101 Pre-technology education/pre-industrial arts programs CAN

This instructional program class comprises any pre-trade program that focuses on technological concepts, processes and systems, such as the evolution, utilization and significance of technology as related to industry, and its organization, personnel, systems, techniques, resources and products. These programs, which are taught at various educational levels, include courses in technological literacy, basic applied science, specific technologies and their applications, and related methods of research and experimentation.

Illustrative example(s)
- introduction to trades
- orientation to trades
- pre-trades

Exclusion(s)
- construction trades (see 46.0000 Construction trades, general)
- industrial design (see 50.0404 Industrial and product design)
- machine shop technology (see 48.0503 Machine shop technology/assistant)
- technology education (see 13.1309 Technology teacher education/industrial arts teacher education)

22. Legal professions and studies

This series comprises instructional programs that prepare individuals for the legal profession, for related support professions and professional legal research, and focus on the study of legal issues in non-professional programs.

22.00 Non-professional general legal studies (undergraduate)

This subseries comprises instructional program classes 22.0000 and 22.0001.

22.0000 Legal studies, general

This instructional program class comprises any general program that focuses on law and legal issues from the perspective of the social sciences and humanities.

Illustrative example(s)
- legal studies
- legal studies, Bachelor of Arts
- legal studies, certificate
- legal studies, college diploma
- legal studies, Master of Arts

Exclusion(s)
- lawyer (see 22.0101 Law (LLB, JD, BCL))

22.0001 Pre-law studies

This instructional program class comprises any program that prepares individuals for the professional study of law at the post-baccalaureate level.

Illustrative example(s)
- prelaw
- prelaw program

- prelaw studies

22.01 Law (LLB, JD, BCL)

This subseries comprises instructional program class 22.0101.

22.0101 Law (LLB, JD, BCL)

This instructional program class comprises any program that prepares individuals for the independent professional practice of common or civil law, for becoming a Quebec notary, for taking bar examinations, and for advanced research in jurisprudence. These programs include courses in the theory and practice of the legal system, including the statutory, administrative, and judicial components of civil and criminal law.

Illustrative example(s)
- Bachelor of Law (LLB)
- bar admission course
- civil law (except graduate level)
- common law (except graduate level)
- criminal law (except graduate level)
- Juris Doctor (JD)
- law (except graduate level)
- lawyer
- notary (Quebec)

Exclusion(s)
- business law (graduate level) (see 22.0205 Banking, corporate, finance and securities law (LLM, LLD, JSD/SJD))
- environmental law (graduate level) (see 22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD))
- information and technology law (graduate level) (see 22.0212 Intellectual property law (LLM, LLD, JSD/SJD))
- international business law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- international law (graduate level) (see 22.0209 International law and legal studies (LLM, LLD, JSD/SJD))
- international public policy (see 44.0504 International public policy analysis)
- law clerk (see 22.0302 Legal assistant/paralegal)
- legal studies (see 22.0000 Legal studies, general)
- notary public (see 22.9999 Legal professions and studies, other)

22.02 Legal research and advanced professional studies (post-LLB/JD)

This subseries comprises instructional program classes 22.0201 to 22.0299.

22.0201 Advanced legal research/studies, general (LLM, MCL, MLI, MSL, LLD, JSD/SJD)

This instructional program class comprises any integrated or undifferentiated program in one or more of the legal research or advanced practice fields.

Illustrative example(s)
- advanced legal studies, general (graduate level)
- Legum Doctor (LLD)
- Legum Magister (LLM)
- Scientiae Juridicae Doctor (JSD/SJD)

22.0202 Programs for foreign lawyers (LLM, MCL)

This instructional program class comprises any program that prepares lawyers educated outside Canada and the United States to understand Canadian or U.S. law and jurisprudence.

Illustrative example(s)
- foreign lawyer trainee program (graduate level)

22.0203 American/US law/legal studies/jurisprudence (LLM, MCJ, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the U.S. legal system, Constitution law, and jurisprudence. These programs include courses in legal history, legal sociology, philosophy of law, Constitutional law, legal procedure, and related topics.

Illustrative example(s)
- American justice studies (graduate level)
- American law and jurisprudence studies (graduate level)

22.0204 Canadian law/legal studies/jurisprudence (LLM, MCJ, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the Canadian legal system, Constitution law, and jurisprudence. These programs include courses in legal history, legal sociology, philosophy of law, Constitutional law, Commonwealth law, legal procedure, and related topics.

Illustrative example(s)
- Canadian legal studies (graduate level)
- constitutional law (graduate level)

22.0205 Banking, corporate, finance and securities law (LLM, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law and process related to the regulation of businesses and the financial services industry. These programs include courses in corporate law, antitrust law, securities laws and regulations, negotiation, incorporation, partnerships, trusts, and related topics.

Illustrative example(s)
- business law (graduate level)
- commerce law (graduate level)
- commercial law (graduate level)
- corporate law (graduate level)
- corporation law (graduate level)
- regulatory law (graduate level)
- securities law (graduate level)

Exclusion(s)
- business law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- finances (see 52.0801 Finance, general)
- international business law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- investments and securities (see 52.0807 Investments and securities)
- realtor (see 52.1501 Real estate)

22.0206 Comparative law (LLM, MCJ, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of legal systems and philosophies in comparative perspective.

Illustrative example(s)
- comparative law (graduate level)

22.0207 Energy, environment and natural resources law (LLM, MS, MSc, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law, policies, and regulations governing the energy industry, environmental protection, natural resources and land use, and related topics.

Illustrative example(s)
- energy law (graduate level)
- environmental law (graduate level)
- natural resources law (graduate level)

Exclusion(s)
- air and space law (graduate level) (see 22.0299 Legal research and advanced professional studies (post-LLB/JD), other)
- environmental law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- environmental law enforcement (see 03.0208 Natural resources law enforcement and protective services)

22.0208 Health law (LLM, MJ, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law, policies and regulations affecting the health care industry, health professions, health services and insurance industries, and patients.

Illustrative example(s)
- health law (graduate level)

Exclusion(s)
- health care administration (see 51.0701 Health/health care administration/management)
- hospital administration (see 51.0702 Hospital and health care facilities administration/management)

22.0209 International law and legal studies (LLM, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law affecting relations between nations, the behaviour of international organizations, and the international activities of private citizens and organizations.

Illustrative example(s)
- international human rights law (graduate level)
- international law (graduate level)
- international legal studies (graduate level)

Exclusion(s)
- international affairs (see 45.0901 International relations and affairs)
- international business law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- international law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- international management (see 52.1101 International business/trade/commerce)
- international public policy (see 44.0504 International public policy analysis)

22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law, policies, and regulations governing transnational business and commercial practices, including the specialized tax law related to international financial transactions.

Illustrative example(s)
- international business law (graduate level)
- international tax law (graduate level)
- international trade law (graduate level)

Exclusion(s)
- commerce law (graduate level) (see 22.0205 Banking, corporate, finance and securities law (LLM, LLD, JSD/SJD))
- international law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- international law (graduate level) (see 22.0209 International law and legal studies (LLM, LLD, JSD/SJD))
- international public policy (see 44.0504 International public policy analysis)
- international trade (see 52.1101 International business/trade/commerce)
- tax law (graduate level) (see 22.0211 Tax law/taxation (LLM, LLD, JSD/SJD))

22.0211 Tax law/taxation (LLM, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of tax law and taxation procedures in Canadian or U.S. jurisdictions affecting individuals and corporations.

Illustrative example(s)
- tax law (graduate level)

Exclusion(s)
- business law (graduate level) (see 22.0205 Banking, corporate, finance and securities law (LLM, LLD, JSD/SJD))
- international tax law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- tax law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- taxation (see 52.1601 Taxation)

22.0212 Intellectual property law (LLM, LLD, JSD/SJD)

This instructional program class comprises any advanced, professional study of the law, policies, and regulations related to copyrights, patents, trademarks, trade secrets, and related issues. These programs include courses in patent law, copyright law, trademark law, intellectual property licensing and litigation, and applications such as art and entertainment law, communications law, information technology law, sports law, and chemical and biotech patent law.

Illustrative example(s)
- film law (graduate level)
- information and technology law (graduate level)
- innovation law (graduate level)
- intellectual property law (graduate level)
- patent law (graduate level)
- technology law (graduate level)

Exclusion(s)
- information and technology law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))

22.0299 Legal research and advanced professional studies (post-LLB/JD), other

This instructional program class comprises any program not listed above that relates to Legal research and advanced professional studies (post-LLB/JD).

Illustrative example(s)
- administrative law (graduate level)

- civil law (graduate level)
- common law (graduate level)
- criminal law (graduate level)
- family law (graduate level)
- labour law (graduate level)
- legislative drafting (graduate level)
- maritime law (graduate level)
- property law (graduate level)
- real estate law (graduate level)

Exclusion(s)
- maritime law enforcement (see 43.0122 Maritime law enforcement)
- maritime studies (see 30.2901 Maritime studies)
- solicitor (see 22.0101 Law (LLB, JD, BCL))

22.03 Legal support services

This subseries comprises instructional program classes 22.0301 to 22.0399.

22.0301 Legal administrative assistant/secretary

This instructional program class comprises any program that prepares individuals to serve as legal office managers, special assistants, and legal secretaries. These programs include courses in office management, secretarial science, principles of U.S. or Canadian law, legal terminology and documentation, legal research, legal software applications, law office procedures, record keeping, billing, applicable policies and regulations, and professional standards and ethics.

Illustrative example(s)
- legal administration
- legal administrative assistant
- legal administrative secretary
- legal office administration
- legal office procedures
- legal secretarial
- legal secretary
- legal stenography

Exclusion(s)
- court stenography (see 22.0303 Court reporting/court reporter)
- executive assistant (see 52.0402 Executive assistant/executive secretary)
- secretary (see 52.0401 Administrative assistant and secretarial science, general)

22.0302 Legal assistant/paralegal

This instructional program class comprises any program that prepares individuals to perform research, drafting, investigatory, record keeping and related administrative functions under the supervision of a lawyer or court. These programs include courses in legal research, drafting legal documents, appraising, pleading, courthouse procedures, and legal specializations.

Illustrative example(s)
- law clerk
- legal assistant
- legal technician
- paralegal
- paralegal assistant
- paralegal studies

- paralegalism

Exclusion(s)
- lawyer (see 22.0101 Law (LLB, JD, BCL))
- notary public (see 22.9999 Legal professions and studies, other)

22.0303 Court reporting/court reporter

This instructional program class comprises any program that prepares individuals to record and transcribe examinations, testimony, judicial orders and instructions, legal opinions, and other formal proceedings via print or electronic methods. These programs include courses in legal terminology, legal transcription, shorthand, verbatim recording, equipment operation and procedures, applicable regulations, and professional standards and ethics.

Illustrative example(s)
- court reporter
- court reporting
- court stenographer
- court stenography

Exclusion(s)
- dicta-typing (see 52.0408 General office occupations and clerical services)
- legal stenography (see 22.0301 Legal administrative assistant/secretary)
- secretary (see 52.0401 Administrative assistant and secretarial science, general)

22.0399 Legal support services, other

This instructional program class comprises any program not listed above that relates to Legal support services.

Illustrative example(s)
- administrative tribunal agent
- bailiff
- court and tribunal agent
- legal support services
- sheriff

Exclusion(s)
- interpreter translator (see 16.0103 Language interpretation and translation)

22.99 Legal professions and studies, other

This subseries comprises instructional program class 22.9999.

22.9999 Legal professions and studies, other

This instructional program class comprises any program not listed above that relates to Legal professions and studies.

Illustrative example(s)
- legal philosophy
- notary public

Exclusion(s)
- church law (see 39.9999 Theology and religious vocations, other)
- ethics (see 38.0103 Ethics)
- Jewish law (see 39.0606 Talmudic studies)
- logic (see 38.0102 Logic)

- notary (Quebec) (see 22.0101 Law (LLB, JD, BCL))

23. English language and literature/letters

This series comprises instructional programs that focus on the structure and use of the English language and dialects, speech, writing, and various aspects of the literatures and cultures of the English-speaking peoples.

23.01 English language and literature, general

This subseries comprises instructional program class 23.0101.

23.0101 English language and literature, general

This instructional program class comprises any general program that focuses on the English language, including its history, structure and related communications skills; and the literature and culture of English-speaking peoples.

Illustrative example(s)
- English
- English language
- English language and literature
- English language, literature and linguistics
- English studies
- letters, English

Exclusion(s)
- American literature (see 23.1402 American literature)
- applied linguistics (see 16.0105 Applied linguistics)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- English as a second language (see 16.1701 English as a second language)
- English literature (see 23.1401 English literature, general)
- English teacher (see 13.1305 English/English language arts teacher education)
- linguistics (see 16.0102 Linguistics)
- teaching English as a second language (see 13.1401 Teaching English as a second or foreign language/ESL language instructor)

23.13 English rhetoric and composition/writing studies

This subseries comprises instructional program classes 23.1301 to 23.1399.

23.1301 English writing, general

This instructional program class comprises any program that focuses on writing in English for applied and liberal arts purposes. These programs include courses in writing and document design in multiple genres, modes, and media; writing technologies; research, evaluation, and use of information; editing and publishing; theories and processes of composing; rhetorical theories, traditions, and analysis; communication across audiences, contexts, and cultures; and practical applications for professional, technical, organizational, academic, and public settings.

Illustrative example(s)
- English composition
- English writing

Exclusion(s)
- advertising copywriting (see 09.0903 Advertising)
- business communications (see 52.0501 Business/corporate communications)
- developmental/remedial reading and writing (see 32.0108 Literacy and communication skills (not for credit))

- English creative writing (see 23.1302 English creative writing)
- English rhetoric and writing (see 23.1304 English rhetoric and composition)
- English technical writing (see 23.1303 English professional, technical, business, and scientific writing)
- English writing and literature (see 23.9999 English language and literature/letters, other)
- French composition (see 55.1301 French writing, general)
- journalism (see 09.0401 Journalism, general)
- script writing (see 50.0504 Playwriting and screenwriting)
- writing (see 36.0118 Writing (not for credit))

23.1302 English creative writing

This instructional program comprises any program in English language and literature that focuses on the process and techniques of original composition in various literary forms such as the short story, poetry, the novel, and others. These programs include courses in technical and editorial skills, criticism, and the marketing of finished manuscripts.

Illustrative example(s)
- English creative non-fiction
- English creative writing

Exclusion(s)
- English composition (see 23.1301 English writing, general)
- journalism (see 09.0401 Journalism, general)
- script writing (see 50.0504 Playwriting and screenwriting)
- writing (see 36.0118 Writing (not for credit))

23.1303 English professional, technical, business, and scientific writing

This instructional program class comprises any program in English language and literature that focuses on professional, technical, business, and scientific writing; and that prepares individuals for academic positions or for professional careers as writers, editors, researchers, and related careers in business, government, non-profits, and the professions. These programs include courses in theories of rhetoric, writing, and digital literacy; document design, production, and management; visual rhetoric and multimedia composition; documentation development; usability testing; web writing; and publishing in print and electronic media.

Illustrative example(s)
- English biomedical writing
- English business writing
- English medical writing
- English technical and professional writing
- English technical writing

Exclusion(s)
- business communications (see 52.0501 Business/corporate communications)
- English composition (see 23.1301 English writing, general)
- English creative non-fiction (see 23.1302 English creative writing)
- French technical and business writing (see 55.1303 French professional, technical, business, and scientific writing)
- journalism (see 09.0401 Journalism, general)
- sports communication (see 09.0906 Sports communication)
- technical communication (see 09.0908 Technical and scientific communication)
- writing (see 36.0118 Writing (not for credit))

23.1304 English rhetoric and composition

This instructional program class comprises any program in English language and literature that focuses on the humanistic and scientific study of rhetoric, composition, literacy, and language/linguistic theories and their practical and pedagogical applications. These programs include courses in historical and contemporary rhetoric/composition theories; composition and criticism of written, visual, and mixed-media texts; analysis of literacy practices in cultural and cross-cultural contexts; and writing program administration.

Illustrative example(s)
- English rhetoric
- English rhetoric and composition
- English rhetoric and writing
- English rhetoric and writing studies
- English rhetorical studies
- English speech and rhetoric
- English speech and rhetorical studies

Exclusion(s)
- communication science (see 09.0100 Communication, general)
- English composition (see 23.1301 English writing, general)
- English language and literature (see 23.0101 English language and literature, general)
- French speech and rhetoric studies (see 55.1304 French rhetoric and composition)
- literacy and communication skills (see 32.0108 Literacy and communication skills (not for credit))
- speech communication (see 09.0101 Speech communication and rhetoric)

23.1399 English rhetoric and composition/writing studies, other

This instructional program class comprises any program in English language and literature not listed above that relates to English rhetoric and composition/writing studies.

Exclusion(s)
- advertising copywriting (see 09.0903 Advertising)
- developmental/remedial reading and writing (see 32.0108 Literacy and communication skills (not for credit))
- English creative writing (see 23.1302 English creative writing)
- English rhetoric and composition (see 23.1304 English rhetoric and composition)
- English technical writing (see 23.1303 English professional, technical, business, and scientific writing)
- English writing (see 23.1301 English writing, general)
- French writing (see 55.1301 French writing, general)
- script writing (see 50.0504 Playwriting and screenwriting)

23.14 English literature

This subseries comprises instructional program classes 23.1401 to 23.1499.

23.1401 English literature, general

This instructional program class comprises any program in English language and literature that focuses on literature from one or more genres, cultures or traditions. These programs include courses in period and genre studies, author studies, literary criticism, and studies of various types of literary text.

Illustrative example(s)
- English general literature
- English literary studies
- English literature

Exclusion(s)
- classical literature (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- comparative literature (see 16.0104 Comparative literature)
- English language, literature and linguistics (see 23.0101 English language and literature, general)
- English literature education (see 13.1305 English/English language arts teacher education)
- foreign literature (see 16.0101 Aboriginal and foreign languages and literatures, general)
- French general literature (see 55.1401 French literature, general)
- humanities, art and literature (see 24.0103 Humanities/humanistic studies)
- theatre literature (see 50.0505 Theatre literature, history and criticism)

23.1402 American literature

This instructional program class comprises any program that focuses on the literature and literary development, both formal and folkloric, of the United States from the colonial era to the present. These programs include courses in period and genre studies, author studies, literary criticism, and regional and oral traditions.

Illustrative example(s)
- American literature

Exclusion(s)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- comparative literature (see 16.0104 Comparative literature)
- English literature (see 23.1401 English literature, general)

23.1403 Canadian literature, English

This instructional program class comprises any program in English language and literature that focuses on the literature and literary development, both formal and folkloric, of Canada from its origins to the present. These programs include courses in period and genre studies, author studies, literary criticism, and regional and oral traditions.

Illustrative example(s)
- Canadian literature (in English)

Exclusion(s)
- American literature (see 23.1402 American literature)
- Canadian literature (in French) (see 55.1403 Canadian literature, French)
- comparative literature (see 16.0104 Comparative literature)
- English literature (see 23.1401 English literature, general)

23.1404 British and Commonwealth literature, English

This instructional program class comprises any program that focuses on the literatures and literary developments of the English-speaking peoples of the British Isles and the British Commonwealth, from the origins of the English language to the present. These programs include courses in period and genre studies, author studies, country and regional specializations, literary criticism, and the study of folkloric traditions.

Illustrative example(s)
- British literature
- Commonwealth literature (in English)

Exclusion(s)
- American literature (see 23.1402 American literature)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- comparative literature (see 16.0104 Comparative literature)

23.1405 Children’s and adolescent literature, English

This instructional program class comprises any program in English language and literature that focuses on the scholarly study of children's and adolescent literature and that may enhance the professional work of teachers, librarians, publishers, booksellers, and creative writers. These programs include courses in period and genre studies, author studies, literary criticism, studies of various types of literary text, book artists, and children's films.

Illustrative example(s)
- English children's literature
- English literature for children and young adults

Exclusion(s)
- youth library services (see 25.0102 Children and youth library services)

23.1499 English literature, other

This instructional program class comprises any program in English language and literature not listed above that relates to English literature.

Exclusion(s)
- classical literature (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- comparative literature (see 16.0104 Comparative literature)
- foreign literature (see 16.0101 Aboriginal and foreign languages and literatures, general)
- humanities, art and literature (see 24.0103 Humanities/humanistic studies)
- theatre literature (see 50.0505 Theatre literature, history and criticism)

23.99 English language and literature/letters, other

This subseries comprises instructional program class 23.9999.

23.9999 English language and literature/letters, other

This instructional program class comprises any program in English language and literature not listed above that relates to English language and literature/letters.

Illustrative example(s)
- English writing and literature

Exclusion(s)
- English writing (see 23.1301 English writing, general)

24. Liberal arts and sciences, general studies and humanities

This series comprises general instructional programs and independent or individualized studies in the liberal arts subjects, the humanities disciplines and the general curriculum.

24.01 Liberal arts and sciences, general studies and humanities

This subseries comprises instructional program classes 24.0101 to 24.0199.

24.0101 Liberal arts and sciences/liberal studies

This instructional program class comprises any program that is a structured combination of the arts, biological and physical sciences, social sciences, and humanities, emphasizing breadth of study. Includes independently designed, individualized, or regular programs.

Illustrative example(s)
- independent studies
- individualized studies
- liberal arts
- liberal arts and sciences
- liberal science
- liberal studies

Exclusion(s)
- art studies (see 50.0701 Art/art studies, general)
- arts and science (see 24.0102 General studies)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- family science (see 19.0101 Family and consumer sciences/human sciences, general)
- general humanities (see 24.0103 Humanities/humanistic studies)
- high school individual educational program certificate (see 53.0203 Certificate of IEP completion programs)

24.0102 General studies

This instructional program class comprises any undifferentiated program in the general arts, or unstructured studies.

Illustrative example(s)
- arts and science
- general arts
- general arts and science
- general studies

Exclusion(s)
- art studies (see 50.0701 Art/art studies, general)
- general humanities (see 24.0103 Humanities/humanistic studies)
- general science (see 30.0101 Biological and physical sciences)
- liberal arts and sciences (see 24.0101 Liberal arts and sciences/liberal studies)
- physical sciences (see 40.0101 Physical sciences, general)

24.0103 Humanities/humanistic studies

This instructional program class comprises any program that focuses on combined studies and research in the humanities subjects as distinguished from the social and physical sciences, emphasizing languages, literatures, art, music, philosophy and religion.

Illustrative example(s)
- general humanities
- humanistic studies
- humanities

Exclusion(s)
- applied human sciences (see 19.0101 Family and consumer sciences/human sciences, general)
- English literature (see 23.1401 English literature, general)
- French general literature (see 55.1401 French literature, general)
- general studies (see 24.0102 General studies)
- liberal arts and sciences (see 24.0101 Liberal arts and sciences/liberal studies)

24.0199 Liberal arts and sciences, general studies and humanities, other

This instructional program class comprises any program not listed above that relates to Liberal arts and sciences, general studies and humanities.

25. Library science

This series comprises instructional programs that focus on the knowledge and skills required for managing and/or maintaining libraries and related information and record systems, collections and facilities for research and general use.

25.01 Library science and administration

This subseries comprises instructional program classes 25.0101 to 25.0199.

25.0101 Library and information science

This instructional program class comprises any program that focuses on the knowledge and skills required to develop, organize, store, retrieve, administer, and facilitate the use of local, remote, and networked collections of information in print, audiovisual, and electronic formats and that prepares individuals for professional service as librarians and information consultants.

Illustrative example(s)
- librarianship
- library and information science
- library management
- library science
- library studies

Exclusion(s)
- information resources management (see 52.1206 Information resources management)
- information science (see 11.0401 Information science/studies)
- information technology (see 11.0103 Information technology)
- library technician (see 25.0301 Library and archives assisting)
- records management (see 25.0103 Archives/archival administration)
- school librarian (see 13.1334 School librarian/school library media specialist)

25.0102 Children and youth library services

This instructional program class comprises any program that prepares individuals to provide library and information services and programming for children and young adults. These programs include courses in information needs of children and young adults, resources and services for children and young adults, literature for youth, storytelling, multi-ethnic materials, library management, and information technology for librarians.

Illustrative example(s)
- children's library services
- young adult library services
- youth library services

Exclusion(s)
- English literature for children and young adults (see 23.1405 Children’s and adolescent literature, English)
- French literature for children and young adults (see 55.1405 Children's and adolescent literature, French)

25.0103 Archives/archival administration

This instructional program class comprises any program that prepares individuals to identify, manage, preserve, and make available records with long-term value for documentation, legal, research, and other purposes. These programs include courses in appraisal and collection development, information and records management, archival preservation, access systems, management of electronic records, archival outreach, and legal and ethical issues.

Illustrative example(s)
- archival administration
- archival administration and records management
- archival management
- archival studies
- archives
- archives records management
- archivist
- records and information management
- records management

Exclusion(s)
- archival and library science (see 25.0199 Library science and administration, other)
- archival technician (see 25.0301 Library and archives assisting)
- law enforcement record keeping and evidence management (see 43.0115 Law enforcement record keeping and evidence management)
- medical archive management (see 51.0706 Health information/medical records administration/administrator)
- medical archives technology (see 51.0707 Health information/medical records technology/technician)
- public history (see 54.0105 Public/applied history)

25.0199 Library science and administration, other

This instructional program class comprises any program not listed above that relates to Library science and administration.

Illustrative example(s)
- archival and library science

Exclusion(s)
- archival studies (see 25.0103 Archives/archival administration)

25.03 Library and archives assisting

This subseries comprises instructional program class 25.0301.

25.0301 Library and archives assisting

This instructional program class comprises any program that prepares individuals to assist professional librarians and archivists. These programs include courses in principles, systems, processes, and procedures of library and archive operation; library resources and services; processes of acquisition, cataloguing, storage, and display systems; discovery and retrieval of requested materials; management of books, periodicals, and other documents and records.

Illustrative example(s)
- archives assistant
- archives technician
- library aide
- library and information technician

- library and information technology
- library assistant
- library clerk
- library technician
- library techniques
- library technology

Exclusion(s)
- information technology (see 11.0103 Information technology)
- library and information science (see 25.0101 Library and information science)
- public history (see 54.0105 Public/applied history)
- records management (see 25.0103 Archives/archival administration)
- school librarian (see 13.1334 School librarian/school library media specialist)

25.99 Library science, other

This subseries comprises instructional program class 25.9999.

25.9999 Library science, other

This instructional program class comprises any program not listed above that relates to Library science.

26. Biological and biomedical sciences

This series comprises instructional programs that focus on the biological sciences and the non-clinical biomedical sciences, and that prepare individuals for research and professional careers as biologists and biomedical scientists.

26.01 Biology, general

This subseries comprises instructional program classes 26.0101 and 26.0102.

26.0101 Biology/biological sciences, general

This instructional program class comprises any general program of biology at the introductory, basic level or a program in biology or the biological sciences that is undifferentiated as to title or content. These programs include courses in general biology and programs covering a variety of biological specializations.

Illustrative example(s)
- applied biology
- biological sciences
- biology
- bioscience
- life sciences

Exclusion(s)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- biology technician (see 41.0101 Biology technician/biotechnology laboratory technician)
- biopsychology (see 30.1001 Biopsychology)
- cell and molecular biology (see 26.0406 Cell/cellular and molecular biology)
- human biology (see 30.2701 Human biology)
- medical biology (see 26.0102 Biomedical sciences, general)
- microbiology (see 26.0502 Microbiology, general)

26.0102 Biomedical sciences, general

This instructional program class comprises any general program that focuses on the integrative scientific study of biological issues related to health and medicine, or a program in one or more of the biomedical sciences that is undifferentiated as to title. These programs include courses in any of the basic medical sciences at the research level; biological science research in biomedical faculties; and general studies encompassing a variety of the biomedical disciplines.

Illustrative example(s)
- biomedical science
- medical biology

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biology (see 26.0101 Biology/biological sciences, general)
- biomedical engineering (see 14.0501 Bioengineering and biomedical engineering)
- biomedical engineering technology (see 15.0401 Biomedical technology/technician)
- human biology (see 30.2701 Human biology)

26.02 Biochemistry/biophysics and molecular biology

This subseries comprises instructional program classes 26.0202 to 26.0299.

26.0202 Biochemistry

This instructional program class comprises any program that focuses on the scientific study of the chemistry of living systems, their fundamental chemical substances and reactions, and their chemical pathways and information transfer systems, with particular reference to carbohydrates, proteins, lipids, and nucleic acids. These programs include courses in bio-organic chemistry, protein chemistry, bioanalytical chemistry, bioseparations, regulatory biochemistry, enzymology, hormonal chemistry, calorimetry, and research methods and equipment operation.

Illustrative example(s)
- biochemistry
- biological chemistry

Exclusion(s)
- biochemical engineering (see 14.4301 Biochemical engineering)
- biochemistry and molecular biology (see 26.0210 Biochemistry and molecular biology)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- chemistry (see 40.0501 Chemistry, general)
- molecular biochemistry (see 26.0205 Molecular biochemistry)

26.0203 Biophysics

This instructional program class comprises any program that focuses on the application of physics principles to the scientific study of the mechanisms of biological processes and assemblies at all levels of complexity. These programs include courses in research methods and equipment operation and applications to subjects such as bioenergetics, biophysical theory and modelling, electrophysics, membrane biology, channels, receptors and transporters, contractility and muscle function, protein shaping and folding, molecular and supramolecular structures and assemblies, and computational science.

Illustrative example(s)
- biophysics

Exclusion(s)
- biochemistry and molecular biology (see 26.0210 Biochemistry and molecular biology)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- medical physics (see 51.2205 Health/medical physics)
- molecular biophysics (see 26.0206 Molecular biophysics)
- physics (see 40.0801 Physics, general)

26.0204 Molecular biology

This instructional program class comprises any program that focuses on the scientific study of the structure and function of biological macromolecules and the role of molecular constituents and mechanisms in supramolecular assemblies and cells. These programs include courses in such topics as molecular signalling and transduction, regulation of cell growth, enzyme substrates and mechanisms of enzyme action, DNA-protein interaction, and applications to fields such as biotechnology, genetics, cell biology, and physiology.

Illustrative example(s)
- molecular biology

Exclusion(s)
- biochemistry and molecular biology (see 26.0210 Biochemistry and molecular biology)
- cell and molecular biology (see 26.0406 Cell/cellular and molecular biology)
- molecular medicine (see 26.1401 Molecular medicine)
- plant molecular biology (see 26.0308 Plant molecular biology)

26.0205 Molecular biochemistry

This instructional program class comprises any program that focuses on the scientific relationship of physiological function to the structure and actions of macromolecules and supramolecular assemblies such as multienzyme complexes, membranes, and viruses. These programs include courses in the chemical mechanisms of regulation and catalysis, protein synthesis and other syntheses, and biomolecular chemical reactions.

Illustrative example(s)
- molecular biochemistry

Exclusion(s)
- biochemical engineering (see 14.4301 Biochemical engineering)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- molecular biology (see 26.0204 Molecular biology)

26.0206 Molecular biophysics

This instructional program class comprises any scientific program that focuses on the dynamics and interactions of macromolecules and other three-dimensional ultrastructures, the architecture of supramolecular structures, and energy transfer in biomolecular systems. These programs include courses in energy transduction, structural dynamics, mechanisms of electron and proton transfer in biological systems, bioinformatics, automated analysis, and specialized research techniques.

Illustrative example(s)
- molecular biophysics

Exclusion(s)
- biochemistry and molecular biology (see 26.0210 Biochemistry and molecular biology)
- biophysics (see 26.0203 Biophysics)
- medical physics (see 51.2205 Health/medical physics)

26.0207 Structural biology

This instructional program class comprises any program that focuses on the scientific study of submolecular and molecular components and assemblies of living systems and how they are organized into functional units such as cells and anatomic tissues. These programs include courses in glycoprotein, carbohydrate, protein, and nucleic acid structures and chemistry; cytoskeletal structure; nuclear and intracellular structures; molecular recognition; molecular chaperones; transcription and folding; multicellular organization; microtubules and microfilaments; cell differentiation; immunophysics; and DNA sequencing.

Illustrative example(s)
- structural biology

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- cell and molecular biology (see 26.0406 Cell/cellular and molecular biology)
- cell biology and anatomy (see 26.0407 Cell biology and anatomy)
- medical biology (see 26.0102 Biomedical sciences, general)
- molecular biology (see 26.0204 Molecular biology)

26.0208 Photobiology

This instructional program class comprises any program that focuses on the scientific study of the effects of light energy on living organisms, the manufacture and processing of luminescence by organisms, and the uses of light in biological research. These programs include courses in bioluminescence, chronobiology, photomedicine, environmental photobiology, organic photochemistry, photomorphogenesis, photoreceptors and photosensitization, molecular mechanics of photosynthesis, phototechnology, vision, ultraviolet radiation, radiation physics, and spectral research methods.

Illustrative example(s)
- photobiology

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biology (see 26.0101 Biology/biological sciences, general)

26.0209 Radiation biology/radiobiology

This instructional program class comprises any program that focuses on the effects of radiation on organisms and biological systems. These programs include courses in particle physics, ionization, and biophysics of radiation perturbations, cellular and organismic repair systems, genetic and pathological effects of radiation, and the measurement of radiation dosages.

Illustrative example(s)
- radiation biology
- radiobiology

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biology (see 26.0101 Biology/biological sciences, general)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- photobiology (see 26.0208 Photobiology)
- radiology technologist (see 51.0911 Radiologic technology/science – radiographer)

26.0210 Biochemistry and molecular biology

This instructional program class comprises any program of study that combines the biological subdisciplines of biochemistry and molecular biology. These programs include courses in general biology, general and organic chemistry, physics, biochemistry, molecular biology, immunology, microbiology, genetics, and cellular biology.

Illustrative example(s)
- biochemistry and molecular biology

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- biophysics (see 26.0203 Biophysics)
- molecular biology (see 26.0204 Molecular biology)

26.0299 Biochemistry/biophysics and molecular biology, other

This instructional program class comprises any program not listed above that relates to Biochemistry/biophysics and molecular biology.

Illustrative example(s)
- comparative biochemistry
- medical biochemistry

26.03 Botany/plant biology

This subseries comprises instructional program classes 26.0301 to 26.0399.

26.0301 Botany/plant biology, general

This instructional program class comprises any program that focuses on the scientific study of plants, related microbial organisms, and plant habitats and ecosystem relations. These programs include courses in plant anatomy and structure, phytochemistry, cytology, plant genetics, plant morphology and physiology, plant ecology, plant taxonomy and systematics, paleobotany, and applications of biophysics and molecular biology.

Illustrative example(s)
- botany
- phytochemistry
- phytology
- plant biology

Exclusion(s)
- horticultural science (see 01.1103 Horticultural science)
- mycology (see 26.0506 Mycology)
- phycology (see 26.0399 Botany/plant biology, other)
- plant breeding genetics (see 01.1104 Agricultural and horticultural plant breeding)
- plant genetics (see 26.0805 Plant genetics)
- plant sciences (see 01.1101 Plant sciences, general)

26.0305 Plant pathology/phytopathology

This instructional program class comprises any program that focuses on the scientific study of plant diseases and plant health, and the development of disease control mechanisms. These programs include courses in plant anatomy and physiology; pathogenesis; molecular plant virology; molecular genetics; bacterial epidemiology; causal agent identification; host/agent interactions; disease resistance and response mechanisms; developing plant disease treatments; disease prevention; and disease physiology and control.

Illustrative example(s)
- phytopathology
- plant pathology

Exclusion(s)
- pest management (see 01.1105 Plant protection and integrated pest management)
- plant physiology (see 26.0307 Plant physiology)
- plant sciences (see 01.1101 Plant sciences, general)

26.0307 Plant physiology

This instructional program class comprises any program that focuses on the scientific study of plant internal dynamics and systems, plant-environment interaction, and plant life cycles and processes. These programs include courses in cell and molecular biology; plant nutrition; plant respiration; plant growth, behaviour, and reproduction; photosynthesis; plant systemics; and ecology.

Illustrative example(s)
- plant physiology

Exclusion(s)
- cell physiology (see 26.0903 Cell physiology)
- physiology (see 26.0901 Physiology, general)
- phytopathology (see 26.0305 Plant pathology/phytopathology)
- plant sciences (see 01.1101 Plant sciences, general)

26.0308 Plant molecular biology

This instructional program class comprises any program that focuses on the application of molecular biology, biochemistry, and biophysics to the study of biomolecular structures, functions, and processes specific to plants and plant substances. These programs include courses in the biochemistry of plant cells, nuclear-cytoplasmic interactions, molecular cytostructures, photosynthesis, plant molecular genetics, and the molecular biology of plant diseases.

Illustrative example(s)
- plant molecular biology

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- molecular biology (see 26.0204 Molecular biology)
- plant sciences (see 01.1101 Plant sciences, general)

26.0399 Botany/plant biology, other

This instructional program class comprises any program not listed above that relates to Botany/plant biology.

Illustrative example(s)
- phycology

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- plant sciences (see 01.1101 Plant sciences, general)

26.04 Cell/cellular biology and anatomical sciences

This subseries comprises instructional program classes 26.0401 to 26.0499.

26.0401 Cell/cellular biology and histology

This instructional program class comprises any program that focuses on the scientific study of the structure, function, and regulation of cells as individual units and as components of larger systems. These programs include courses in cell chemistry, cellular dynamics, cellular replication and reproduction, cell anatomy, membrane function, organelles, cell adhesion and extracellular matrices, cell dynamics and motility, meiosis and mitosis, signal transduction, regulation, recognition and defence mechanisms, the cell cycle, cell metabolism and respiration, gene expression, and studies of cell types and characteristics.

Illustrative example(s)
- cell biology
- cellular biology
- cytology
- histology

Exclusion(s)
- cell and molecular biology (see 26.0406 Cell/cellular and molecular biology)
- cell biology and anatomy (see 26.0407 Cell biology and anatomy)
- cytotechnology (see 51.1002 Cytotechnology/cytotechnologist)
- histologic technician (see 51.1008 Histologic technician)
- histologic technologist (see 51.1007 Histologic technology/histotechnologist)

26.0403 Anatomy

This instructional program class comprises any program that focuses on the scientific study of organ systems, tissue structures, and whole bodies together with their cellular and structural components and dynamics. These programs include courses in cell biology and histology, structural biology, molecular mechanics, regional and gross anatomy, embryology, neuroanatomy, endocrinology and secretory dynamics, and applications to such topics as aging and disease conditions.

Illustrative example(s)
- anatomy

Exclusion(s)
- cell biology and anatomy (see 26.0407 Cell biology and anatomy)
- neuroanatomy (see 26.1502 Neuroanatomy)

26.0404 Developmental biology and embryology

This instructional program class comprises any program that focuses on the scientific study of embryology, development, and growth of animals and human beings. These programs include courses in fertilization, oogenesis, histogenesis, gastrulation, and cell differentiation; embryological development including organ and pattern formation, morphogenesis, gene regulation, cell lineage, and fate maps; disease and defect studies; transgenic and evolutionary models of growth and development; and applications to specific organisms and phyla.

Illustrative example(s)
- developmental biology
- embryology

Exclusion(s)
- cellular biology (see 26.0401 Cell/cellular biology and histology)
- child development (see 19.0706 Child development)
- genetics (see 26.0801 Genetics, general)
- human biology (see 30.2701 Human biology)
- human genetics (see 26.0806 Human/medical genetics)

26.0406 Cell/cellular and molecular biology

This instructional program class comprises any integrated, combined program that focuses on the scientific study of cells, cellular systems, and the molecular basis of cell structure and function. These programs include courses in cell biology, cell chemistry, molecular biology, biophysics, and structural biology.

Illustrative example(s)
- cell and molecular biology
- cellular and molecular biology

Exclusion(s)
- cell biology (see 26.0401 Cell/cellular biology and histology)
- molecular biology (see 26.0204 Molecular biology)
- molecular medicine (see 26.1401 Molecular medicine)

26.0407 Cell biology and anatomy

This instructional program class comprises any integrated, combined program that focuses on the scientific study of cell structure, function, and dynamics within the context of organismic, regional, and gross anatomical systems. These programs include courses in molecular biology, cell biology and histology, structural biology, anatomy, embryology, endocrinology, and applications to specific systems, diseases, defects, and processes.

Illustrative example(s)
- cell biology and anatomy

Exclusion(s)
- anatomy (see 26.0403 Anatomy)
- cell biology (see 26.0401 Cell/cellular biology and histology)
- molecular biology (see 26.0204 Molecular biology)

26.0499 Cell/cellular biology and anatomical sciences, other

This instructional program class comprises any program not listed above that relates to Cell/cellular biology and anatomical sciences.

Illustrative example(s)
- cell and developmental biology

26.05 Microbiological sciences and immunology

This subseries comprises instructional program classes 26.0502 to 26.0599.

26.0502 Microbiology, general

This instructional program class comprises any program that focuses on the scientific study of unicellular organisms and colonies, and subcellular genetic matter and their ecological interactions with human beings and other life. These programs include courses in microbial genetics, cell biology, cell physiology, virology, pathogenic microbiology, environmental microbiology, immunology, biostatistics, bioinformatics, and laboratory methods including microscopy.

Illustrative example(s)
- microbiology

Exclusion(s)
- medical microbiology - residency (see 60.0532 Medical microbiology residency programs)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)

- microbiology and immunology (see 26.0508 Microbiology and immunology)
- soil microbiology (see 01.1203 Soil microbiology)
- veterinary microbiology and immunobiology (Cert., MS, MSc, PhD) (see 51.2504 Veterinary microbiology and immunobiology (Cert., MS, MSc, PhD))

26.0503 Medical microbiology and bacteriology

This instructional program class comprises any program that focuses on the scientific study of pathogenic bacteria that are significant factors in causing or facilitating human disease. These programs include courses in the pathogenesis of bacterial diseases, bacterial genetics and physiology, bacterial anatomy and structure, antigens, bacterial reproduction, bacterial adhesion, phagocytes, and the identification of new or mutated bacteria and bacterial agents.

Illustrative example(s)
- bacteriology
- medical microbiology

Exclusion(s)
- medical microbiology - residency (see 60.0532 Medical microbiology residency programs)
- microbial and eukaryotic genetics (see 26.0803 Microbial and eukaryotic genetics)
- microbiology (see 26.0502 Microbiology, general)
- microbiology and immunology (see 26.0508 Microbiology and immunology)

26.0504 Virology

This instructional program class comprises any program that focuses on the scientific study of subcellular pieces of genetic material, called viruses, that inhabit living cells in parasitical relationships and their role in disease. These programs include courses in virus taxonomy and systematics, viral structures, viral genetics, prions, virus/host cell interaction, viral pathogenesis, and applications to specific topics such as cancer biology.

Illustrative example(s)
- virology

Exclusion(s)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)
- microbiology and immunology (see 26.0508 Microbiology and immunology)

26.0505 Parasitology

This instructional program class comprises any program that focuses on the scientific study of biological organisms living in ecologically exploitative and competitive relationships with host organisms, and the role of parasites in causing injury, disease, and environmental damage. These programs include courses in vector biology, immunoparasitology, medical parasitology, molecular biology of parasitical associations, veterinary and comparative parasitology, chemotherapeutics, and ecological and systematic parasitology.

Illustrative example(s)
- parasitology

Exclusion(s)
- microbiology and immunology (see 26.0508 Microbiology and immunology)
- pest management (see 01.1105 Plant protection and integrated pest management)
- virology (see 26.0504 Virology)

26.0506 Mycology

This instructional program class comprises any program that focuses on the scientific study of fungi, lichenous plants, eukaryotic microorganisms, myxomycetes, and plasmodiophorales and their relationship to diseases in higher plants, animals, and human beings as well as to pharmacologically useful products. These programs include courses in cell and molecular biology; histopathology; fungal growth and behaviour; environmental mycology; antifungal sensitivity; mycoses; pathogens and pathogenesis; pharmacological properties; and computer and laboratory research methods.

Illustrative example(s)
- mycology

Exclusion(s)
- microbiology (see 26.0502 Microbiology, general)
- plant protection (see 01.1105 Plant protection and integrated pest management)

26.0507 Immunology

This instructional program class comprises any program that focuses on scientific study of the biological mechanisms involved in the pathogenesis of disease, host-pathogen interactions, and host response to disease. These programs include courses in antigen and antibody structure and function, effector mechanisms, receptors, histocompatibility, host-pathogen recognition, disease modelling, autoimmune systems, antibody formation, cytotoxic responses, regulation of immune response, virulence determinants, intercellular signalling, immunosuppression, immunotherapy, immunogenetics, disease markers, transplantation, antibody humanization, and microbial pathogenesis.

Illustrative example(s)
- immunology

Exclusion(s)
- immunopathology - residency (see 60.0526 Immunopathology residency programs)
- microbiology (see 26.0502 Microbiology, general)
- microbiology and immunology (see 26.0508 Microbiology and immunology)
- parasitology (see 26.0505 Parasitology)
- virology (see 26.0504 Virology)

26.0508 Microbiology and immunology

This instructional program class comprises any program that focuses on the scientific study of the microorganisms that cause disease and the host immune response to them. These programs include courses in microbiology, microbial genetics, molecular virology, pathogenic bacteriology, disease mechanisms, immunology, immunogenetics, autoimmunity, and bioinformatics.

Illustrative example(s)
- microbiology and immunology

Exclusion(s)
- immunology (see 26.0507 Immunology)
- immunopathology - residency (see 60.0526 Immunopathology residency programs)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)
- microbiology (see 26.0502 Microbiology, general)
- parasitology (see 26.0505 Parasitology)
- veterinary microbiology and immunobiology (Cert., MS, MSc, PhD) (see 51.2504 Veterinary microbiology and immunobiology (Cert., MS, MSc, PhD))
- virology (see 26.0504 Virology)

26.0599 Microbiological sciences and immunology, other

This instructional program class comprises any program not listed above that relates to Microbiological sciences and immunology.

26.07 Zoology/animal biology

This subseries comprises instructional program classes 26.0701 to 26.0799.

26.0701 Zoology/animal biology, general

This instructional program class comprises any general program that focuses on the scientific study of the biology of animal species and phyla, with reference to their molecular and cellular systems, anatomy, physiology, and behaviour. These programs include courses in molecular and cell biology, microbiology, anatomy and physiology, ecology and behaviour, evolutionary biology, and applications to specific species and phyla.

Illustrative example(s)
- animal biology
- zoology

Exclusion(s)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal health (see 01.0903 Animal health)
- animal sciences (see 01.0901 Animal sciences, general)
- human biology (see 30.2701 Human biology)
- wildlife biology (see 26.0709 Wildlife biology)
- zoological medicine - residency (see 60.0317 Zoological medicine residency programs)

26.0702 Entomology

This instructional program class comprises any program that focuses on the scientific study of insect species and populations in respect of their life cycles, morphology, genetics, physiology, ecology, taxonomy, population dynamics, and environmental and economic impacts. These programs include courses in applicable biological and physical sciences as well as insect toxicology and the biochemical control of insect populations.

Illustrative example(s)
- entomology

Exclusion(s)
- ecology (see 26.1301 Ecology)
- plant protection (see 01.1105 Plant protection and integrated pest management)

26.0707 Animal physiology

This instructional program class comprises any program that focuses on the scientific study of function, morphology, regulation, and intercellular communications and dynamics within vertebrate and invertebrate in animal species, with comparative applications to homo sapiens and its relatives and antecedents. These programs include courses in reproduction, growth, lactation, digestion, performance, behavioural adaptation, sensory perception, motor action, phylogenetics, biotic and abiotic function, membrane biology, and related aspects of biochemistry and biophysics.

Illustrative example(s)
- animal physiology

Exclusion(s)
- animal sciences (see 01.0901 Animal sciences, general)
- cell physiology (see 26.0903 Cell physiology)

- exercise physiology (see 26.0908 Exercise physiology)
- molecular physiology (see 26.0902 Molecular physiology)
- physiology (see 26.0901 Physiology, general)
- reproductive physiology (see 26.0905 Reproductive biology)
- veterinary physiological sciences (Cert., MS, MSc, PhD) (see 51.2503 Veterinary physiology (Cert., MS, MSc, PhD))

26.0708 Animal behaviour and ethology

This instructional program class comprises any program that focuses on the scientific study of the psychological and neurological bases of animal sensation, perception, cognition, behaviour, and behavioural interactions within and outside the species. These programs include courses in ethology, behavioural neuroscience, neurobiology, behavioural evolution, cognition and sensory perception, motivators, learning and instinct, hormonal controls, reproductive and developmental biology, community ecology, functional behaviour, and applications to specific behaviours and patterns as well as to specific phyla and species.

Illustrative example(s)
- animal behaviour
- ethology

Exclusion(s)
- animal sciences (see 01.0901 Animal sciences, general)
- animal training (see 01.0505 Animal training)
- behavioural sciences (see 30.1701 Behavioural sciences)
- veterinary behaviourist - residency (see 60.0319 Veterinary behaviourist residency programs)

26.0709 Wildlife biology

This instructional program class comprises any program that focuses on the application of biological principles to the study of vertebrate wildlife, wildlife habitats, and related ecosystems in remote and urban areas. These programs include courses in animal ecology; adaptational biology; urban ecosystems; natural and artificial habitat management; limnology; wildlife pathology; and vertebrate zoological specializations such as mammalogy, herpetology, ichthyology, ornithology, and others.

Illustrative example(s)
- fish and wildlife biology
- wildlife biology

Exclusion(s)
- animal biology (see 26.0701 Zoology/animal biology, general)
- marine biology (see 26.1302 Marine biology and biological oceanography)
- wildlife studies (see 03.0601 Wildlife, fish and wildlands science and management)

26.0799 Zoology/animal biology, other

This instructional program class comprises any program not listed above that relates to Zoology/animal biology.

26.08 Genetics

This subseries comprises instructional program classes 26.0801 to 26.0899.

26.0801 Genetics, general

This instructional program class comprises any general program that focuses on the scientific study of the organization, recombination, function, regulation, and transmission of heritable information in biological organisms at all levels of complexity. These programs include courses in Mendelian genetics, mechanisms of gene regulation, chromosome structure and replication, epigenetic phenomena, DNA repair and recombination, sex determination, genetic interactions between genomes, and molecular evolution.

Illustrative example(s)
- genetics

Exclusion(s)
- animal genetics (see 26.0804 Animal genetics)
- biomedical engineering (see 14.0501 Bioengineering and biomedical engineering)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical cytogenetics - residency (see 60.0406 Clinical cytogenetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- genetic counselling (see 51.1509 Genetic counselling/counsellor)
- genetic engineering (see 14.9999 Engineering, other)
- human genetics (see 26.0806 Human/medical genetics)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- molecular genetics (see 26.0802 Molecular genetics)

26.0802 Molecular genetics

This instructional program class comprises any program that focuses on the scientific study of genetic structures and mechanisms of organisms, including bacteria, phages, and viruses. These programs include courses in the replication, expression, transfer, structure, maintenance, and stability of heritable information in DNA, RNA, and proteins; the regulation of these processes; and neurogenetics.

Illustrative example(s)
- molecular genetics
- neurogenetics
- protein expression
- proteomics

Exclusion(s)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- cytogenetics (see 51.1010 Cytogenetics/genetics/clinical genetics technology/technologist)
- gene therapy (see 51.0914 Gene/genetic therapy)
- genetic counselling (see 51.1509 Genetic counselling/counsellor)
- genetic engineering (see 14.9999 Engineering, other)
- genetics (see 26.0801 Genetics, general)
- genomics (see 26.0807 Genome sciences/genomics)
- human genetics (see 26.0806 Human/medical genetics)
- molecular biology (see 26.0204 Molecular biology)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- molecular medicine (see 26.1401 Molecular medicine)

26.0803 Microbial and eukaryotic genetics

This instructional program class comprises any program that focuses on the scientific study of the genetics of viruses, infectious agents, organelles, nuclear genomes, eubacteria, archaebacteria, and eukaryotic organisms. These programs include courses in molecular genetics and evolution; parasitic and symbiotic interaction at the genetic level; epigenetic phenomena; microbial interactions; and genomics.

Illustrative example(s)
- microbial and eukaryotic genetics

Exclusion(s)
- genetics (see 26.0801 Genetics, general)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)
- microbiology (see 26.0502 Microbiology, general)

26.0804 Animal genetics

This instructional program class comprises any program that focuses on the scientific study of the genetics of multicellular animal life forms from the experimental, comparative, and clinical (veterinary and medical) viewpoints. These programs include courses in molecular genetics, gene expression, gene regulation, genomics, epigenetic phenomena, DNA recombination and repair, genetic interactions at the microbial and higher levels, and molecular evolution.

Illustrative example(s)
- animal genetics

Exclusion(s)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal husbandry (see 01.0302 Animal/livestock husbandry and production)
- animal sciences (see 01.0901 Animal sciences, general)
- medical genetics (see 26.0806 Human/medical genetics)
- theriogenology - residency (see 60.0315 Theriogenology residency programs)

26.0805 Plant genetics

This instructional program class comprises any program that focuses on the scientific study of the genetics of multicellular plants and fungi as related to botanical research as well as to applications in comparative genetics, ecology and evolutionary studies, clinical studies, and industrial research. These programs include courses in molecular genetics, gene expression, gene regulation, genomics, epigenetic phenomena, DNA recombination and repair, genetic interactions at the microbial and higher levels, and molecular evolution.

Illustrative example(s)
- plant genetics

Exclusion(s)
- botany (see 26.0301 Botany/plant biology, general)
- genetics (see 26.0801 Genetics, general)
- plant breeding genetics (see 01.1104 Agricultural and horticultural plant breeding)
- plant sciences (see 01.1101 Plant sciences, general)

26.0806 Human/medical genetics

This instructional program class comprises any program that focuses on the scientific study of human genetics from the standpoint of medical applications such as clinical diagnosis, genetic engineering and therapy, transplantation, and the study of genetic diseases and disabilities and their defence. These programs include courses in human

molecular genetics; genetic factors causing disease; changes in gene expression during development, differentiation, and pathogenesis; recombinant DNA; gene therapy; clinical genetics; genetic epidemiology; immunogenetics; cytogenetics; and genetics of specific disorders and diseases.

Illustrative example(s)
- human genetics
- medical genetics

Exclusion(s)
- animal genetics (see 26.0804 Animal genetics)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical cytogenetics - residency (see 60.0406 Clinical cytogenetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- gene therapy (see 51.0914 Gene/genetic therapy)
- genetic counselling (see 51.1509 Genetic counselling/counsellor)
- genetic engineering (see 14.9999 Engineering, other)
- genetics (see 26.0801 Genetics, general)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- molecular genetics (see 26.0802 Molecular genetics)

26.0807 Genome sciences/genomics

This instructional program class comprises any program that focuses on the scientific study of whole genome sequences and patterns of gene expression. These programs include courses in molecular and cellular biology, genetics, protein technologies, genomic sciences and techniques, bioinformatics, and scientific and research ethics.

Illustrative example(s)
- genomics

Exclusion(s)
- molecular genetics (see 26.0802 Molecular genetics)

26.0899 Genetics, other

This instructional program class comprises any program not listed above that relates to Genetics.

26.09 Physiology, pathology and related sciences

This subseries comprises instructional program classes 26.0901 to 26.0999.

26.0901 Physiology, general

This instructional program class comprises any general program that focuses on the scientific study of the functional dynamics, morphology, and biochemical and biophysical communications within organisms and between living systems at all levels of complexity and integration. These programs include courses in reproduction, growth, hormonal action, vascular function, respiration, digestion, sensory perception and processing, sensorimotor integration, signal encoding and conveyance, homeostasis, physical function and malfunction, evolutionary physiology, and disease processes.

Illustrative example(s)
- human physiology
- physiology

Exclusion(s)
- aerospace physiology (see 26.0912 Aerospace physiology and medicine)
- animal physiology (see 26.0707 Animal physiology)
- cell physiology (see 26.0903 Cell physiology)
- exercise physiology (see 26.0908 Exercise physiology)
- plant physiology (see 26.0307 Plant physiology)

26.0902 Molecular physiology

This instructional program class comprises any program that focuses on the scientific study of dynamic interactive processes and biochemical communications at the subcellular level. These programs include courses in ion channels and transporters, molecular signalling pathways, endocrine control and regulation, genetic information transfer, homeostasis and molecular control systems, electrophysiology and sensory mechanisms, protein synthesis, and applicable research methods and technologies.

Illustrative example(s)
- molecular physiology

Exclusion(s)
- cell physiology (see 26.0903 Cell physiology)
- molecular biology (see 26.0204 Molecular biology)
- molecular medicine (see 26.1401 Molecular medicine)
- physiology (see 26.0901 Physiology, general)

26.0903 Cell physiology

This instructional program class comprises any program that focuses on the scientific study of physiological processes operating within and among cells, and intracellular communication and behaviour, in the context of larger systems and whole organisms. These programs include courses in cell and molecular biology, molecular physiology, cell cycle control, signal transduction, protein structure, membrane biochemistry and structure, ion channel physics, cell respiration and digestion, secretory functions, cell adhesion and communication, information encoding and decoding, and the relation of cell physiology to tissue, organ, and organismic functioning.

Illustrative example(s)
- cell physiology

Exclusion(s)
- cellular biology (see 26.0401 Cell/cellular biology and histology)
- molecular physiology (see 26.0902 Molecular physiology)
- physiology (see 26.0901 Physiology, general)

26.0904 Endocrinology

This instructional program class comprises any program that focuses on the scientific study of the composition, manufacture, and secretion of protein compounds by cells and glands and the role of endocrine substances in bodily processes. These programs include courses in protein chemistry, protein secretion, membrane biogenesis and transfer methods, cellular communication, gene and cell regulation, cytochemistry, fractionation, radioautography, and applications such as neuroendocrinology.

Illustrative example(s)
- endocrinology

Exclusion(s)
- endocrinology and metabolism - residency (see 60.0516 Endocrinology, diabetes and metabolism residency programs)
- pediatric endocrinology - residency (see 60.0553 Pediatric endocrinology residency programs)

- reproductive endocrinology - residency (see 60.0573 Reproductive endocrinology/infertility residency programs)

26.0905 Reproductive biology

This instructional program class comprises any program that focuses on the scientific study of reproductive processes and biogenesis in animals and human beings. These programs include courses in reproductive ecology and behaviour, reproductive system physiology, endocrinology, developmental biology, neuroendocrinology, evolution and types of reproductive systems, reproductive genetics, physiopathology of reproductive processes, and applications of molecular biology and biophysics to the study of reproductive physiology.

Illustrative example(s)
- reproductive biology
- reproductive physiology

Exclusion(s)
- animal breeding (see 01.0902 Agricultural animal breeding)
- animal genetics (see 26.0804 Animal genetics)
- biology (see 26.0101 Biology/biological sciences, general)
- genetics (see 26.0801 Genetics, general)
- human biology (see 30.2701 Human biology)
- human genetics (see 26.0806 Human/medical genetics)
- medical biology (see 26.0102 Biomedical sciences, general)
- obstetrics and gynecology - residency (see 60.0419 Obstetrics and gynecology residency programs)
- reproductive infertility - residency (see 60.0573 Reproductive endocrinology/infertility residency programs)
- theriogenology - residency (see 60.0315 Theriogenology residency programs)

26.0907 Cardiovascular science

This instructional program class comprises any program that focuses on the scientific study of the structure and functioning of the heart, vascular system, and blood in animals and human beings and the disorders and diseases associated with the cardiovascular system. These programs include courses in cardiovascular physiology, blood physiology, vasculature, vascular metabolism, neural control of cardiovascular function, microvascular permeability and membrane transport, cardiac contraction mechanisms, homeostasis, and applications to topics such as arteriosclerosis, heart disease, diabetes, vascular remodelling, transplantation, transfusion, and pacemakers and artificial organs.

Illustrative example(s)
- cardiovascular science

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- cardiopulmonary technology (see 51.0915 Cardiopulmonary technology/technologist)
- cardiovascular technician (see 51.0901 Cardiovascular technology/technologist)
- pediatric cardiology - residency (see 60.0549 Pediatric cardiology residency programs)

26.0908 Exercise physiology

This instructional program class comprises any program that focuses on the scientific study of the physiological processes involved in physical or motor activity, including sensorimotor interactions, response mechanisms, and the effects of injury, disease, and disability. These programs include courses in muscular and skeletal anatomy; molecular and cellular basis of muscle contraction; fuel utilization; neurophysiology of motor mechanics; systemic physiological responses (respiration, blood flow, endocrine secretions, and others); fatigue and exhaustion; muscle and body training; physiology of specific exercises and activities; physiology of injury; and the effects of disabilities and disease.

Illustrative example(s)
- exercise physiology

Exclusion(s)
- human kinetics (see 31.0505 Kinesiology and exercise science)
- physiology (see 26.0901 Physiology, general)
- physiotherapy (see 51.2308 Physical therapy/therapist)
- sport and exercise studies (see 31.0501 Health and physical education/fitness, general)

26.0909 Vision science/physiological optics

This instructional program class comprises any program that focuses on the scientific study of vision, visual processes, and related phenomena and clinical research and treatment modalities. These programs include courses in ocular anatomy and physiology, microbiology of the eye, electrophysiology, neurophysiology, corneal physiology, photochemistry, psychophysics, visual biophysics and motor systems, sensory mechanisms and photoreception, eye circulation and metabolism, geometric and physical optics, ocular development across the lifespan, visual stimuli and perception, colour vision, eye motility, biometrics and measurement techniques, visual pathology, and environmental issues.

Illustrative example(s)
- physiological optics
- vision science

Exclusion(s)
- laser and optical technician (see 15.0304 Laser and optical technology/technician)
- ophthalmology - residency (see 60.0421 Ophthalmology residency programs)
- optical science (see 40.0807 Optics/optical sciences)
- optometric assistant (see 51.1802 Optometric technician/assistant)
- optometrist (see 51.1701 Optometry (OD))
- orthoptics (see 51.1804 Orthoptics/orthoptist)

26.0910 Pathology/experimental pathology

This instructional program class comprises any program that focuses on the scientific study of the expression, initiation, maintenance and progression of tissue injury and disease, including death, and the relationship of pathogenesis to fundamental molecular and cellular mechanisms. These programs include courses in immunology, microbiology, gene expression, inflammation, cell injury, apoptosis, immunopathology, molecular markers of disease and toxins, neoplasia, growth regulation, and organ- and system-specific investigations.

Illustrative example(s)
- experimental pathology
- pathology

Exclusion(s)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- pathology - residency (see 60.0424 Pathology residency programs)
- pathology technician (see 51.0811 Pathology/pathologist assistant)
- pediatric pathology - residency (see 60.0560 Pediatric pathology residency programs)

26.0911 Oncology and cancer biology

This instructional program class comprises any program that focuses on the scientific study of carcinogens; the onset of malignancy in cells, tissues, blood, and organs; the genetics of cancer; the anatomy and physiology of cancer cells; and the study of cancer behaviours and treatments. These programs include courses in gene expression; oncogenes and tumour suppressor genes; viral genes and cancer proliferation; regulation of signal

transduction; cancer proteins; hormonal and growth factors in cancer cells; tumour promotion, progression, and metastasis; carcinogen receptors and metabolism; carcinogen ecology; immunological targeting; and studies of genetic, chemical, radiologic and other treatment therapies.

Illustrative example(s)
- cancer biology
- oncology

Exclusion(s)
- oncology - residency (see 60.0534 Medical oncology residency programs)

26.0912 Aerospace physiology and medicine

This instructional program class comprises any program that focuses on the scientific study of the physiological processes involved in low and high-altitude flight and living in space and related low-pressure and low-gravity environments, including sensorimotor interactions, response mechanisms, and the effects of injury, disease, and disability. These programs include courses in anatomy, molecular and cellular basis of muscle contraction, fuel utilization, neurophysiology of motor mechanics, systemic physiological responses (respiration, blood flow, endocrine secretions, and others), fatigue and exhaustion, systemic environmental pathologies, muscle and body training, physiology of specific exercises and activities, physiology of injury, and the effects of disabilities and disease.

Illustrative example(s)
- aerospace physiology

Exclusion(s)
- aerospace medicine - residency (see 60.0401 Aerospace medicine residency programs)
- human physiology (see 26.0901 Physiology, general)

26.0999 Physiology, pathology and related sciences, other

This instructional program class comprises any program not listed above that relates to Physiology, pathology and related sciences.

26.10 Pharmacology and toxicology

This subseries comprises instructional program classes 26.1001 to 26.1099.

26.1001 Pharmacology

This instructional program class comprises any program that focuses on the scientific study of drug interactions on biological systems and organisms and the sources, chemical properties, biological effects, and therapeutic uses of drugs. These programs include courses in pharmacodynamics, pharmacokinetics, toxicology, drug therapeutics, drug action, bodily responses to drug events, biochemical proliferation and differentiation, apoptosis, cell biology, medicinal chemistry, and studies of specific drugs and drug interactions.

Illustrative example(s)
- pharmacology

Exclusion(s)
- pharmaceutics and drug design (see 51.2003 Pharmaceutics and drug design (MS, MSc, PhD))
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)
- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))
- psychopharmacology (see 42.2709 Psychopharmacology)
- veterinary clinical pharmacology - residency (see 60.0320 Veterinary clinical pharmacology residency programs)

26.1002 Molecular pharmacology

This instructional program class comprises any program that focuses on the scientific study of the biochemical and biophysical characteristics of drugs at the molecular level and their interaction with, and effects on, biological macromolecules and cellular structures and processes. These programs include courses in molecular biology and biophysics; pharmacology of signal transduction, transmitters, and protein synthesis and release; receptors, protein interaction and binding; drug discovery and recognition; molecular toxicology; drug design; pharmacodynamics; developmental genetics; and studies of therapeutic strategies.

Illustrative example(s)
- molecular pharmacology

Exclusion(s)
- molecular medicine (see 26.1401 Molecular medicine)
- pharmacology (see 26.1001 Pharmacology)
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)
- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))
- psychopharmacology (see 42.2709 Psychopharmacology)

26.1003 Neuropharmacology

This instructional program class comprises any program that focuses on the scientific study of drugs that modify the function of the brain and central nervous system, the effects of such drugs on health, disease, perception, motor action, and behaviour; and the development of countermeasures and treatment therapies. These programs include courses in neuroanatomy, neurophysiology, behavioural neuroscience, neurobiochemistry, neuropathology, the mechanisms of brain function, medicinal chemistry, pharmaceutics, and studies of specific drugs and drug therapies.

Illustrative example(s)
- neuropharmacology

Exclusion(s)
- neuroscience (see 26.1501 Neuroscience)
- pharmacology (see 26.1001 Pharmacology)
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)
- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))
- psychopharmacology (see 42.2709 Psychopharmacology)

26.1004 Toxicology

This instructional program class comprises any program that focuses on the scientific study of poisons and other biohazards; their interactions with organisms and their food and respiratory systems; and their prevention, management, and counteraction. These programs include courses in toxicological biochemistry, toxic agents and transporters, toxin fate, toxicokinetics and metabolism, toxin classification, molecular toxic mechanisms, extracellular matrices and cell function, bacterial pathogenesis and mutagenesis, pathophysiology and apoptosis, cell stress and injury, studies of specific toxins, and studies of specific organ systems and physiological functions in relation to toxicological problems.

Illustrative example(s)
- biomedical toxicology
- toxicology

Exclusion(s)
- environmental toxicology (see 26.1006 Environmental toxicology)
- hazardous waste technology (see 15.0508 Hazardous materials management and waste technology/technician)

- medical toxicology - residency (see 60.0535 Medical toxicology residency programs)
- molecular toxicology (see 26.1005 Molecular toxicology)
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)

26.1005 Molecular toxicology

This instructional program class comprises any program that focuses on the scientific study of the genetic determinants of susceptibility to external pollutants and poisons; the interaction of toxic agents with biological systems at the molecular and cellular levels; and the development of countermeasures and treatments. These programs include courses in pharmacogenetics, biomolecular structure, gene expression and regulation, transgenic modelling, toxic events signalling, transcriptional activation, mutagenesis and carcinogenesis, pulmonary toxicology, xenobiotic metabolism, oxidative stress, risk assessment, molecular dosimetry, and studies of specific toxins and treatment therapies.

Illustrative example(s)
- molecular toxicology

Exclusion(s)
- molecular medicine (see 26.1401 Molecular medicine)
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)
- toxicology (see 26.1004 Toxicology)

26.1006 Environmental toxicology

This instructional program class comprises any program that focuses on the scientific study of the health effects associated with exposure to toxic chemicals and systems occurring in the natural, work, and living environments; the management of environmental toxins and toxicity; and the development of protections for humans, animals, and plants. These programs include courses in applied ecology; microbiology; toxin transport, fate, and degradation; dermal toxicology; reproductive and genetic toxicology; atmospheric and environmental chemistry; metals toxicology; environmental mutagens and biotransformation; nutrient interaction; chemical sensitivity, disorders, and disease; risk assessment; animal waste management; environmental health; and hazardous materials management.

Illustrative example(s)
- ecotoxicology
- environmental toxicology

Exclusion(s)
- ecology (see 26.1301 Ecology)
- environmental science (see 03.0104 Environmental science)
- environmental studies (see 03.0103 Environmental studies)
- environmental technology (see 15.0507 Environmental engineering technology/environmental technology)
- pest management (see 01.1105 Plant protection and integrated pest management)
- toxicology (see 26.1004 Toxicology)

26.1007 Pharmacology and toxicology, integrated

This instructional program class comprises any program with an integrated, combined approach to the study of pharmacological and toxicological issues in biology and the biomedical sciences. These programs include courses in topics such as solvents, xenobiotic metabolism, chemical toxicity, neurotoxicology, immunopharmacology, biotransformation, tissue culture and in vitro studies, biomolecular analysis, bioactivation and inactivation, enzyme regulation, chemoprevention and chemotherapy, industrial and chemical studies, radiation health, and bioinformatics.

Illustrative example(s)
- pharmacology and toxicology

Exclusion(s)
- pharmacology (see 26.1001 Pharmacology)
- toxicology (see 26.1004 Toxicology)

26.1099 Pharmacology and toxicology, other

This instructional program class comprises any program not listed above that relates to Pharmacology and toxicology.

26.11 Biomathematics, bioinformatics, and computational biology

This subseries comprises instructional program classes 26.1101 to 26.1199.

26.1101 Biometry/biometrics

This instructional program class comprises any program that focuses on the application of statistics and other computational methods to the study of problems in the biological sciences and related fields in agriculture and natural resources. These programs include courses in computational biology, mathematical statistics, matrix algebra, applied calculus, experimental design, linear modelling, sampling theory, stochastic processes, spatial and temporal analysis, longitudinal analysis, sparse/unbalanced data and complex error, and applications to such topics as population genetics, animal breeding, forest genetics, population dynamics, wildlife biometry, ecology, and agricultural and natural resource management.

Illustrative example(s)
- biometrics
- biometry

Exclusion(s)
- bioinformatics (see 26.1103 Bioinformatics)
- biostatistics (see 26.1102 Biostatistics)

26.1102 Biostatistics

This instructional program class comprises any program that focuses on the application of descriptive and inferential statistics to biomedical research and clinical, public health, and industrial issues related to human populations. These programs include courses in mathematical statistics, modelling, clinical trials methodology, disease and survival analysis, longitudinal analysis, missing data analysis, spatial analysis, computer tomography, biostatistics consulting, and applications to such topics as genetics, oncology, pharmacokinetics, physiology, neurobiology, and biophysics.

Illustrative example(s)
- biostatistics

Exclusion(s)
- mathematical statistics (see 27.0502 Mathematical statistics and probability)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- statistics (see 27.0501 Statistics, general)

26.1103 Bioinformatics

This instructional program class comprises any program that focuses on the application of computer-based technologies and services to biological, biomedical, and biotechnology research. These programs include courses in algorithms, network architecture, principles of software design, human interface design, usability studies, search strategies, database management and data mining, digital image processing, computer graphics and animation, CAD, computer programming, and applications to experimental design and analysis and to specific quantitative, modelling, and analytical studies in the various biological specializations.

Illustrative example(s)
- bioinformatics

Exclusion(s)
- computational biology (see 26.1104 Computational biology)
- computer science (see 11.0701 Computer science)
- health informatics (see 51.2706 Medical informatics)

26.1104 Computational biology

This instructional program class comprises any program that focuses on computational theoretical approaches to understanding biological systems, including computational models of biological processes, computational management of large-scale projects, database development and data-algorithm development, and high-performance computing, as well as statistical and mathematical analyses.

Illustrative example(s)
- computational and systems biology
- computational biology

Exclusion(s)
- bioinformatics (see 26.1103 Bioinformatics)
- computer science (see 11.0701 Computer science)
- health informatics (see 51.2706 Medical informatics)
- scientific computing (see 30.3001 Computational science)

26.1199 Biomathematics, bioinformatics, and computational biology, other

This instructional program class comprises any program not listed above that relates to Biomathematics, bioinformatics, and computational biology.

Illustrative example(s)
- biomathematics

26.12 Biotechnology

This subseries comprises instructional program class 26.1201.

26.1201 Biotechnology

This instructional program class comprises any program that focuses on the application of the biological sciences, biochemistry, and genetics to the preparation of new and enhanced agricultural, environmental, clinical, and industrial products, including the commercial exploitation of microbes, plants, and animals. These programs include courses in bioinformatics, gene identification, phylogenetics and comparative genomics, bioinorganic chemistry, immunoassaying, DNA sequencing, xenotransplantation, genetic engineering, industrial microbiology, drug and biologic development, enzyme-based production processes, patent law, biotechnology management and marketing, applicable regulations, and biotechnology ethics.

Illustrative example(s)
- biotechnology
- plant biotechnology

Exclusion(s)
- agricultural plant breeding (see 01.1104 Agricultural and horticultural plant breeding)
- bio-food technology (see 01.1002 Food technology and processing)
- biology technician (see 41.0101 Biology technician/biotechnology laboratory technician)
- biomedical engineering (see 14.0501 Bioengineering and biomedical engineering)

- biomedical engineering technology (see 15.0401 Biomedical technology/technician)
- food science (see 01.1001 Food science)
- plant science technology (see 01.1199 Plant sciences, other)

26.13 Ecology, evolution, systematics and population biology

This subseries comprises instructional program classes 26.1301 to 26.1399.

26.1301 Ecology

This instructional program class comprises any program that focuses on the scientific study of the relationships and interactions of small-scale biological systems, such as organisms, to each other, to complex and whole systems, and to the physical and other non-biological aspects of their environments. These programs include courses in biogeochemistry; landscape and/or marine/aquatic dynamics; decomposition; global and regional elemental budgets; biotic and abiotic regulation of nutrient cycles; ecophysiology; ecosystem resilience, disturbance, and succession; community and habitat dynamics; organismal interactions (co-evolution, competition, predation); paleoecology, and evolutionary ecology.

Illustrative example(s)
- animal ecology
- ecology
- ecosystem science
- plant ecology
- wildlife ecology

Exclusion(s)
- ecology and evolutionary biology (see 26.1310 Ecology and evolutionary biology)
- environmental biology (see 26.1305 Environmental biology)
- environmental science (see 03.0104 Environmental science)
- environmental studies (see 03.0103 Environmental studies)
- human ecology (see 19.0101 Family and consumer sciences/human sciences, general)
- natural resources (see 03.0101 Natural resources/conservation, general)
- plant sciences (see 01.1101 Plant sciences, general)

26.1302 Marine biology and biological oceanography

This instructional program class comprises any program that focuses on the scientific study of the ecology and behaviour of microbes, plants, and animals inhabiting oceans, coastal waters, and saltwater wetlands and their interactions with the physical environment. These programs include courses in chemical, physical, and geological oceanography; molecular, cellular, and biochemical studies; marine microbiology; marine botany; ichthyology; mammalogy; marine population dynamics and biodiversity; reproductive biology; studies of specific species, phyla, habitats, and ecosystems; marine paleoecology and paleontology; and applications to fields such as fisheries science and biotechnology.

Illustrative example(s)
- biological oceanography
- marine biology

Exclusion(s)
- aquaculture (see 01.0303 Aquaculture)
- biological sciences (see 26.0101 Biology/biological sciences, general)
- fisheries biology (see 26.1304 Aquatic biology/limnology)
- fisheries science (see 03.0301 Fishing and fisheries sciences and management)
- marine sciences (see 30.3201 Marine sciences)
- physical oceanography (see 40.0607 Oceanography, chemical and physical)

26.1303 Evolutionary biology

This instructional program class comprises any program that focuses on the scientific study of the genetic, developmental, functional, and morphological patterns and processes, and theoretical principles; and the emergence and mutation of organisms over time. These programs include courses in molecular and morphological systematics; genetics and development; evolutionary transformation; paleobiology and paleontology; morphogenesis; mutation; locomotor, biomechanical and craniodental form and function; evolutionary theory; and systematic biology.

Illustrative example(s)
- evolutionary biology

Exclusion(s)
- anthropology (see 45.0201 Anthropology, general)
- biology (see 26.0101 Biology/biological sciences, general)
- ecology and evolutionary biology (see 26.1310 Ecology and evolutionary biology)
- human biology (see 30.2701 Human biology)
- physical anthropology (see 45.0202 Physical and biological anthropology)

26.1304 Aquatic biology/limnology

This instructional program class comprises any program that focuses on the scientific study of the ecology and behaviour of microbes, plants, and animals inhabiting inland fresh waters such as lakes, ponds, rivers, creeks, estuaries, and wetlands. These programs include courses in geology and hydrology; aquatic ecosystems; microbiology; mycology; botany; ichthyology; mammalogy; population biology and biodiversity; studies of specific species, phyla, and habitats; and applications to fields such as natural resources conservation, fisheries science, and biotechnology.

Illustrative example(s)
- aquatic biology
- aquatic ecology
- limnology

Exclusion(s)
- aquaculture (see 01.0303 Aquaculture)
- biological sciences (see 26.0101 Biology/biological sciences, general)
- fisheries science (see 03.0301 Fishing and fisheries sciences and management)
- marine biology (see 26.1302 Marine biology and biological oceanography)

26.1305 Environmental biology

This instructional program class comprises any program that focuses on the scientific study of the origins, functions, relationships, interactions, and natural history of living populations, communities, species, and ecosystems in relation to dynamic environmental processes. These programs include courses in biodiversity, molecular genetic and genomic evolution, meso-scale ecology, computational biology and modelling, conservation biology, local and global environmental change, and restoration ecology.

Illustrative example(s)
- environmental biology
- environmental microbiology

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- ecology (see 26.1301 Ecology)
- environmental engineering (see 14.1401 Environmental/environmental health engineering)
- environmental science (see 03.0104 Environmental science)

- environmental technician (see 15.0507 Environmental engineering technology/environmental technology)
- natural sciences (see 30.1801 Natural sciences)

26.1306 Population biology

This instructional program class comprises any program that focuses on the scientific study of the natural history, life cycle behaviour, and ecosystem dynamics of single species and multi-species communities, and the patterns and causes of diversity within and among such populations. These programs include courses in biostatistics, population dynamics, population and quantitative genetics, RNA and DNA sequences, genomics, evolutionary ecology, natural adaptation and hybridization, geographic differentiation, life history and life cycle studies, and animal and plant demography.

Illustrative example(s)
- population biology

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- epidemiology (see 26.1309 Epidemiology)
- human biology (see 30.2701 Human biology)
- population studies (see 45.0501 Demography and population studies)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))

26.1307 Conservation biology

This instructional program class comprises any program that focuses on the application of the biological sciences to the specific problems of biodiversity, species preservation, ecological sustainability, and habitat fragmentation in the face of advancing human social, economic, and industrial pressures. These programs include courses in ecology, environmental science, biological systems, extinction theory, human-animal and human-plant interaction, ecosystem science and management, wetland conservation, field biology, forest and wildlife biology, and natural history.

Illustrative example(s)
- conservation biology

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- ecology (see 26.1301 Ecology)
- environmental and conservation science (see 03.0101 Natural resources/conservation, general)
- environmental biology (see 26.1305 Environmental biology)
- environmental science (see 03.0104 Environmental science)
- historic preservation and conservation (see 30.1201 Historic preservation and conservation, general)
- renewable resources (see 03.0199 Natural resources conservation and research, other)
- wildlife biology (see 26.0709 Wildlife biology)

26.1308 Systematic biology/biological systematics

This instructional program class comprises any program that focuses on the theoretical and empirical study of the principles and processes underlying the origin and maintenance of biological taxonomic diversity; related biogeographical and evolutionary patterns; and studies of the origin, diversification, distribution, and extinction of species and lineages. These programs include courses in phylogenetic analysis, structural development and molecular evolution, classification and taxonomic theory, biological nomenclature, taxonomic assignment, evolutionary theory, biological surveys and inventories, computer modelling, and database building.

Illustrative example(s)
- systematic biology

Exclusion(s)
- biological sciences (see 26.0101 Biology/biological sciences, general)
- biostatistics (see 26.1102 Biostatistics)
- evolutionary biology (see 26.1303 Evolutionary biology)
- systems science and theory (see 30.0601 Systems science and theory)

26.1309 Epidemiology

This instructional program class comprises any program that focuses on the scientific study of disease, disability, and trauma patterns within and across populations and the development of health management mechanisms to prevent and control disease outbreaks and injurious behaviours. These programs include courses in biostatistics, biochemistry, molecular biology, immunology, disease and injury determinants, genetic disease and disability factors, behavioural studies, health services research, environmental disease and injury factors, and population studies.

Illustrative example(s)
- epidemiology

Exclusion(s)
- immunology (see 26.0507 Immunology)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)
- microbiology and immunology (see 26.0508 Microbiology and immunology)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health medicine - residency (see 60.0429 Public health and general preventive medicine residency programs)
- veterinary epidemiology (see 51.2510 Veterinary preventive medicine, epidemiology and public health (Cert., MS, MSc, PhD))
- virology (see 26.0504 Virology)

26.1310 Ecology and evolutionary biology

This instructional program class comprises any program that focuses on the scientific study of the relationships and interactions across levels of biological organization - genes and genomes, organisms, species, and ecosystems - and how these change over time, including the origins and history of species, the processes by which biodiversity has evolved, and the ecological context in which this evolution takes place. These programs include courses in animal, plant, population, functional, evolutionary, and ecosystem ecology; ecological and evolutionary genetics; molecular evolution; population and conservation biology; animal and plant diversity; biometry; and scientific and research ethics.

Illustrative example(s)
- ecology and evolutionary biology

Exclusion(s)
- ecology (see 26.1301 Ecology)
- evolutionary biology (see 26.1303 Evolutionary biology)

26.1399 Ecology, evolution, systematics and population biology, other

This instructional program class comprises any program not listed above that relates to Ecology, evolution, systematics and population biology.

26.14 Molecular medicine

This subseries comprises instructional program class 26.1401.

26.1401 Molecular medicine

This instructional program class comprises any program that focuses on the scientific study of the molecular and cellular basis of disease, and the application of this knowledge to the development of new clinical and diagnostic tools, medications, and therapies. These programs include courses in cell biology, molecular biology, physiology, pharmacology, biochemistry, genetics, pathology, molecular immunology, research and quantitative methods, and biomedical research computing.

Illustrative example(s)
- molecular medicine

Exclusion(s)
- cell and molecular biology (see 26.0406 Cell/cellular and molecular biology)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- molecular biology (see 26.0204 Molecular biology)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- molecular genetics (see 26.0802 Molecular genetics)
- molecular pharmacology (see 26.1002 Molecular pharmacology)
- molecular physiology (see 26.0902 Molecular physiology)
- molecular toxicology (see 26.1005 Molecular toxicology)

26.15 Neurobiology and neurosciences

This subseries comprises instructional program classes 26.1501 to 26.1599.

26.1501 Neuroscience

This instructional program class comprises any program that focuses on the interdisciplinary scientific study of the molecular, structural, physiologic, cognitive, and behavioural aspects of the brain and nervous system. These programs include courses in molecular and cellular neuroscience, brain science, anatomy and physiology of the central nervous system, molecular and biochemical bases of information processing, behavioural neuroscience, biology of neuropsychiatric disorders, and applications to the clinical sciences and biomedical engineering.

Illustrative example(s)
- behavioural neuroscience
- cognitive neuroscience
- computational neuroscience
- developmental neuroscience
- molecular and cellular neuroscience
- neuroscience
- neurosciences
- systems neuroscience

Exclusion(s)
- cognitive science (see 30.2501 Cognitive science)
- neuroanatomy (see 26.1502 Neuroanatomy)
- neurology - residency (see 60.0417 Neurology residency programs)
- neuropharmacology (see 26.1003 Neuropharmacology)
- neurophysiology (see 26.1503 Neurobiology and anatomy)
- scientific computing (see 30.3001 Computational science)

26.1502 Neuroanatomy

This instructional program class comprises any program that focuses on the scientific study of the structure of the central and peripheral nervous system in vertebrates or the nervous system of invertebrates. These programs include courses in cellular and circuit anatomy, mapping of neuronal pathways, anatomical distribution and mapping of neuronal signalling molecules and their receptors, and the anatomical basis of central nervous system diseases and disorders.

Illustrative example(s)
- neuroanatomy

Exclusion(s)
- anatomy (see 26.0403 Anatomy)
- neurobiology (see 26.1503 Neurobiology and anatomy)
- neurology - residency (see 60.0417 Neurology residency programs)
- neuroscience (see 26.1501 Neuroscience)

26.1503 Neurobiology and anatomy

This instructional program class comprises any program that focuses on the scientific study of the structure and function of the central and peripheral nervous system in vertebrates and invertebrates. These programs include courses in molecular and cellular studies of neuronal and glial cells and circuits, neural transmitters and receptors, neuronal signalling processes, membrane and synapse structure and communication, autonomic function, nervous system circuitry and mapping, and anatomical and functional basis of central nervous system diseases and disorders.

Illustrative example(s)
- neurobiology
- neurobiology and neurophysiology
- neurophysiology

Exclusion(s)
- clinical neurophysiology - residency (see 60.0509 Clinical neurophysiology residency programs)
- neuroanatomy (see 26.1502 Neuroanatomy)
- neurobiology and behaviour (see 26.1504 Neurobiology and behaviour)
- neurology - residency (see 60.0417 Neurology residency programs)
- neuroscience (see 26.1501 Neuroscience)

26.1504 Neurobiology and behaviour

This instructional program class comprises any program that focuses on the scientific study of the structure and function of the central and peripheral nervous system in vertebrates and invertebrates as it relates to control of behaviour. These programs include courses in neuronal systems and circuits, higher level studies of behaviour and cognition, computational neurobiology, and behavioural manifestations of central nervous system diseases and disorders.

Illustrative example(s)
- neurobiology and behaviour

Exclusion(s)
- health behaviour (see 51.2212 Behavioural aspects of health)
- medical neurobiology (see 26.1599 Neurobiology and neurosciences, other)
- neurobiology (see 26.1503 Neurobiology and anatomy)

26.1599 Neurobiology and neurosciences, other

This instructional program class comprises any program not listed above that relates to Neurobiology and neurosciences.

Illustrative example(s)
- computational neurobiology
- medical neurobiology

Exclusion(s)
- neurobiology and behaviour (see 26.1504 Neurobiology and behaviour)
- scientific computing (see 30.3001 Computational science)

26.99 Biological and biomedical sciences, other

This subseries comprises instructional program class 26.9999.

26.9999 Biological and biomedical sciences, other

This instructional program class comprises any program not listed above that relates to Biological and biomedical sciences.

27. Mathematics and statistics

This series comprises instructional programs that focus on the systematic study of logical symbolic language and its applications.

27.01 Mathematics

This subseries comprises instructional program classes 27.0101 to 27.0199.

27.0101 Mathematics, general

This instructional program class comprises any general program that focuses on the analysis of quantities, magnitudes, forms, and their relationships, using symbolic logic and language. These programs include courses in algebra, calculus, functional analysis, geometry, number theory, logic, topology and other mathematical specializations.

Illustrative example(s)
- mathematics
- pure mathematics

Exclusion(s)
- applied mathematics (see 27.0301 Applied mathematics, general)
- logic (see 38.0102 Logic)
- mathematical physics (see 40.0810 Theoretical and mathematical physics)
- mathematics and statistics (see 27.0503 Mathematics and statistics)
- numeracy and computational skills (see 32.0104 Numeracy and computational skills (not for credit))
- teaching mathematics (see 13.1311 Mathematics teacher education)

27.0102 Algebra and number theory

This instructional program class comprises any program that focuses on the expression of quantities and their relationships by means of symbols, vectors, matrices, and equations, and the properties of integers. These programs include courses in algebraic structures, quadratic and automorphic forms, combinatorics, linear algebra, and algebraic geometry.

Illustrative example(s)
- algebra
- algebra and number theory

27.0103 Analysis and functional analysis

This instructional program class comprises any program that focuses on the properties and behaviour of equations, multivariate solutions, functions, and dynamic systems. These programs include courses in differential equations, variation, approximations, complex variables, integrals, harmonic analysis and wavelet theory, dynamic systems, and applications to mathematical physics.

Illustrative example(s)
- analysis and functional analysis

27.0104 Geometry/geometric analysis

This instructional program class comprises any program that focuses on the properties, measurements, and relationships pertaining to points, lines, angles, surfaces, and solids. These programs include courses in global analysis, differential geometry, Euclidian and non-Euclidian geometry, set theory, manifolds, integral geometry, and applications to algebra and other topics.

Illustrative example(s)
- geometric analysis
- geometry

27.0105 Topology and foundations

This instructional program class comprises any program that focuses on the properties of unaltered geometric configurations under conditions of continuous, multi-directional transformations. These programs include courses in mathematical logic, proof theory, model theory, set theory, combinatorics, continua, homotopy, homology, links, and transformation actions.

Illustrative example(s)
- topology
- topology and foundations

Exclusion(s)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geomatics engineering (see 14.3801 Surveying engineering)
- logic (see 38.0102 Logic)

27.0199 Mathematics, other

This instructional program class comprises any program not listed above that relates to Mathematics.

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)

27.03 Applied mathematics

This subseries comprises instructional program classes 27.0301 to 27.0399.

27.0301 Applied mathematics, general

This instructional program class comprises any program that focuses on the application of mathematics and statistics to the solution of functional problems in fields such as engineering and the applied sciences. These programs include courses in natural phenomena modelling continuum mechanics, reaction-diffusion, wave propagation, dynamic systems, numerical analysis, controlled theory, asymptotic methods, variation, optimization theory, inverse problems, and applications to specific scientific and industrial topics.

Illustrative example(s)
- applied mathematics
- mathematical sciences
- mathematics science

Exclusion(s)
- computational and applied mathematics (see 27.0304 Computational and applied mathematics)
- mathematical biology (see 27.0306 Mathematical biology)
- mathematical economics (see 45.0603 Econometrics and quantitative economics)
- mathematical physics (see 40.0810 Theoretical and mathematical physics)
- mathematics for commerce (see 27.0305 Financial mathematics)
- operations research (see 14.3701 Operations research)

27.0303 Computational mathematics

This instructional program class comprises any program that focuses on the application of mathematics to the theory, architecture, and design of computers, computational techniques, and algorithms. These programs include courses in computer theory, cybernetics, numerical analysis, algorithm development, binary structures, combinatorics, advanced statistics, and related topics.

Illustrative example(s)
- computational mathematics

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)
- computational and applied mathematics (see 27.0304 Computational and applied mathematics)
- computing science (see 11.0701 Computer science)
- mathematics and computer science (see 30.0801 Mathematics and computer science)
- scientific computing (see 30.3001 Computational science)

27.0304 Computational and applied mathematics

This instructional program class comprises any program that focuses on the application of a broad range of mathematical and computational methods to modeling, analysis, algorithm development, and simulation for the solution of complex scientific and engineering problems. These programs include courses in numerical analysis, discrete mathematics, operations research, optimization, differential equations, statistics, scientific computation, and applications to specific scientific and industrial topics.

Illustrative example(s)
- applied and computational mathematics
- computational and applied mathematics

Exclusion(s)
- applied mathematics (see 27.0301 Applied mathematics, general)

- computational mathematics (see 27.0303 Computational mathematics)
- scientific computing (see 30.3001 Computational science)

27.0305 Financial mathematics

This instructional program class comprises any program that focuses on the application of mathematics and statistics to the finance industry, including the development, critique, and use of various financial models. These programs include courses in probability theory, statistical analysis, numerical methods, computation and simulation methods, stochastic processes, economics, and financial markets and applications.

Illustrative example(s)
- mathematical finance
- quantitative and computational finance
- quantitative finance

Exclusion(s)
- applied mathematics (see 27.0301 Applied mathematics, general)

27.0306 Mathematical biology

This instructional program class comprises any program that focuses on the application of mathematics to genomics, molecular modeling, structural biology, ecology, evolutionary biology and systems of analysis of neurobiology, physiology, and metabolism. These programs include courses in computational mathematics, chaos and nonlinear systems, perturbation methods, evolutionary biology, molecular biology, bioinformatics, and neurobiology.

Illustrative example(s)
- mathematical biology

Exclusion(s)
- applied mathematics (see 27.0301 Applied mathematics, general)

27.0399 Applied mathematics, other

This instructional program class comprises any program not listed above that relates to Applied mathematics.

Illustrative example(s)
- combinatorics and optimization

27.05 Statistics

This subseries comprises instructional program classes 27.0501 to 27.0599.

27.0501 Statistics, general

This instructional program class comprises any general program that focuses on the relationships between groups of measurements, and similarities and differences, using probability theory and techniques derived from it. These programs include courses in the principles in probability theory, binomial distribution, regression analysis, standard deviation, stochastic processes, Monte Carlo method, Bayesian statistics, non-parametric statistics, sampling theory, and statistical techniques.

Illustrative example(s)
- applied statistics
- statistics

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)
- biostatistics (see 26.1102 Biostatistics)
- business statistics (see 52.1302 Business statistics)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- mathematics and statistics (see 27.0503 Mathematics and statistics)
- social research methods (see 45.0102 Research methodology and quantitative methods)

27.0502 Mathematical statistics and probability

This instructional program class comprises any program that focuses on the mathematical theory underlying statistical methods and their use. These programs include courses in probability theory, parametric and nonparametric inference, sequential analysis, multivariate analysis, Bayesian analysis, experimental design, time series analysis, resampling, robust statistics, limit theory, infinite particle systems, stochastic processes, martingales, Markov processes, and Banach spaces.

Illustrative example(s)
- mathematical statistics
- probability
- probability and statistics
- theoretical statistics

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)
- biostatistics (see 26.1102 Biostatistics)
- business statistics (see 52.1302 Business statistics)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)

27.0503 Mathematics and statistics

This instructional program class comprises any program with a general synthesis of mathematics and statistics or a specialization which draws from mathematics and statistics. These programs include courses in calculus, linear algebra, numerical analysis and partial differential equations, discrete mathematics, probability theory, statistics, computing, and other related topics.

Illustrative example(s)
- mathematics and statistics

Exclusion(s)
- mathematics (see 27.0101 Mathematics, general)
- statistics (see 27.0501 Statistics, general)

27.0599 Statistics, other

This instructional program class comprises any program not listed above that relates to Statistics.

27.99 Mathematics and statistics, other

This subseries comprises instructional program class 27.9999.

27.9999 Mathematics and statistics, other

This instructional program class comprises any program not listed above that relates to Mathematics and statistics.

28. Military science, leadership and operational art

This series comprises instructional programs that provide professional education and training of military officers in leadership, military science and operational studies, security policy and strategy, military economics and management, and pre-officer training.

28.08 Military science, leadership and operational art CAN

This subseries comprises instructional program class 28.0801.

28.0801 Military science, leadership and operational art CAN

This instructional program class comprises any program that focuses on the skills required to be an officer in the Armed forces. These programs may include courses in: military psychology, leadership, professionalism and ethics; Canadian military history; military operations, tactics, strategy and resource management; nuclear, biological and chemical warfare (NBCW) defence; international affairs, foreign policy and Canadian defence policy; peacekeeping, peacemaking, and conflict analysis and negotiation; military and international law; joint operations planning and strategy; and national security and policy. Pre-officer training programs are also included in this class.

Illustrative example(s)
- Canadian forces staff school
- defence management and policy
- defence studies
- joint staff operations programme
- military and strategic studies
- military psychology and leadership
- military studies
- Regular Officer Training Plan
- security and defence management and policy
- war studies

Exclusion(s)
- defence engineering and management (see 29.0501 Military technologies and applied sciences)
- holocaust and genocide studies (see 30.2101 Holocaust and related studies)
- military history (see 54.0108 Military history)
- national security studies (see 45.0902 National security policy studies)
- organizational leadership (see 52.0213 Organizational leadership)
- peace and conflict resolution studies (see 30.0501 Peace studies and conflict resolution)
- Royal Canadian Mounted Police (see 43.0107 Criminal justice/police science)

29. Military technologies and applied sciences

This series comprises instructional programs that prepare individuals in specialized and advanced subject matter for the Armed forces and national security organizations, including intelligence operations, military applied sciences, and military technologies.

29.05 Military technologies and applied sciences CAN

This subseries comprises instructional program class 29.0501.

29.0501 Military technologies and applied sciences CAN

This instructional program class comprises any program that prepares individuals to undertake specialized and advanced technical and applied scientific responsibilities for the Armed forces and national security organizations. These programs may include courses in: military command, control and communications operations; military

intelligence operations and systems; electronic warfare; combat systems engineering; operational oceanography, acoustics and undersea warfare; aerospace ground equipment and operations technology; missile, munitions and weapons systems; explosive ordnance and bomb disposal; military command, control and communications systems technology; radar communications and systems; and military computer information systems.

Illustrative example(s)
- defence engineering and management
- military aircraft structures technician
- military ammunition technician
- military aviation systems technician
- military communications technician
- military electronics technician
- military engineering
- military intelligence
- military radar technician
- military search and rescue technician

Exclusion(s)
- law enforcement intelligence analysis (see 43.0118 Law enforcement intelligence analysis)
- military and strategic studies (see 28.0801 Military science, leadership and operational art)
- military history (see 54.0108 Military history)

30. Multidisciplinary/interdisciplinary studies

This series comprises instructional programs that derive from two or more distinct programs to provide a cross-cutting focus on a subject concentration that is not subsumed under a single discipline or occupational field.

30.01 Biological and physical sciences

This subseries comprises instructional program class 30.0101.

30.0101 Biological and physical sciences

This instructional program class comprises any program that is either a general synthesis of one or more of the biological and physical sciences, or a specialization which draws from the biological and physical sciences.

Illustrative example(s)
- astrobiology
- biological and physical sciences
- general science

Exclusion(s)
- arts and science (see 24.0102 General studies)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- biological sciences (see 26.0101 Biology/biological sciences, general)
- biophysics (see 26.0203 Biophysics)
- natural sciences (see 30.1801 Natural sciences)
- physical sciences (see 40.0101 Physical sciences, general)
- science laboratory technology (see 41.0000 Science technologies/technicians, general)

30.05 Peace studies and conflict resolution

This subseries comprises instructional program class 30.0501.

30.0501 Peace studies and conflict resolution

This instructional program class comprises any program that focuses on the origins, resolution and prevention of international and inter-group conflicts. These programs include courses in peace research methods and related social scientific and psychological knowledge bases.

Illustrative example(s)
- conflict resolution studies
- peace and conflict resolution studies
- peace and conflict studies
- peace studies

Exclusion(s)
- dispute resolution (see 30.2801 Dispute resolution)
- international human rights law (graduate level) (see 22.0209 International law and legal studies (LLM, LLD, JSD/SJD))
- international relations (see 45.0901 International relations and affairs)
- international studies (see 30.2001 International/global studies)
- war studies (see 28.0801 Military science, leadership and operational art)

30.06 Systems science and theory

This subseries comprises instructional program class 30.0601.

30.0601 Systems science and theory

This instructional program class comprises any program with a multidisciplinary approach to the analysis and solution of complex problems requiring a combined approach using data and models from the natural, social, technological, behavioural and life sciences, and other specialized fields.

Illustrative example(s)
- systems science
- systems science and theory

Exclusion(s)
- information science (see 11.0401 Information science/studies)
- mathematics and computer science (see 30.0801 Mathematics and computer science)
- systems engineering (see 14.2701 Systems engineering)

30.08 Mathematics and computer science

This subseries comprises instructional program class 30.0801.

30.0801 Mathematics and computer science

This instructional program class comprises any program with a general synthesis of mathematics and computer science or a specialization which draws from mathematics and computer science.

Illustrative example(s)
- mathematics and computer science

Exclusion(s)
- accounting and computer science (see 30.1601 Accounting and computer science)
- computational mathematics (see 27.0303 Computational mathematics)
- computer science (see 11.0701 Computer science)
- mathematical sciences (see 27.0301 Applied mathematics, general)

- mathematics education (see 13.1311 Mathematics teacher education)

30.10 Biopsychology

This subseries comprises instructional program class 30.1001.

30.1001 Biopsychology

This instructional program class comprises any program that focuses on biological and psychological linkages, especially the linkages between biochemical and biophysical activity and the functioning of the central nervous system.

Illustrative example(s)
- biological psychology
- biopsychology

Exclusion(s)
- psychobiology (see 42.2706 Physiological psychology/psychobiology)

30.11 Gerontology

This subseries comprises instructional program class 30.1101.

30.1101 Gerontology

This instructional program class comprises any program that focuses on the human aging process and aged human populations, using the knowledge and methodologies of the social sciences, psychology and the biological and health sciences.

Illustrative example(s)
- gerontology

Exclusion(s)
- adult health nursing (see 51.3803 Adult health nurse/nursing)
- geriatric medicine (internal medicine) - residency (see 60.0520 Geriatric medicine residency programs)
- gerontological services (see 19.0702 Adult development and aging)
- geropsychology (see 42.2809 Geropsychology)
- leisure studies (see 31.0101 Parks, recreation and leisure studies)
- social work (see 44.0701 Social work, general)

30.12 Historic preservation and conservation

This subseries comprises instructional program classes 30.1201 to 30.1299.

30.1201 Historic preservation and conservation, general

This instructional program class comprises any program that focuses on the architectural design principles and building techniques used in historic structures and environments, and the process of saving and restoring old buildings and districts for contemporary use and enjoyment. These programs include courses in architectural history; building conservation techniques; real estate, land-use and tax laws and codes; economics and public policy; and public relations.

Illustrative example(s)
- historic preservation
- historic preservation and conservation

Exclusion(s)
- archival studies (see 25.0103 Archives/archival administration)
- art conservation (see 50.0703 Art history, criticism and conservation)
- conservation biology (see 26.1307 Conservation biology)
- environmental conservation (see 03.0101 Natural resources/conservation, general)
- museum studies (see 30.1401 Museology/museum studies)

30.1202 Cultural resource management and policy analysis

This instructional program class comprises any program that focuses on the application of cultural studies, public policy analysis, and management skills to planning, promoting, and implementing programs to preserve and protect cultural heritage sites and artifacts. These programs include courses in historical preservation and conservation, business management, policy analysis, applied economics, public relations, applied history, historical archaeology, and environmental impact studies.

Illustrative example(s)
- cultural resource management
- cultural resource management and policy analysis

Exclusion(s)
- archaeology (see 45.0301 Archaeology)
- archival studies (see 25.0103 Archives/archival administration)
- historic preservation and conservation (see 30.1201 Historic preservation and conservation, general)
- public policy analysis (see 44.0501 Public policy analysis, general)

30.1299 Historic preservation and conservation, other

This instructional program class comprises any program not listed above that relates to Historic preservation and conservation.

30.13 Medieval and renaissance studies

This subseries comprises instructional program class 30.1301.

30.1301 Medieval and renaissance studies

This instructional program class comprises any program that focuses on the study of the Medieval and/or Renaissance periods in European and circum-Mediterranean history from the perspective of various disciplines in the humanities and social sciences, including history and archaeology, as well as studies of period art and music.

Illustrative example(s)
- medieval studies
- renaissance studies

Exclusion(s)
- ancient history (see 54.0199 History, other)
- ancient studies (see 30.2201 Ancient studies/civilization)
- archaeology (see 45.0301 Archaeology)
- classical studies (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- history (see 54.0101 History, general)

30.14 Museology/museum studies

This subseries comprises instructional program class 30.1401.

30.1401 Museology/museum studies

This instructional program class comprises any program that focuses on the attitudes, knowledge, and skills required to develop, prepare, organize, administer, conserve, store and retrieve artifacts, exhibits and entire collections in museums and galleries, and that prepares individuals to assume curatorial, technical and managerial positions in museums. These programs include courses in institutional management, acquisition, exhibit design, conservation, packing techniques, and public relations.

Illustrative example(s)
- applied museum studies
- museology
- museum curator
- museum management
- museum studies
- museum technology

Exclusion(s)
- archaeology (see 45.0301 Archaeology)
- archival studies (see 25.0103 Archives/archival administration)
- art conservation (see 50.0703 Art history, criticism and conservation)
- historic preservation and conservation (see 30.1201 Historic preservation and conservation, general)
- museum costumes (see 50.0510 Costume design)

30.15 Science, technology and society

This subseries comprises instructional program class 30.1501.

30.1501 Science, technology and society

This instructional program class comprises any program that focuses on the contemporary social and public policy ramifications of science and technology, the interrelationship of science and engineering with the public policy process, and the social and ethical dimensions of scientific and technological enterprises.

Illustrative example(s)
- science, technology and society
- social studies of science

Exclusion(s)
- bioethics (see 51.3201 Bioethics/medical ethics)
- ethics (see 38.0103 Ethics)
- history and philosophy of science (see 54.0104 History and philosophy of science and technology)
- social ethics (see 38.0104 Applied and professional ethics)

30.16 Accounting and computer science

This subseries comprises instructional program class 30.1601.

30.1601 Accounting and computer science

This instructional program class comprises any program that combines accounting with computer science and/or computer studies.

Illustrative example(s)
- accounting and computer programming
- accounting and computer science

Exclusion(s)
- accounting (see 52.0301 Accounting)
- computer science (see 11.0701 Computer science)
- computerized accounting (see 52.0302 Accounting technology/technician and bookkeeping)
- mathematics and computer science (see 30.0801 Mathematics and computer science)

30.17 Behavioural sciences

This subseries comprises instructional program class 30.1701.

30.1701 Behavioural sciences

This instructional program class comprises any program with a combined or undifferentiated focus on the social sciences, psychology, and biomedical sciences to study complex problems of human individual and social growth and behaviour.

Illustrative example(s)
- behavioural science
- behavioural science technology
- behavioural sciences

Exclusion(s)
- animal behaviour (see 26.0708 Animal behaviour and ethology)
- applied behavioural sciences (see 42.2814 Applied behaviour analysis)
- behavioural neuroscience (see 26.1501 Neuroscience)
- cognitive science (see 30.2501 Cognitive science)
- health behaviour (see 51.2212 Behavioural aspects of health)
- human psychology (see 42.9999 Psychology, other)
- organizational behaviour (see 52.1003 Organizational behaviour studies)
- veterinary behaviourist - residency (see 60.0319 Veterinary behaviourist residency programs)

30.18 Natural sciences

This subseries comprises instructional program class 30.1801.

30.1801 Natural sciences

This instructional program class comprises any program with a combined or undifferentiated focus on one or more of the physical and biological sciences.

Illustrative example(s)
- natural sciences

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- biological sciences (see 26.0101 Biology/biological sciences, general)
- environmental science (see 03.0104 Environmental science)
- environmental studies (see 03.0103 Environmental studies)
- natural resources (see 03.0101 Natural resources/conservation, general)
- physical sciences (see 40.0101 Physical sciences, general)

30.19 Nutrition sciences

This subseries comprises instructional program class 30.1901.

30.1901 Nutrition sciences

This instructional program class comprises any scientific program that focuses on the utilization of food for human growth and metabolism, in both normal and dysfunctional states, from the interdisciplinary perspective of the agricultural, human, biological, and biomedical sciences. These programs include courses in food science, biochemistry, physiology, dietetics, food and nutrition studies, biotechnology, biophysics, and the clinical sciences.

Illustrative example(s)
- human nutritional sciences
- nutrition and nutraceutical sciences
- nutrition science
- nutritional science

Exclusion(s)
- animal nutrition (see 01.0904 Animal nutrition)
- dietetics (see 51.3101 Dietetics/dietitian (RD))
- food and nutrition (see 19.0501 Foods, nutrition and wellness studies, general)
- food science (see 01.1001 Food science)
- holistic nutrition (see 51.3199 Dietetics and clinical nutrition services, other)
- human nutrition (see 19.0504 Human nutrition)
- nutritionist (see 51.3102 Clinical nutrition/nutritionist)

30.20 International/global studies

This subseries comprises instructional program class 30.2001.

30.2001 International/global studies

This instructional program class comprises any program that focuses on global and international issues from the perspective of the social sciences, social services, and related fields.

Illustrative example(s)
- global studies
- international studies

Exclusion(s)
- international affairs (see 45.0901 International relations and affairs)
- international business law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- international development studies (see 45.0604 Development economics and international development)
- international economics (see 45.0605 International economics)
- international law (graduate level) (see 22.0209 International law and legal studies (LLM, LLD, JSD/SJD))
- international public policy (see 44.0504 International public policy analysis)
- peace and conflict studies (see 30.0501 Peace studies and conflict resolution)

30.21 Holocaust and related studies

This subseries comprises instructional program class 30.2101.

30.2101 Holocaust and related studies

This instructional program class comprises any program that focuses on genocide in human history with particular reference to twentieth century genocides such as that of the Ottoman Armenians during World War I and the Nazi Holocaust during World War II. Programs also focus on topics such as survivor studies and counselling, war crimes research and prevention, reconciliation and compensation, ethical and spiritual issues, holocaust art and literature, and legacy and effect in relation to subsequent generations.

Illustrative example(s)
- holocaust and genocide studies
- holocaust studies

Exclusion(s)
- archival studies (see 25.0103 Archives/archival administration)
- European history (see 54.0103 European history)
- historical studies (see 54.0101 History, general)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- peace and conflict studies (see 30.0501 Peace studies and conflict resolution)

30.22 Classical and ancient studies

This subseries comprises instructional program classes 30.2201 and 30.2202.

30.2201 Ancient studies/civilization

This instructional program class comprises any program that focuses on Western and non-Western cultures and related topics in the periods of prehistory and antiquity. These programs include courses in such disciplines as ancient languages, archaeology, history, art history, geography, population studies, environmental studies, religious studies, and the social sciences.

Illustrative example(s)
- ancient civilization
- ancient studies

Exclusion(s)
- ancient Greek and Roman studies (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- ancient history (see 54.0199 History, other)
- archaeology (see 45.0301 Archaeology)
- medieval studies (see 30.1301 Medieval and renaissance studies)

30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology

This instructional program class comprises any program that focuses on the cultures, environment, and history of the ancient Near East, Europe, and the Mediterranean basin from the perspective of the humanities and social sciences, including archaeology.

Illustrative example(s)
- ancient Greek and Roman studies
- Byzantine civilization
- classical civilization
- classical studies

Exclusion(s)
- ancient history (see 54.0199 History, other)
- ancient studies (see 30.2201 Ancient studies/civilization)
- archaeology (see 45.0301 Archaeology)
- classical languages (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- Near and Middle Eastern civilizations (see 05.0108 Near and Middle Eastern studies)

30.23 Intercultural/multicultural and diversity studies

This subseries comprises instructional program class 30.2301.

30.2301 Intercultural/multicultural and diversity studies

This instructional program class comprises any program that focuses on the dynamic social relations between and among majority and minority groups and different minority groups, and ways to promote mutual tolerance, inter-group cooperation, and the leadership and management of diverse groups and diversity issues in family, educational, recreational, and work settings. These programs include courses in ethnic and cultural studies, group psychology, sociology, anthropology, conflict resolution, human services and resources, and applications to various functional environments.

Illustrative example(s)
- intercultural studies

Exclusion(s)
- Aboriginal studies (see 05.0202 Aboriginal studies)
- cultural anthropology (see 45.0204 Cultural anthropology)
- gay and lesbian studies (see 05.0208 Gay/lesbian studies)
- international and intercultural communication (see 09.0907 International and intercultural communication)
- multicultural education (see 13.0202 Multicultural education)
- women's and gender studies (see 05.0207 Women's studies)

30.25 Cognitive science

This subseries comprises instructional program class 30.2501.

30.2501 Cognitive science

This instructional program class comprises any program that focuses on the study of the mind and the nature of intelligence from the interdisciplinary perspectives of computer science, philosophy, mathematics, psychology, neuroscience, and other disciplines. These programs include courses in mathematics and logic, cognitive process modelling, dynamic systems, learning theories, brain and cognition, neural networking, programming, and applications to topics such as language acquisition, computer systems, and perception and behaviour.

Illustrative example(s)
- cognitive science

Exclusion(s)
- behavioural science (see 30.1701 Behavioural sciences)
- cognitive and motivational psychology (see 42.2701 Cognitive psychology and psycholinguistics)
- neuroscience (see 26.1501 Neuroscience)

30.26 Cultural studies/critical theory and analysis

This subseries comprises instructional program class 30.2601.

30.2601 Cultural studies/critical theory and analysis

This instructional program class comprises any interdisciplinary program that focuses on the analysis and critique of culture in its varied forms, including values, ideas, belief systems, and expressive acts, and the relationship between cultural forms, everyday life, and structures of power. These programs include courses in anthropology, communications, history, literary studies, philosophy, political economy, and sociology, as well as recent theories and methodologies such as semiotics, deconstruction, postcolonial studies, gender theory, and ethnography.

Illustrative example(s)
- critical theory and analysis

30.27 Human biology

This subseries comprises instructional program class 30.2701.

30.2701 Human biology

This instructional program class comprises any interdisciplinary program that focuses on understanding the human being from the biological, social science, and humanities perspectives and that addresses contemporary issues related to biology and society, such as global health and disease, environmental policy, bioethics, and biotechnology.

Illustrative example(s)
- biology and society
- human biology

Exclusion(s)
- animal biology (see 26.0701 Zoology/animal biology, general)
- biology (see 26.0101 Biology/biological sciences, general)
- developmental biology (see 26.0404 Developmental biology and embryology)
- evolutionary biology (see 26.1303 Evolutionary biology)
- medical biology (see 26.0102 Biomedical sciences, general)
- population biology (see 26.1306 Population biology)
- reproductive biology (see 26.0905 Reproductive biology)

30.28 Dispute resolution

This subseries comprises instructional program class 30.2801.

30.2801 Dispute resolution

This instructional program class comprises any program that provides individuals with skills in negotiation, mediation, and arbitration, that can be applied to resolve disputes in a variety of settings, including business, legal, domestic, and labour relations.

Illustrative example(s)
- alternative dispute resolution
- dispute resolution
- negotiation and dispute resolution

Exclusion(s)
- conflict resolution studies (see 30.0501 Peace studies and conflict resolution)
- industrial relations (see 52.1002 Labour and industrial relations)

30.29 Maritime studies

This subseries comprises instructional program class 30.2901.

30.2901 Maritime studies

This instructional program class comprises any program that focuses on the history, science, policy issues, and literature of the ocean. These programs include courses in maritime history, maritime law, maritime literature, oceanography, maritime security, and maritime politics.

Illustrative example(s)
- maritime studies

Exclusion(s)
- marine navigation (see 49.0309 Nautical science/merchant marine officer)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)
- maritime law (graduate level) (see 22.0299 Legal research and advanced professional studies (post-LLB/JD), other)
- maritime law enforcement (see 43.0122 Maritime law enforcement)
- oceanography (see 40.0607 Oceanography, chemical and physical)
- sea mobility (see 52.0209 Transportation/mobility management)

30.30 Computational science

This subseries comprises instructional program class 30.3001.

30.3001 Computational science

This instructional program class comprises any program that focuses on the study of scientific computing and its application. These programs include courses in scientific visualization, multi-scale analysis, grid generation, data analysis, applied mathematics, numerical algorithms, high performance parallel computing, and numerical modeling and simulation with applications in science, engineering and other disciplines in which computation plays an integral role.

Illustrative example(s)
- scientific computing

Exclusion(s)
- computational biology (see 26.1104 Computational biology)
- computational chemistry (see 40.0599 Chemistry, other)
- computational geophysics (see 40.0603 Geophysics and seismology)
- computational linguistics (see 16.0102 Linguistics)
- computational mathematics (see 27.0303 Computational mathematics)
- computational neurobiology (see 26.1599 Neurobiology and neurosciences, other)
- computational neuroscience (see 26.1501 Neuroscience)
- computational physics (see 40.0810 Theoretical and mathematical physics)

30.31 Human computer interaction

This subseries comprises instructional program class 30.3101.

30.3101 Human computer interaction

This instructional program class comprises any interdisciplinary program that focuses on the study of the interaction between people and technology and how that technology impacts society, and combines disciplines within the fields of computing and information science (information systems, software engineering, artificial intelligence and design) and the behaviour sciences (cognitive science, cognitive psychology, sociology, organizational psychology, and social psychology). These programs include courses in information technology, cognitive and behavioural sciences, and systems design.

Illustrative example(s)
- human computer interaction

Exclusion(s)
- artificial intelligence (see 11.0102 Artificial intelligence)

30.32 Marine sciences

This subseries comprises instructional program class 30.3201.

30.3201 Marine sciences

This instructional program class comprises any program that focuses on the study of biology, chemistry, geology and physics applied to marine, estuarine and coastal environments. These programs include courses in marine biogeochemistry, atmosphere and ocean dynamics, coastal ecology, coastal ocean processes, microbial ecology, marine ecosystem modeling, and polar microbiology.

Illustrative example(s)
- marine sciences

Exclusion(s)
- marine biology (see 26.1302 Marine biology and biological oceanography)
- marine engineering (see 14.2201 Naval architecture and marine engineering)
- marine environment technology (see 15.0507 Environmental engineering technology/environmental technology)
- marine geology (see 40.0699 Geological and Earth sciences/geosciences, other)
- marine geomatics (see 45.0702 Geographic information science and cartography)
- marine navigation (see 49.0309 Nautical science/merchant marine officer)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)

30.33 Sustainability studies

This subseries comprises instructional program class 30.3301.

30.3301 Sustainability studies

This instructional program class comprises any program that focuses on the concept of sustainability from an interdisciplinary perspective. These programs include courses in sustainable development, environmental policies, ethics, ecology, landscape architecture, city and regional planning, economics, natural resources, sociology, and anthropology.

Illustrative example(s)
- organizational and environmental sustainability
- sustainability studies
- sustainable living

Exclusion(s)
- sustainable agriculture (see 01.0308 Agroecology and sustainable agriculture)
- sustainable aquaculture (see 01.0303 Aquaculture)
- sustainable energy engineering (see 14.9999 Engineering, other)
- sustainable management of forest resources (see 03.0506 Forest management/forest resources management)
- sustainable outdoor recreation (see 03.0207 Natural resource recreation and tourism)

30.99 Multidisciplinary/interdisciplinary studies, other

This subseries comprises instructional program class 30.9999.

30.9999 Multidisciplinary/interdisciplinary studies, other

This instructional program class comprises any program not listed above that relates to Multidisciplinary/interdisciplinary studies.

Illustrative example(s)
- environment and business
- interdisciplinary studies

- multidisciplinary studies
- quantum information processing

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- behavioural science (see 30.1701 Behavioural sciences)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- international studies (see 30.2001 International/global studies)
- mathematics and computer science (see 30.0801 Mathematics and computer science)

31. Parks, recreation, leisure and fitness studies

This series comprises instructional programs that focus on the principles and practices of managing parks and other recreational and fitness facilities; providing recreational, leisure and fitness services; and the study of human fitness.

31.01 Parks, recreation and leisure studies

This subseries comprises instructional program class 31.0101.

31.0101 Parks, recreation and leisure studies

This instructional program class comprises any program that focuses on the principles underlying recreational and leisure activities, and the practices involved in providing indoor and outdoor recreational facilities and services for the general public.

Illustrative example(s)
- community recreation
- hiking guide
- leisure sciences
- leisure studies
- outdoor recreation technician
- recreation and leisure
- recreation leadership
- recreation studies
- recreation technology
- recreology

Exclusion(s)
- ecotourism (see 03.0207 Natural resource recreation and tourism)
- parks management (see 31.0301 Parks, recreation and leisure facilities management, general)
- therapeutic recreation (see 51.2309 Therapeutic recreation/recreational therapy)
- tourism and travel management (see 52.0903 Tourism and travel services management)

31.03 Parks, recreation and leisure facilities management

This subseries comprises instructional program classes 31.0301 to 31.0399.

31.0301 Parks, recreation and leisure facilities management, general

This instructional program class comprises any program that prepares individuals to develop and manage park facilities and other indoor and outdoor recreation and leisure facilities. These programs include courses in supervising support personnel, health and safety standards, public relations, and basic business and marketing principles.

Illustrative example(s)
- arena management
- marina management
- parks management
- recreation club management
- recreation facilities management
- sports centre management

Exclusion(s)
- ecotourism (see 03.0207 Natural resource recreation and tourism)
- facilities management (see 19.0604 Facilities planning and management)
- forest management (see 03.0506 Forest management/forest resources management)
- forest ranger (see 03.0208 Natural resources law enforcement and protective services)
- golf club management (see 31.0302 Golf course operation and grounds management)
- natural resources management (see 03.0204 Natural resource economics)
- recreation and leisure management (see 31.0504 Sport and fitness administration/management)

31.0302 Golf course operation and grounds management

This instructional program class comprises any program that prepares individuals to manage the operation of golf courses. These programs include courses in turf grass science and management, golf course design and construction, grounds equipment and operation, pest control, and grounds management.

Illustrative example(s)
- golf club management
- golf club management and operations
- golf course and greenspace management
- golf course maintenance
- golf course management
- golf course technology
- greenskeeping

Exclusion(s)
- golf and sports turf management (see 01.0607 Turf and turfgrass management)
- greenspace management (see 01.0605 Landscaping and groundskeeping)
- recreation and sport management (see 31.0504 Sport and fitness administration/management)
- recreation facilities management (see 31.0301 Parks, recreation and leisure facilities management, general)

31.0399 Parks, recreation and leisure facilities management, other

This instructional program class comprises any program not listed above that relates to Parks, recreation and leisure facilities management.

31.05 Health and physical education/fitness

This subseries comprises instructional program classes 31.0501 to 31.0599.

31.0501 Health and physical education/fitness, general

This instructional program class comprises any general program that focuses on activities and principles that promote physical fitness, achieve and maintain athletic prowess, and accomplish related research and service goals. These programs include courses in human movement studies, motivation studies, rules and practice of specific sports, exercise and fitness principles and techniques, basic athletic injury prevention and treatment, and organizing and leading fitness and sports programs.

Illustrative example(s)
- athletic coach
- fitness and health
- health and fitness studies
- physical activity and sport studies
- physical education
- physical education and health
- physical education and recreation
- sport and exercise studies
- sport coach

Exclusion(s)
- aerobics instructor (see 31.0507 Physical fitness technician)
- dance (see 50.0301 Dance, general)
- health teacher education (see 13.1307 Health teacher education)
- human kinetics (see 31.0505 Kinesiology and exercise science)
- physical education teaching (see 13.1314 Physical education teaching and coaching)
- physical fitness and leisure, management (see 31.0504 Sport and fitness administration/management)
- sports and exercise (see 36.0108 Sports and exercise (not for credit))
- sports injury therapist (see 51.0913 Athletic training/trainer)
- sports medicine - residency (see 60.0577 Sports medicine residency programs)

31.0504 Sport and fitness administration/management

This instructional program class comprises any program that prepares individuals to apply business, coaching and physical education principles to the organization, administration and management of athletic programs and teams, fitness/rehabilitation facilities and health clubs, sport recreation services, and related services. These programs include courses in program planning and development; business and financial management principles; sales, marketing and recruitment; event promotion, scheduling and management; facilities management; public relations; legal aspects of sports; and applicable health and safety standards.

Illustrative example(s)
- leisure and recreation services management
- leisure and sport management
- leisure service administration
- outdoor recreation management
- physical fitness and leisure, management
- recreation administration
- recreation and leisure management
- recreation and sport management
- recreation and sports administration
- recreation management
- sports administration
- sports and fitness management
- sports management

Exclusion(s)
- arena management (see 31.0301 Parks, recreation and leisure facilities management, general)
- events and convention management (see 52.0907 Meeting and event planning)
- facilities management (see 19.0604 Facilities planning and management)
- fitness trainer (see 31.0507 Physical fitness technician)
- golf club management and operations (see 31.0302 Golf course operation and grounds management)
- human kinetics (see 31.0505 Kinesiology and exercise science)
- ski resort management (see 52.0906 Resort management)
- sport and event marketing (see 52.1910 Hospitality and recreation marketing operations)
- sport and exercise studies (see 31.0501 Health and physical education/fitness, general)
- sports studies (see 31.0508 Sports studies)

- turfgrass management (see 01.0607 Turf and turfgrass management)

31.0505 Kinesiology and exercise science

This instructional program class comprises any scientific program that focuses on the anatomy, physiology, biochemistry, and biophysics of human movement, and applications to exercise and therapeutic rehabilitation. These programs include courses in biomechanics, motor behaviour, motor development and coordination, motor neurophysiology, performance research, rehabilitative therapies, the development of diagnostic and rehabilitative methods and equipment, and related analytical methods and procedures in applied exercise and therapeutic rehabilitation.

Illustrative example(s)
- biomechanics
- exercise sciences
- human kinetics
- kinanthropology
- kinesiology
- kinesiology and health science
- kinesiology and sport studies

Exclusion(s)
- athletic trainer (see 51.0913 Athletic training/trainer)
- exercise physiology (see 26.0908 Exercise physiology)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- physical activity and sport studies (see 31.0501 Health and physical education/fitness, general)
- physiotherapy (see 51.2308 Physical therapy/therapist)

31.0507 Physical fitness technician

This instructional program class comprises any program that prepares individuals for employment in health and fitness clubs, wellness centres, public and private recreation facilities, hospitals and corporate fitness programs where they will perform a variety of instructional and administrative duties. These programs include courses in human anatomy and physiology, fitness techniques, exercise science, personal training, nutrition, and customer service.

Illustrative example(s)
- aerobics instructor
- fitness instructor
- fitness leadership
- fitness technician
- fitness trainer
- fitness training
- personal fitness trainer
- personal trainer
- physical trainer

Exclusion(s)
- athletic trainer (see 51.0913 Athletic training/trainer)
- health and fitness studies (see 31.0501 Health and physical education/fitness, general)
- physical education teacher (see 13.1314 Physical education teaching and coaching)
- physical fitness and leisure, management (see 31.0504 Sport and fitness administration/management)
- sports studies (see 31.0508 Sports studies)

31.0508 Sports studies

This instructional program class comprises any program that focuses on the psychological, sociological, and historical aspects of sport and physical activity. These programs include courses in theory of sport, sport psychology, sport in society, gender and race/ethnicity and sport, and sports history.

Illustrative example(s)
- sports studies

Exclusion(s)
- fitness trainer (see 31.0507 Physical fitness technician)
- sports communication (see 09.0906 Sports communication)
- sports management (see 31.0504 Sport and fitness administration/management)
- sports marketing (see 52.1910 Hospitality and recreation marketing operations)

31.0599 Health and physical education/fitness, other

This instructional program class comprises any program not listed above that relates to Health and physical education/fitness.

Illustrative example(s)
- applied sport science and coaching
- sports equipment specialist

Exclusion(s)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- physical therapy (see 51.2308 Physical therapy/therapist)

31.06 Outdoor education

This subseries comprises instructional program class 31.0601.

31.0601 Outdoor education

This instructional program class comprises any program that prepares individuals to work as an educator, instructor or facilitator in parks, recreational facilities, camps and other outdoor settings. These programs include courses in leadership skills, wilderness survival skills, first aid, group processes, counselling techniques, environmental studies and instruction in recreational activities such as rock climbing, ropes courses, backpacking, kayaking and canoeing.

Illustrative example(s)
- outdoor recreation leadership

Exclusion(s)
- organizational leadership (see 52.0213 Organizational leadership)
- outdoor recreation technician (see 31.0101 Parks, recreation and leisure studies)
- sustainable outdoor recreation (see 03.0207 Natural resource recreation and tourism)

31.99 Parks, recreation, leisure and fitness studies, other

This subseries comprises instructional program class 31.9999.

31.9999 Parks, recreation, leisure and fitness studies, other

This instructional program class comprises any program not listed above that relates to Parks, recreation, leisure and fitness studies.

Illustrative example(s)
- casino dealer
- croupier
- gaming attendant

Exclusion(s)
- casino management (see 52.0908 Casino management)
- radio and television (see 09.0701 Radio and television)

32. Basic skills (not for credit)

This series comprises instructional programs that focus on the fundamental knowledge and skills that individuals need to function productively in society.

32.01 Basic skills (not for credit)

This subseries comprises instructional program classes 32.0101 to 32.0199.

32.0101 Basic skills, general (not for credit)

This instructional program class comprises any general program that focuses on the fundamental knowledge and skills that individuals need to function productively in society.

Illustrative example(s)
- adult basic education (except high school equivalency)
- basic skills, general
- literacy and basic skills
- literacy and essential skills
- literacy and numeracy

Exclusion(s)
- adult basic education (high school equivalency) (see 53.0201 High school equivalence certificate programs)
- developmental services worker (see 19.0710 Developmental services worker)

32.0104 Numeracy and computational skills (not for credit)

This instructional program class comprises any program that focuses on the development of computing and other mathematical reasoning abilities and skills.

Illustrative example(s)
- numeracy
- numeracy and computational skills

Exclusion(s)
- mathematics (see 27.0101 Mathematics, general)

32.0105 Job-seeking/changing skills (not for credit)

This instructional program class comprises any program that focuses on the development of skills related to job searches and self-marketing. These programs include courses in assessing one's own capabilities and skills; filling out an application; and handling an interview.

Illustrative example(s)
- job-changing skills
- job-seeking skills

32.0107 Career exploration/awareness skills (not for credit)

This instructional program class comprises any program that focuses on the linkage between individual capabilities and needs and the job market. These programs include courses in the variety and scope of available employment, how to access job information, and techniques of self-analysis.

Illustrative example(s)
- career awareness skills
- career exploration skills

32.0108 Literacy and communication skills (not for credit)

This instructional program class comprises any program that focuses on the fundamental knowledge and skills in reading, writing and speaking that individuals need to function productively in society.

Illustrative example(s)
- literacy
- literacy and communication skills

Exclusion(s)
- adult literacy instruction (see 13.1502 Adult literacy tutor/instructor)
- communications (see 09.0100 Communication, general)
- English writing (see 23.1301 English writing, general)
- French writing (see 55.1301 French writing, general)

32.0109 Second language learning (not for credit)

This instructional program class comprises any program that focuses on the development of proficiency in reading, writing, and speaking a language or languages other than the mother tongue, that are needed to perform day-to-day tasks. These programs include courses in the use of basic communication skills to develop and transmit ideas and thoughts. Note: These programs are not for academic credit towards a postsecondary credential. For second language programs that are for academic credit towards a postsecondary credential see sub-series 16.17.

Illustrative example(s)
- English as a second language (not for credit)
- French as a second language (not for credit)
- second language learning (not for credit)

Exclusion(s)
- English as a second language (see 16.1701 English as a second language)
- French as a second language (see 16.1702 French as a second language)
- Native as a second language (see 16.1799 Second language learning, other)

32.0110 Basic computer skills (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills needed to operate a computer, including computer concepts, keyboarding and mouse skills, using computer hardware and software, and basic troubleshooting.

Illustrative example(s)
- basic computer applications
- basic computer skills

Exclusion(s)
- microcomputer applications (see 11.0601 Data entry/microcomputer applications, general)
- word processing (see 11.0602 Word processing)

32.0111 Workforce development and training (not for credit)

This instructional program class comprises any program that focuses on learning or upgrading basic skills in order to enhance job performance, promote career development, or train for a new job.

Illustrative example(s)
- workforce development and training

32.0199 Basic skills, other (not for credit)

This instructional program class comprises any program not listed above that relates to Basic skills.

33. Citizenship activities (not for credit)

This series comprises instructional programs that prepare individuals for citizenship, and provide instruction in how citizens may engage in civic activities.

33.01 Citizenship activities (not for credit)

This subseries comprises instructional program classes 33.0101 to 33.0199.

33.0101 Citizenship activities, general (not for credit)

This instructional program class comprises any program that generally prepares individuals for citizenship, and focuses on how citizens may engage in civic activities.

Illustrative example(s)
- citizenship activities, general

33.0102 American citizenship education (not for credit)

This instructional program class comprises any program that prepares individuals to take the oath of United States citizenship and to exercise the attendant rights and responsibilities of citizenship.

Illustrative example(s)
- American citizenship education

33.0103 Community awareness (not for credit)

This instructional program class comprises any program that focuses on local government and history, current issues, and on how individuals can keep abreast of important issues that may affect them.

Illustrative example(s)
- community awareness

Exclusion(s)
- community advocacy (see 44.0201 Community organization and advocacy)
- family and community services (see 19.0707 Family and community services)

33.0104 Community involvement (not for credit)

This instructional program class comprises any program that focuses on how individuals may become actively involved in the social, economic and political issues and events affecting them; and the roles and methods that are available to influence community life and public policy.

Illustrative example(s)
- community involvement

Exclusion(s)
- community advocacy (see 44.0201 Community organization and advocacy)
- community wellness (see 19.0707 Family and community services)

33.0105 Canadian citizenship education (not for credit)

This instructional program class comprises any program that prepares individuals to take the oath of Canadian citizenship and to exercise the attendant rights and responsibilities of citizenship.

Illustrative example(s)
- Canadian citizenship education

33.0199 Citizenship activities, other (not for credit)

This instructional program class comprises any program not listed above that relates to Citizenship activities.

34. Health-related knowledge and skills (not for credit)

This series comprises instructional programs that focus on the promotion of personal and family health.

34.01 Health-related knowledge and skills (not for credit)

This subseries comprises instructional program classes 34.0102 to 34.0199.

34.0102 Birthing and parenting knowledge and skills (not for credit)

This instructional program class comprises any program that focuses on all facets of the mother's and father's roles in family planning, prenatal preparation and care, the birthing experience, post-natal care and the raising of children.

Illustrative example(s)
- birthing and parenting knowledge and skills
- prenatal class (non credit)

Exclusion(s)
- child growth, care and development studies (see 19.0706 Child development)
- maternity nursing (see 51.3806 Maternal/child health and neonatal nurse/nursing)
- midwifery (see 51.3401 Direct entry midwifery (LM, CPM))
- nursing midwifery (see 51.3807 Nurse midwife/nursing midwifery)

34.0103 Personal health improvement and maintenance (not for credit)

This instructional program class comprises any program that focuses on the principles, techniques, and methods by which individuals can maintain or improve their overall physical and emotional well-being, as well as work on specific areas of personal health.

Illustrative example(s)
- personal health improvement and maintenance

34.0104 Addiction prevention and treatment (not for credit)

This instructional program class comprises any program that focuses on how individuals can avoid addictive substances and behaviours; the methods by which individuals can be treated for various addictions and related behaviour problems; and the knowledge and coping skills needed by relatives and associates of addicted individuals.

Illustrative example(s)
- addiction prevention and treatment

34.0199 Health-related knowledge and skills, other (not for credit)

This instructional program class comprises any program not listed above that relates to Health-related knowledge and skills.

Illustrative example(s)
- cardiopulmonary resuscitation (CPR)
- first aid

35. Interpersonal and social skills (not for credit)

This series comprises instructional programs that focus on the development of methods and skills for effective interactions with others in a variety of settings (private, social, and business settings).

35.01 Interpersonal and social skills (not for credit)

This subseries comprises instructional program classes 35.0101 to 35.0199.

35.0101 Interpersonal and social skills, general (not for credit)

This instructional program class comprises any general program that focuses on how to effectively interact with others in private, social and business settings.

Illustrative example(s)
- interpersonal and social skills, general

35.0102 Interpersonal relationships skills (not for credit)

This instructional program class comprises any program that focuses on how to increase one's ability to establish and maintain mutually satisfactory ties with other human beings.

Illustrative example(s)
- interpersonal relationships skills

35.0103 Business and social skills (not for credit)

This instructional program class comprises any program that focuses on how to increase one's ability to function effectively in social and business settings where interpersonal communication is required.

Illustrative example(s)
- business and social skills

35.0199 Interpersonal and social skills, other (not for credit)

This instructional program class comprises any program not listed above that relates to Interpersonal and social skills.

36. Leisure and recreational activities (not for credit)

This series comprises instructional programs that focus on the development of an appreciation for and competency in recreational and leisure-related activities.

36.01 Leisure and recreational activities (not for credit)

This subseries comprises instructional program classes 36.0101 to 36.0199.

36.0101 Leisure and recreational activities, general (not for credit)

This instructional program class comprises any general program that focuses on the development of an appreciation for and competency in recreational and leisure-related activities.

Illustrative example(s)
- leisure and recreational activities, general (not for credit)

36.0102 Handicrafts and model-making (not for credit)

This instructional program class comprises any program that focuses on the fashioning of objects of decoration, utility or representation from various materials, including related matters of research, tool use and appreciation.

Illustrative example(s)
- handicrafts and model-making (not for credit)

Exclusion(s)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)

36.0103 Board, card and role-playing games (not for credit)

This instructional program class comprises any program that focuses on the rules and techniques of participation and skill-building in competitive activities of skill or chance, such as board games, card games or role-playing activities.

Illustrative example(s)
- board, card and role-playing games (not for credit)

36.0105 Home maintenance and improvement (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills associated with maintaining living space and related equipment and furnishings, as well as do-it-yourself repairs and improvement projects of varying complexity.

Illustrative example(s)
- home maintenance and improvement (not for credit)

36.0106 Nature appreciation (not for credit)

This instructional program class comprises any program that focuses on how to increase one's understanding and knowledge of the natural environment in which we live, as well as techniques of wildlife observation and management.

Illustrative example(s)
- nature appreciation (not for credit)

36.0107 Pet ownership and care (not for credit)

This instructional program class comprises any program that focuses on how to increase one's ability to care for domesticated animals kept for pleasure or work.

Illustrative example(s)
- pet ownership and care (not for credit)

36.0108 Sports and exercise (not for credit)

This instructional program class comprises any program that focuses on the rules and techniques of participation and skill building in competitive physical activities, as well as non-competitive physical fitness programs.

Illustrative example(s)
- sports and exercise (not for credit)

Exclusion(s)
- human kinetics (see 31.0505 Kinesiology and exercise science)
- sport and exercise studies (see 31.0501 Health and physical education/fitness, general)

36.0109 Travel and exploration (not for credit)

This instructional program class comprises any program that focuses on particular geographic areas or phenomena, and provides opportunities for organized trips or tours, including related knowledge and skills.

Illustrative example(s)
- travel and exploration (not for credit)

Exclusion(s)
- development and promotion of travel products (see 52.1906 Tourism promotion operations)
- tourism and travel (see 52.1905 Tourism and travel services marketing operations)
- tourism and travel management (see 52.0903 Tourism and travel services management)

36.0110 Art (not for credit)

This instructional program class comprises any program that focuses on the techniques and methods of creative self-expression in visual or plastic media, such as painting or sculpture.

Illustrative example(s)
- art (not for credit)

Exclusion(s)
- art studies (see 50.0701 Art/art studies, general)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- fine art painting (see 50.0708 Painting)
- fine arts (see 50.0702 Fine/studio arts, general)
- sculpture (see 50.0709 Sculpture)

36.0111 Collecting (not for credit)

This instructional program class comprises any program that focuses on the knowledge and techniques necessary for acquiring and maintaining personal collections of objects, such as autographs, stamps, models, specimens, vehicles and antiques.

Illustrative example(s)
- collecting (not for credit)

36.0112 Cooking and other domestic skills (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills related to food buying and preparation, home decoration, sewing and other domestic activities, either as hobbies or as routine tasks.

Illustrative example(s)
- cooking and other domestic skills (not for credit)

Exclusion(s)
- cooking (see 12.0500 Cooking and related culinary arts, general)
- food preparation (see 12.0505 Food preparation/professional cooking/kitchen assistant)

36.0113 Computer games and programming skills (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills associated with creating and maintaining computer programs, as well as playing computer-based games.

Illustrative example(s)
- computer games and programming skills (not for credit)

36.0114 Dancing (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills related to recreational dance, such as square dancing, ballroom dancing, classical or modern dance.

Illustrative example(s)
- dancing (not for credit)

Exclusion(s)
- ballet (see 50.0302 Ballet)
- dance (see 50.0301 Dance, general)

36.0115 Music (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills associated with personal music appreciation, the playing of a musical instrument, singing or recreational composition.

Illustrative example(s)
- music (not for credit)

Exclusion(s)
- music (see 50.0901 Music, general)
- music performance (see 50.0903 Music performance, general)

36.0116 Reading (not for credit)

This instructional program class comprises any program that focuses on the activity of reading for pleasure, either alone or as part of a group experience.

Illustrative example(s)
- reading (not for credit)

36.0117 Theatre (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills associated with participation in amateur theatrical productions, drama appreciation, and writing amateur plays.

Illustrative example(s)
- theatre (not for credit)

Exclusion(s)
- drama and theatre (see 50.0501 Drama and dramatics/theatre arts, general)
- theatre production (see 50.0507 Directing and theatrical production)
- theatre technical production (see 50.0502 Technical theatre/theatre design and technology)

36.0118 Writing (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills related to creative writing and poetry composition for pleasure or profit, including methods of publication.

Illustrative example(s)
- writing (not for credit)

Exclusion(s)
- English composition (see 23.1301 English writing, general)
- English creative writing (see 23.1302 English creative writing)
- English technical writing (see 23.1303 English professional, technical, business, and scientific writing)
- French composition (see 55.1301 French writing, general)
- French creative writing (see 55.1302 French creative writing)
- French technical writing (see 55.1303 French professional, technical, business, and scientific writing)

36.0119 Aircraft pilot (private) (not for credit)

This instructional program class comprises any program that prepares individuals to fly aircraft for personal use, and qualifies individuals to sit for the pilot's license examination. These programs include courses in principles of aircraft design and performance; aircraft flight systems and controls; flight crew operations and procedures; radio communications and navigation procedures and systems; airways safety and traffic regulations; and governmental rules and regulations pertaining to piloting aircraft.

Illustrative example(s)
- aircraft pilot (private) (not for credit)

Exclusion(s)
- airline pilot (see 49.0102 Airline/commercial/professional pilot and flight crew)

36.0199 Leisure and recreational activities, other (not for credit)

This instructional program class comprises any program not listed above that relates to Leisure and recreational activities.

37. Personal awareness and self-improvement (not for credit)

This series comprises instructional programs that focus on the development of improved self-awareness, avoidance of stressful behaviour, and improved decision-making skills.

37.01 Personal awareness and self-improvement (not for credit)

This subseries comprises instructional program classes 37.0101 to 37.0199.

37.0101 Self-awareness and personal assessment (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills useful in becoming aware of one's feelings, using methods of assessing one's personal attributes, and being aware of how one is perceived by others.

Illustrative example(s)
- self-awareness and personal assessment

37.0102 Stress management and coping skills (not for credit)

This instructional program class comprises any program that focuses on the knowledge and skills useful in avoiding stressful situations and managing them when they occur, including dealing with complex and long-term stressful relationships.

Illustrative example(s)
- stress management and coping skills

37.0103 Personal decision-making skills (not for credit)

This instructional program class comprises any program that focuses on how to develop individuals' abilities to assess decisions affecting their lives and to make life choices consistent with needs and beliefs.

Illustrative example(s)
- personal decision-making skills

37.0104 Self-esteem and values clarification (not for credit)

This instructional program class comprises any program that focuses on the development of personal philosophies and ideas of positive self-concept and self-worth, and applying these knowledge and skills in everyday circumstances.

Illustrative example(s)
- self-esteem and values clarification

37.0199 Personal awareness and self-improvement, other (not for credit)

This instructional program class comprises any program not listed above that relates to Personal awareness and self-improvement.

38. Philosophy and religious studies

This series comprises instructional programs that focus on logical inquiry, philosophical analysis, and the academic study of organized systems of belief and religious practices.

38.00 Philosophy and religious studies, general

This subseries comprises instructional program class 38.0001.

38.0001 Philosophy and religious studies, general

This instructional program class comprises any general program that combines the study of philosophy and religious studies. These programs include courses in logic; ethics; epistemology; symbolism; phenomenology; the sociology, psychology, philosophy, anthropology, literature, and art of religion; and world religions.

Illustrative example(s)
- philosophy and religion
- philosophy and religious studies
- religion, culture and ethics

Exclusion(s)
- cultural anthropology (see 45.0204 Cultural anthropology)
- philosophy (see 38.0101 Philosophy)
- religion (see 38.0201 Religion/religious studies, general)

38.01 Philosophy, logic and ethics

This subseries comprises instructional program classes 38.0101 to 38.0199.

38.0101 Philosophy

This instructional program class comprises any program that focuses on ideas and their logical structure, including arguments and investigations about abstract and real phenomena. These programs include courses in logic, ethics, aesthetics, epistemology, metaphysics, symbolism, and history of philosophy, and applications to the theoretical foundations and methods of other disciplines.

Illustrative example(s)
- philosophy

Exclusion(s)
- philosophy and religion (see 38.0001 Philosophy and religious studies, general)
- philosophy of education (see 13.0901 Social and philosophical foundations of education)
- philosophy of science and technology (see 54.0104 History and philosophy of science and technology)
- political philosophy (see 45.1001 Political science and government, general)
- religious studies (see 38.0201 Religion/religious studies, general)
- Taoist philosophy (see 38.0299 Religion/religious studies, other)

38.0102 Logic

This instructional program class comprises any program that focuses on the systematic study of valid inference, argument, and sound reasoning. These programs include courses in classical logic, properties of argument, validity, proof, fallacies, formal and material logic, symbolic and mathematical logic, analysis, specific schools of logic, and applications to problems in other academic disciplines and professional fields.

Illustrative example(s)
- logic

Exclusion(s)
- artificial intelligence (see 11.0102 Artificial intelligence)
- cognitive science (see 30.2501 Cognitive science)
- computing and information science (see 11.0101 Computer and information sciences, general)

- mathematics (see 27.0101 Mathematics, general)
- topology (see 27.0105 Topology and foundations)

38.0103 Ethics

This instructional program class comprises any program that focuses on the systematic study of the theory of moral good and its application to various theoretical and practical problems. These programs include courses in ethical theory, history of ethics, belief and value systems, ethical constructs, and applications to specific topics, issues and problems.

Illustrative example(s)
- Christian ethics
- ethics
- ethics studies
- religious ethics

Exclusion(s)
- bioethics (see 51.3201 Bioethics/medical ethics)
- business ethics (see 38.0104 Applied and professional ethics)
- science, technology and society (see 30.1501 Science, technology and society)

38.0104 Applied and professional ethics

This instructional program class comprises any program that focuses on the systematic study of ethical issues in the workplace and public life, and the application of ethical decision-making to the practical problems of society and the professions. These programs include courses in ethical theory; history of ethics; contemporary social dilemmas; methods in applied ethics; and applications including medical ethics, legal ethics, business ethics, environmental ethics, and criminal justice ethics.

Illustrative example(s)
- applied ethics
- business ethics
- engineering ethics
- professional ethics
- social ethics
- value theory and applied ethics

Exclusion(s)
- bioethics (see 51.3201 Bioethics/medical ethics)
- ethics (see 38.0103 Ethics)

38.0199 Philosophy, logic and ethics, other

This instructional program class comprises any program not listed above that relates to Philosophy, logic and ethics.

Illustrative example(s)
- Eastern philosophy
- European philosophy
- existentialism
- feminist philosophy
- German philosophy
- Greek philosophy
- history of philosophy
- metaphysics
- phenomenology

- philosophy of science

Exclusion(s)
- history and philosophy of art (see 50.0703 Art history, criticism and conservation)
- history and philosophy of religion (see 38.9999 Philosophy and religious studies, other)
- legal philosophy (see 22.9999 Legal professions and studies, other)
- philosophy of science and technology (see 54.0104 History and philosophy of science and technology)
- political philosophy (see 45.1001 Political science and government, general)

38.02 Religion/religious studies

This subseries comprises instructional program classes 38.0201 to 38.0299.

38.0201 Religion/religious studies, general

This instructional program class comprises any program that focuses on the nature of religious belief and specific religious and quasi-religious systems. These programs include courses in phenomenology; the sociology, psychology, philosophy, anthropology, literature and art of religion; mythology; scriptural and textual studies; religious history and politics; and specific studies of particular faith communities and their behaviour.

Illustrative example(s)
- comparative religion
- religion
- religious studies
- world religions

Exclusion(s)
- Anglican studies (see 38.0203 Christian studies)
- Bible studies (see 39.0201 Bible/Biblical studies)
- Buddhist studies (see 38.0202 Buddhist studies)
- Hindu religion (see 38.0204 Hindu studies)
- history of religion (see 38.0299 Religion/religious studies, other)
- Islamic religion (see 38.0205 Islamic studies)
- Judaic studies (see 38.0206 Jewish/Judaic studies)
- philosophy and religion (see 38.0001 Philosophy and religious studies, general)
- priesthood (see 39.0602 Divinity/ministry (BDiv, MDiv))
- rabbinical studies (see 39.0605 Rabbinical studies (MHL/Rav))
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- Talmudic law (see 39.0606 Talmudic studies)

38.0202 Buddhist studies

This instructional program class comprises any program that focuses on the philosophy preached by Siddartha Gautama, the Buddha, in ancient India and subsequently interpreted by his disciples and apostles; together with the intellectual, cultural, social, and ritual developments of the faith and its branches. These programs include courses in Buddhist sacred literature (Tipitaka, etc.) and study of one or more of the main branches including Early Buddhism, Hinayana, Theravada, Madhyamaka, Yogacara, Pure Land, Shingon, Tendai, Nichiren Shu, Zen, Tibetan, Chinese, Korean, Vietnamese, and others.

Illustrative example(s)
- Buddhism
- Buddhist studies
- Tibetan Buddhism
- Zen Buddhism

Exclusion(s)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- Tibetan studies (see 05.0131 Tibetan studies)

38.0203 Christian studies

This instructional program class comprises any program that focuses on the philosophy and teachings of Jesus Christ and his apostles, and the subsequent intellectual and cultural movements and institutions based on Christianity. These programs include courses in Christian sacred scripture, Christian literature and philosophy, and studies of one or more of the main branches of the faith and their cultural context including Orthodoxy, Roman Catholicism, Protestantism, Evangelicalism, and others.

Illustrative example(s)
- Anglican studies
- Christian studies
- Christianity and culture
- church history
- Eastern Christian studies

Exclusion(s)
- Bible studies (see 39.0201 Bible/Biblical studies)
- clergy (see 39.0602 Divinity/ministry (BDiv, MDiv))
- pastoral studies (see 39.0701 Pastoral studies/counselling)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- religious studies (see 38.0201 Religion/religious studies, general)
- theological studies (see 39.0601 Theology/theological studies)

38.0204 Hindu studies

This instructional program class comprises any program that focuses on the group of South Asian theologies and philosophies collectively known as Hinduism; together with the religious history and cultural and social manifestations of the faith. These programs include courses in Hindu theology and philosophy (dharma); literature (Vedas, Upanishads, Epics, and commentaries); the Hindu Pantheon, sects, and movements; schools and disciplines; and related arts and sciences.

Illustrative example(s)
- Hindu religion
- Hindu studies
- Hinduism
- modern Hinduism

Exclusion(s)
- Hindi (see 16.0701 Hindi language and literature)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- world religions (see 38.0201 Religion/religious studies, general)

38.0205 Islamic studies

This instructional program class comprises any program that focuses on Islam as preached by the Prophet Muhammad in 6th century Arabia and subsequently interpreted and elaborated by Islamic scholars and others; together with the cultural and social milieu related to the faith in various periods, localities, and branches. These programs include courses in Islamic scripture and related written authorities and commentaries (Qur'an, Hadith, Sunnah, Tafsir, Sirah); Islamic law and jurisprudence; Sufism; the various branches including Sunni, Shi'ia, Ahmaddiyyah, and others; and the development of Islamic religion and society from the beginnings to the present.

Illustrative example(s)
- Islamic religion
- Islamic studies

Exclusion(s)
- Middle East history (see 54.0199 History, other)
- Near and Middle Eastern civilizations (see 05.0108 Near and Middle Eastern studies)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- world religions (see 38.0201 Religion/religious studies, general)

38.0206 Jewish/Judaic studies

This instructional program class comprises any program that focuses on the history, culture, and religion of the Jewish people. These programs include courses in Jewish religious heritage, sacred texts, and law; Jewish philosophy and intellectual history; Jewish life and culture, both in Israel and the Jewish Diaspora; historical Jewish minority cultures such as the Yiddish, Sephardic, and others; anti-Semitism, gentile relations and Shoa; Zionism; and modern developments within Judaism.

Illustrative example(s)
- Jewish studies
- Judaic studies

Exclusion(s)
- Biblical languages (see 16.1103 Ancient Near Eastern and Biblical languages, literatures and linguistics)
- Hebrew (see 16.1102 Hebrew language and literature)
- Hebrew Bible (see 39.0201 Bible/Biblical studies)
- holocaust and genocide studies (see 30.2101 Holocaust and related studies)
- Jewish law (see 39.0606 Talmudic studies)
- rabbinical studies (see 39.0605 Rabbinical studies (MHL/Rav))
- religious education (except Bachelor of Education) (see 39.0401 Religious education)

38.0299 Religion/religious studies, other

This instructional program class comprises any program not listed above that relates to Religion/religious studies.

Illustrative example(s)
- Eastern religions
- Eastern religious traditions
- history of religion
- Native American religious traditions
- religion and culture
- Taoism
- Taoist philosophy
- Western religions
- Western religious traditions
- women in religion

Exclusion(s)
- cultural anthropology (see 45.0204 Cultural anthropology)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- women's ministry (see 39.0704 Women's ministry)

38.99 Philosophy and religious studies, other

This subseries comprises instructional program class 38.9999.

38.9999 Philosophy and religious studies, other

This instructional program class comprises any program not listed above that relates to Philosophy and religious studies.

Illustrative example(s)
- history and philosophy of religion
- thanatology

Exclusion(s)
- theology (see 39.0601 Theology/theological studies)

39. Theology and religious vocations

This series comprises instructional programs that focus on the intramural study of theology and that prepare individuals for the professional practice of religious vocations.

39.02 Bible/Biblical studies

This subseries comprises instructional program class 39.0201.

39.0201 Bible/Biblical studies

This instructional program class comprises any program that focuses on the Christian and/or Jewish Bible and related literature, with an emphasis on understanding and interpreting the theological, doctrinal, and ethical messages contained therein. May include preparation for applying these studies in various religious vocations.

Illustrative example(s)
- Bible studies
- Bible study
- Biblical studies
- Hebrew Bible
- New Testament
- New Testament studies
- Old Testament
- Old Testament studies

Exclusion(s)
- Biblical literature (see 16.1103 Ancient Near Eastern and Biblical languages, literatures and linguistics)
- Christian studies (see 38.0203 Christian studies)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- religious studies (see 38.0201 Religion/religious studies, general)
- sacred scripture studies (see 39.9999 Theology and religious vocations, other)

39.03 Missions/missionary studies and missiology

This subseries comprises instructional program class 39.0301.

39.0301 Missions/missionary studies and missiology

This instructional program class comprises any program that focuses on the theory and practice of religious outreach, social service and proselytization, and that prepares individuals for mission vocations. These programs include courses in theology, evangelism, preaching, medical and social mission work, missionary education, missionary aviation, emergency services, legal and political aspects of working in other countries, and preparation for ordination as missionaries.

Illustrative example(s)
- missiology
- mission studies
- mission studies and interreligious dialogue
- missionary
- missionary studies
- missions
- trans-cultural mission
- world missions

Exclusion(s)
- ordained clergy (see 39.0602 Divinity/ministry (BDiv, MDiv))

39.04 Religious education

This subseries comprises instructional program class 39.0401.

39.0401 Religious education

This instructional program class comprises any program that focuses on the theory and practice of providing educational services to members of faith communities, within the context of a particular religion, and that prepares individuals to serve as religious educators. These programs include courses in planning and teaching lessons; organizing and supervising instructional activities; designing and developing instructional materials; and administering religious education programs and facilities.

Illustrative example(s)
- catechism
- religious education (except Bachelor of Education)

Exclusion(s)
- pastoral studies (see 39.0701 Pastoral studies/counselling)
- religious education teacher (Bachelor of Education) (see 13.1399 Teacher education and professional development, specific subject areas, other)
- religious studies (see 38.0201 Religion/religious studies, general)
- youth and family ministry (see 39.0702 Youth ministry)

39.05 Religious/sacred music

This subseries comprises instructional program class 39.0501.

39.0501 Religious/sacred music

This instructional program class comprises any program that focuses on the history, theory, composition, and performance of music for religious or sacred purposes, and that prepares individuals for religious musical vocations such as choir directors, cantors, organists, and chanters.

Illustrative example(s)
- church music
- religious music
- sacred music

Exclusion(s)
- music performance (see 50.0903 Music performance, general)
- music theory and composition (see 50.0904 Music theory and composition)
- orchestra conductor (see 50.0906 Conducting)
- organ (see 50.0907 Keyboard instruments)

- vocal performance (see 50.0908 Voice and opera)

39.06 Theological and ministerial studies

This subseries comprises instructional program classes 39.0601 to 39.0699.

39.0601 Theology/theological studies

This instructional program class comprises any program that focuses on the beliefs and doctrine of a particular religious faith from the intramural point of view of that faith. These programs include courses in systematic theology, historical theology, moral theology, doctrinal studies, dogmatics, apologetics, and applications to specific questions of ecclesiastical polity and religious life.

Illustrative example(s)
- Christian theology
- pastoral theology
- practical theology
- theological studies
- theology

Exclusion(s)
- Christian studies (see 38.0203 Christian studies)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- seminary (see 39.0604 Pre-theology/pre-ministerial studies)

39.0602 Divinity/ministry (BDiv, MDiv)

This instructional program class comprises any program that prepares individuals for ordination as ministers or priests in any of the Christian religious traditions. These programs include courses in the theology and polity of a particular church, church law, liturgy and ritual, principles of pastoral ministry, homiletics, evangelism, church/parish organization and management, Christian ethics, church history, and related studies.

Illustrative example(s)
- Christian ministry
- church ministry
- clergy
- divinity
- minister of religion
- ordained minister
- pastor
- pastoral ministry
- priest

Exclusion(s)
- lay ministry (see 39.0705 Lay ministry)
- missionary studies (see 39.0301 Missions/missionary studies and missiology)
- pastoral studies (see 39.0701 Pastoral studies/counselling)
- seminary (see 39.0604 Pre-theology/pre-ministerial studies)
- theology (see 39.0601 Theology/theological studies)
- urban ministry (see 39.0703 Urban ministry)
- women's ministry (see 39.0704 Women's ministry)
- youth and family ministry (see 39.0702 Youth ministry)

39.0604 Pre-theology/pre-ministerial studies

This instructional program class comprises any program that prepares individuals to enter a seminary or other program leading to religious ordination, or a related religious vocation.

Illustrative example(s)
- preministerial studies
- pretheology studies
- seminary

Exclusion(s)
- priest (see 39.0602 Divinity/ministry (BDiv, MDiv))
- theology (see 39.0601 Theology/theological studies)

39.0605 Rabbinical studies (MHL/Rav)

This instructional program class comprises any program that prepares individuals for ordination as rabbis. These programs include courses in Talmud, Halacha, liturgy and rituals, rabbinical thought, Jewish ethics, Jewish education, pastoral counselling and homiletics.

Illustrative example(s)
- rabbi
- rabbinical studies

Exclusion(s)
- Hebrew Bible (see 39.0201 Bible/Biblical studies)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- religious studies (see 38.0201 Religion/religious studies, general)
- Talmudic law (see 39.0606 Talmudic studies)

39.0606 Talmudic studies

This instructional program class comprises any program that prepares individuals for advanced Talmudic scholarship and research and for entry into a program leading to ordination as Rabbis; students are also qualified to enter conventional graduate and professional schools. These programs include courses in Jewish law and jurisprudence, philosophy, and ethics, in addition to a major emphasis on Talmud.

Illustrative example(s)
- Jewish law
- Talmud
- Talmudic law
- Talmudic studies

Exclusion(s)
- Hebrew Bible (see 39.0201 Bible/Biblical studies)
- Jewish studies (see 38.0206 Jewish/Judaic studies)
- rabbinical studies (see 39.0605 Rabbinical studies (MHL/Rav))

39.0699 Theological and ministerial studies, other

This instructional program class comprises any program not listed above that relates to Theological and ministerial studies.

Illustrative example(s)
- worship studies

Exclusion(s)
- thanatology (see 38.9999 Philosophy and religious studies, other)

39.07 Pastoral counselling and specialized ministries

This subseries comprises instructional program classes 39.0701 to 39.0799.

39.0701 Pastoral studies/counselling

This instructional program class comprises any program that focuses on the theory and principles of pastoral care and prepares ordained clergy to provide non-clinical pastoral counselling to individuals and groups. These programs include courses in pastoral leadership, counselling psychology; crisis intervention; individual and group procedures; theological and spiritual counselling; pastoral care; and applications to specific types of ministry.

Illustrative example(s)
- pastoral counselling
- pastoral leadership
- pastoral studies

Exclusion(s)
- Christian leadership (see 39.0705 Lay ministry)
- clergy (see 39.0602 Divinity/ministry (BDiv, MDiv))
- clinical pastoral counselling (see 51.1506 Clinical pastoral counselling/patient counselling)
- organizational leadership (see 52.0213 Organizational leadership)
- theological studies (see 39.0601 Theology/theological studies)
- youth pastor (see 39.0702 Youth ministry)

39.0702 Youth ministry

This instructional program class comprises any program that prepares the ordained clergy and other religious professionals to provide spiritual, counselling, and leadership services to children, adolescents, and young adults. These programs include courses in child and adolescent psychology, human growth and development, family studies, communication skills, religious education, youth counselling, small group leadership, planning and organizing youth activities, volunteer supervision, and youth evangelism and worship.

Illustrative example(s)
- children's ministries
- youth and family ministry
- youth ministry
- youth pastor

Exclusion(s)
- child care worker (see 19.0709 Child care provider/assistant)
- pastoral studies (see 39.0701 Pastoral studies/counselling)
- religious education (except Bachelor of Education) (see 39.0401 Religious education)
- youth care worker (see 44.0702 Youth services/administration)
- youth corrections (see 43.0110 Juvenile corrections)

39.0703 Urban ministry

This instructional program class comprises any program that prepares the ordained clergy and other religious professionals to provide spiritual, counselling, and leadership services to individuals and groups in urban communities. These programs include courses in bible study and theology, pastoral leadership and care, urban structure and context, inner city ministry, counselling ministries, family studies, homiletics, social ethics, and community organizing.

Illustrative example(s)
- urban ministry

Exclusion(s)
- pastoral ministry (see 39.0602 Divinity/ministry (BDiv, MDiv))

39.0704 Women's ministry

This instructional program class comprises any program that prepares non-ordained women to provide spiritual, counselling, and leadership services to other women in local churches, parachurch organizations, and other settings. These programs include courses in foundations of women's ministry, women's ministry in the local church, spiritual formation, women's evangelism and discipleship, bible study and theology, homiletics, lay counselling, women's issues, and leadership training.

Illustrative example(s)
- women's ministry

Exclusion(s)
- pastoral ministry (see 39.0602 Divinity/ministry (BDiv, MDiv))
- women in religion (see 38.0299 Religion/religious studies, other)

39.0705 Lay ministry

This instructional program class comprises any program that prepares non-ordained individuals to serve as lay pastors, religious educators, youth leaders, and other professional positions open to the laity in local churches and other settings. These programs include courses in bible studies, theology, spirituality, pastoral counselling, foundations of ministry, effective communication, and church leadership.

Illustrative example(s)
- Christian leadership
- lay leadership
- lay ministry

Exclusion(s)
- organizational leadership (see 52.0213 Organizational leadership)
- pastoral leadership (see 39.0701 Pastoral studies/counselling)
- pastoral ministry (see 39.0602 Divinity/ministry (BDiv, MDiv))

39.0799 Pastoral counselling and specialized ministries, other

This instructional program class comprises any program not listed above that relates to Pastoral counselling and specialized ministries.

Illustrative example(s)
- Biblical counselling

39.99 Theology and religious vocations, other

This subseries comprises instructional program class 39.9999.

39.9999 Theology and religious vocations, other

This instructional program class comprises any program not listed above that relates to Theology and religious vocations.

Illustrative example(s)
- canon law
- church law
- history of theology
- holy scripture studies
- religious texts and commentaries
- sacred scripture studies
- spiritual formation
- spirituality

Exclusion(s)
- history of religion (see 38.0299 Religion/religious studies, other)
- thanatology (see 38.9999 Philosophy and religious studies, other)

40. Physical sciences

This series comprises instructional programs that focus on the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.

40.01 Physical sciences, general

This subseries comprises instructional program class 40.0101.

40.0101 Physical sciences, general

This instructional program class comprises any program that focuses on the major topics, concepts, processes, and interrelationships of physical phenomena as studied in any combination of physical science disciplines.

Illustrative example(s)
- physical sciences
- pure and applied sciences

Exclusion(s)
- general science (see 30.0101 Biological and physical sciences)
- natural sciences (see 30.1801 Natural sciences)
- physical science technician (see 41.0399 Physical science technologies/technicians, other)
- physics (see 40.0801 Physics, general)
- science laboratory technology (see 41.0000 Science technologies/technicians, general)

40.02 Astronomy and astrophysics

This subseries comprises instructional program classes 40.0201 to 40.0299.

40.0201 Astronomy

This instructional program class comprises any general program that focuses on the planetary, galactic, and stellar phenomena occurring in outer space. These programs include courses in celestial mechanics, cosmology, stellar physics, galactic evolution, quasars, stellar distribution and motion, interstellar medium, atomic and molecular constituents of astronomical phenomena, planetary science, solar system evolution, and specific methodologies such as optical astronomy, radioastronomy, and theoretical astronomy.

Illustrative example(s)
- astronomy
- radio astronomy

Exclusion(s)
- cosmetology (see 12.0401 Cosmetology/cosmetologist, general)
- cosmology (see 40.0202 Astrophysics)
- physical sciences (see 40.0101 Physical sciences, general)
- planetary astronomy (see 40.0203 Planetary astronomy and science)

40.0202 Astrophysics

This instructional program class comprises any program that focuses on the theoretical and observational study of the structure, properties, and behaviour of stars, star systems and clusters, stellar life cycles, and related phenomena. These programs include courses in cosmology, plasma kinetics, stellar physics, convolution and non-equilibrium radiation transfer theory, non-Euclidean geometries, mathematical modelling, galactic structure theory, and relativistic astronomy.

Illustrative example(s)
- astrophysics
- cosmology

Exclusion(s)
- astronomy and physics (see 40.0201 Astronomy)
- physics (see 40.0801 Physics, general)
- planetary astronomy (see 40.0203 Planetary astronomy and science)

40.0203 Planetary astronomy and science

This instructional program class comprises any program that focuses on the scientific study of planets, small objects, and related gravitational systems. These programs include courses in the structure and composition of planetary surfaces and interiors, planetary atmospheres, satellites, orbital mechanics, asteroids and comets, solar system evolution and dynamics, planetary evolution, gravitational physics, and radiation physics.

Illustrative example(s)
- planetary astronomy
- planetary science

Exclusion(s)
- astronomy (see 40.0201 Astronomy)
- cosmology (see 40.0202 Astrophysics)
- physical sciences (see 40.0101 Physical sciences, general)

40.0299 Astronomy and astrophysics, other

This instructional program class comprises any program not listed above that relates to Astronomy and astrophysics.

Exclusion(s)
- astronomy (see 40.0201 Astronomy)
- astrophysics (see 40.0202 Astrophysics)
- physical sciences (see 40.0101 Physical sciences, general)

40.04 Atmospheric sciences and meteorology

This subseries comprises instructional program classes 40.0401 to 40.0499.

40.0401 Atmospheric sciences and meteorology, general

This instructional program class comprises any general program that focuses on the scientific study of the composition and behaviour of the atmospheric envelopes surrounding the Earth, the effect of Earth's atmosphere on terrestrial weather, and related problems of environment and climate. These programs include courses in atmospheric chemistry and physics, atmospheric dynamics, climatology and climate change, weather simulation, weather forecasting, climate modelling and mathematical theory; and studies of specific phenomena such as clouds, weather systems, storms, and precipitation patterns.

Illustrative example(s)
- atmospheric sciences

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- climatology (see 40.0402 Atmospheric chemistry and climatology)
- meteorological technician (see 41.0399 Physical science technologies/technicians, other)
- meteorology (see 40.0404 Meteorology)

40.0402 Atmospheric chemistry and climatology

This instructional program class comprises any program that focuses on the scientific study of atmospheric constituents, reactions, measurement techniques, and processes in predictive, current, and historical contexts. These programs include courses in climate modelling, gases and aerosols, trace gases, aqueous phase chemistry, sinks, transport mechanisms, computer measurement, climate variability, paleoclimatology, climate diagnosis, numerical modelling and data analysis, ionization, recombination, photoemission, and plasma chemistry.

Illustrative example(s)
- climatology

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- atmospheric sciences (see 40.0401 Atmospheric sciences and meteorology, general)
- chemistry (see 40.0501 Chemistry, general)
- Earth science (see 40.0601 Geology/Earth science, general)
- meteorological technician (see 41.0399 Physical science technologies/technicians, other)
- meteorology (see 40.0404 Meteorology)

40.0403 Atmospheric physics and dynamics

This instructional program class comprises any program that focuses on the scientific study of the processes governing the interactions, movement, and behavioural of atmospheric phenomena and related terrestrial and solar phenomena. These programs include courses in cloud and precipitation physics, solar radiation transfer, active and passive remote sensing, atmospheric electricity and acoustics, atmospheric wave phenomena, turbulence and boundary layers, solar wind, geomagnetic storms, coupling, natural plasma, and energization.

Illustrative example(s)
- aeronomy
- atmospheric physics
- ionospheric environment
- magnetospheric physics

Exclusion(s)
- atmospheric sciences (see 40.0401 Atmospheric sciences and meteorology, general)
- climatology (see 40.0402 Atmospheric chemistry and climatology)
- Earth science (see 40.0601 Geology/Earth science, general)
- meteorological technician (see 41.0399 Physical science technologies/technicians, other)

- meteorology (see 40.0404 Meteorology)
- physics (see 40.0801 Physics, general)

40.0404 Meteorology

This instructional program class comprises any program that focuses on the scientific study of the prediction of atmospheric motion and climate change. These programs include courses in general circulation patterns, weather phenomena, atmospheric predictability, parameterization, numerical and statistical analysis, large-scale and meso-scale phenomena, kinematic structures, precipitation processes, and forecasting techniques.

Illustrative example(s)
- meteorology

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- atmospheric sciences (see 40.0401 Atmospheric sciences and meteorology, general)
- climatology (see 40.0402 Atmospheric chemistry and climatology)
- meteorological technician (see 41.0399 Physical science technologies/technicians, other)

40.0499 Atmospheric sciences and meteorology, other

This instructional program class comprises any program not listed above that relates to Atmospheric sciences and meteorology.

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- atmospheric sciences (see 40.0401 Atmospheric sciences and meteorology, general)
- climatology (see 40.0402 Atmospheric chemistry and climatology)
- meteorology (see 40.0404 Meteorology)

40.05 Chemistry

This subseries comprises instructional program classes 40.0501 to 40.0599.

40.0501 Chemistry, general

This instructional program class comprises any general program that focuses on the scientific study of the composition and behaviour of matter, including its micro- and macro-structure, the processes of chemical change, and the theoretical description and laboratory simulation of these phenomena.

Illustrative example(s)
- chemistry

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- chemical process technology (see 41.0303 Chemical process technology)
- chemical technician (see 41.0301 Chemical technology/technician)
- engineering chemistry (see 14.4401 Engineering chemistry)
- environmental chemistry (see 40.0509 Environmental chemistry)
- forensic chemistry (see 40.0510 Forensic chemistry)
- geochemistry (see 40.0602 Geochemistry)
- theoretical chemistry (see 40.0511 Theoretical chemistry)

40.0502 Analytical chemistry

This instructional program class comprises any program that focuses on the scientific study of techniques for analyzing and describing matter, including its precise composition and the interrelationships of constituent elements and compounds. These programs include courses in spectroscopy, chromatography, atomic absorption, photometry, chemical modelling, mathematical analysis, laboratory analysis procedures and equipment maintenance, and applications to specific research, industrial and health problems.

Illustrative example(s)
- analytical chemistry
- chemical analysis

Exclusion(s)
- analytical chemistry technician (see 41.0301 Chemical technology/technician)
- biochemistry (see 26.0202 Biochemistry)
- chemistry (see 40.0501 Chemistry, general)
- soil chemistry (see 01.1202 Soil chemistry and physics)
- theoretical chemistry (see 40.0511 Theoretical chemistry)

40.0503 Inorganic chemistry

This instructional program class comprises any program that focuses on the scientific study of the elements and their compounds, other than the hydrocarbons and their derivatives. These programs include courses in the characterization and synthesis of non-carbon molecules, including their structure and their bonding, conductivity, and reactive properties; research techniques such as spectroscopy, X-ray diffraction, and photoelectron analysis; and the study of specific compounds, such as transition metals, and compounds composed of inorganic and organic molecules.

Illustrative example(s)
- inorganic chemistry

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- chemistry (see 40.0501 Chemistry, general)
- organic chemistry (see 40.0504 Organic chemistry)

40.0504 Organic chemistry

This instructional program class comprises any program that focuses on the scientific study of the properties and behaviour of hydrocarbon compounds and their derivatives. These programs include courses in molecular conversion and synthesis, molecular synthesis and design, the molecular structure of living cells and systems, the mutual reactivity of organic and inorganic compounds in combination, the spectroscopic analysis of hydrocarbon compounds, and applications to specific problems in research, industry, and health.

Illustrative example(s)
- organic chemistry

Exclusion(s)
- biochemistry (see 26.0202 Biochemistry)
- chemistry (see 40.0501 Chemistry, general)
- inorganic chemistry (see 40.0503 Inorganic chemistry)
- soil chemistry (see 01.1202 Soil chemistry and physics)

40.0506 Physical chemistry

This instructional program class comprises any program that focuses on the scientific study of understanding and predicting the behaviour of chemical systems ranging from nuclear particles to atoms, molecules, clusters, biological materials and macroscopic assemblies. These programs include courses in quantum mechanics, spectroscopy, thermodynamics, statistical mechanics, reaction dynamics, group theory, collision theory, and polymer science.

Illustrative example(s)
- physical chemistry

Exclusion(s)
- analytical chemistry (see 40.0502 Analytical chemistry)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical physics (see 40.0508 Chemical physics)
- chemistry (see 40.0501 Chemistry, general)
- nuclear chemistry (see 40.0599 Chemistry, other)
- theoretical chemistry (see 40.0511 Theoretical chemistry)

40.0507 Polymer chemistry

This instructional program class comprises any program that focuses on the scientific study of synthesized macromolecules and their interactions with other substances. These programs include courses in molecular bonding theory, polymerization, properties and behaviour of unstable compounds, the development of tailored polymers, transition phenomena, and applications to specific industrial problems and technologies.

Illustrative example(s)
- polymer chemistry

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- petrochemical engineering (see 14.2501 Petroleum engineering)
- polymer engineering (see 14.3201 Polymer/plastics engineering)
- polymer engineering technology (see 15.0607 Plastics and polymer engineering technology/technician)

40.0508 Chemical physics

This instructional program class comprises any program that focuses on the scientific study of structural phenomena combining the disciplines of physical chemistry and atomic/molecular physics. These programs include courses in heterogeneous structures, alignment and surface phenomena, quantum theory, mathematical physics, statistical and classical mechanics, chemical kinetics, and laser physics.

Illustrative example(s)
- chemical physics

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- chemistry (see 40.0501 Chemistry, general)
- physical chemistry (see 40.0506 Physical chemistry)
- theoretical chemistry (see 40.0511 Theoretical chemistry)

40.0509 Environmental chemistry

This instructional program class comprises any program that focuses on the scientific study of natural systems (air, water, and soil) through the use of chemical techniques and instrumentation, with an emphasis on the movement and fate of pollutants and chemical aspects of contaminant remediation. These programs include courses in analytical, inorganic, organic, and physical chemistry; aquatic, soil, and atmospheric chemistry; environmental engineering; environmental toxicology; and analytical methods.

Illustrative example(s)
- environmental chemistry

Exclusion(s)
- chemistry (see 40.0501 Chemistry, general)

40.0510 Forensic chemistry

This instructional program class comprises any program that focuses on the application of chemical techniques and instrumentation to the analysis and evaluation of physical evidence to aid in criminal investigations. These programs include courses in analytical, inorganic, organic, and physical chemistry; biochemistry; forensic toxicology; instrumental analysis; crime scene processing; criminal investigation; forensic laboratory technology; and applicable law.

Illustrative example(s)
- forensic chemistry

Exclusion(s)
- chemistry (see 40.0501 Chemistry, general)
- forensic pathology - residency (see 60.0517 Forensic pathology residency programs)
- forensic science (see 43.0106 Forensic science and technology)

40.0511 Theoretical chemistry

This instructional program class comprises any program that focuses on the study of mathematical and computational methods and fundamental laws of physics to describe chemical phenomena and to develop empirical models of molecules and their interactions. These programs include courses in properties of small, isolated molecules; dynamics of elementary chemical processes; reaction pathways of organic molecules; hydrogen bonding patterns in liquids; reaction rates of biological pathways; and advanced computational techniques.

Illustrative example(s)
- theoretical chemistry

Exclusion(s)
- analytical chemistry (see 40.0502 Analytical chemistry)
- chemistry (see 40.0501 Chemistry, general)
- physical chemistry (see 40.0506 Physical chemistry)

40.0599 Chemistry, other

This instructional program class comprises any program not listed above that relates to Chemistry.

Illustrative example(s)
- computational chemistry
- nuclear chemistry

Exclusion(s)
- agricultural chemistry (see 01.9999 Agriculture, agriculture operations and related sciences, other)

- chemical engineering (see 14.0701 Chemical engineering)
- chemical technology (see 41.0301 Chemical technology/technician)
- chemistry education (see 13.1323 Chemistry teacher education)
- medicinal chemistry (see 51.2004 Medicinal and pharmaceutical chemistry (MS, MSc, PhD))
- scientific computing (see 30.3001 Computational science)
- soil chemistry (see 01.1202 Soil chemistry and physics)

40.06 Geological and Earth sciences/geosciences

This subseries comprises instructional program classes 40.0601 to 40.0699.

40.0601 Geology/Earth science, general

This instructional program class comprises any program that focuses on the scientific study of the Earth; the forces acting upon it; and the behaviour of the solids, liquids and gases comprising it. These programs include courses in historical geology, geomorphology, and sedimentology, the chemistry of rocks and soils, stratigraphy, mineralogy, petrology, geostatistics, volcanology, glaciology, geophysical principles, and applications to research and industrial problems.

Illustrative example(s)
- Earth science
- geological science
- geology
- geoscience

Exclusion(s)
- Earth science teacher education (see 13.1337 Earth science teacher education)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geological engineering technology (see 15.9999 Engineering technologies and engineering-related fields, other)
- soil chemistry (see 01.1202 Soil chemistry and physics)

40.0602 Geochemistry

This instructional program class comprises any program that focuses on the scientific study of the chemical properties and behaviour of the silicates and other substances forming, and formed by geomorphological processes of the Earth and other planets. These programs include courses in chemical thermodynamics, equilibrium in silicate systems, atomic bonding, isotopic fractionation, geochemical modelling, specimen analysis, and studies of specific organic and inorganic substances.

Illustrative example(s)
- geochemistry

Exclusion(s)
- chemistry (see 40.0501 Chemistry, general)
- environmental chemistry (see 40.0509 Environmental chemistry)
- geology (see 40.0601 Geology/Earth science, general)
- petrology (see 40.0606 Geochemistry and petrology)

40.0603 Geophysics and seismology

This instructional program class comprises any program that focuses on the scientific study of the physics of solids and its application to the study of the Earth and other planets. These programs include courses in gravimetrics, seismology, earthquake forecasting, magnetrometry, electrical properties of solid bodies, plate tectonics, active deformation, thermodynamics, remote sensing, geodesy, and laboratory simulations of geological processes.

Illustrative example(s)
- computational geophysics
- geophysics
- seismology

Exclusion(s)
- geology (see 40.0601 Geology/Earth science, general)
- physics (see 40.0801 Physics, general)
- scientific computing (see 30.3001 Computational science)

40.0604 Paleontology

This instructional program class comprises any program that focuses on the scientific study of extinct life forms and associated fossil remains, and the reconstruction and analysis of ancient life forms, ecosystems, and geologic processes. These programs include courses in sedimentation and fossilization processes, fossil chemistry, evolutionary biology, paleoecology, paleoclimatology, trace fossils, micropaleontology, invertebrate paleontology, vertebrate paleontology, paleobotany, field research methods, and laboratory research and conservation methods.

Illustrative example(s)
- palaeontology
- paleontology

Exclusion(s)
- archaeology (see 45.0301 Archaeology)
- evolutionary biology (see 26.1303 Evolutionary biology)

40.0605 Hydrology and water resources science

This instructional program class comprises any program that focuses on the scientific study of the occurrence, circulation, distribution, chemical and physical properties, and environmental interaction of surface and subsurface waters, including groundwater. These programs include courses in geophysics, thermodynamics, fluid mechanics, chemical physics, geomorphology, mathematical modelling, hydrologic analysis, continental water processes, global water balance, and environmental science.

Illustrative example(s)
- hydrology
- water resources science

Exclusion(s)
- hydrological engineering (see 14.0802 Geotechnical and geoenvironmental engineering)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)
- ocean engineering (see 14.2401 Ocean engineering)
- water purification (see 15.0506 Water quality and wastewater treatment management and recycling technology/technician)
- water resources engineering (see 14.0805 Water resources engineering)

40.0606 Geochemistry and petrology

This instructional program class comprises any program that focuses on the scientific study of the igneous, metamorphic, and hydrothermal processes within the Earth and the mineral, fluid, rock, and ore deposits resulting from them. These programs include courses in mineralogy, crystallography, petrology, volcanology, economic geology, meteoritics, geochemical reactions, deposition, compound transformation, core studies, theoretical geochemistry, computer applications, and laboratory studies.

Illustrative example(s)
- mineralogy

- petrology

Exclusion(s)
- geochemistry (see 40.0602 Geochemistry)
- mining and mineral engineering (see 14.2101 Mining and mineral engineering)
- petroleum engineering (see 14.2501 Petroleum engineering)

40.0607 Oceanography, chemical and physical

This instructional program class comprises any program that focuses on the scientific study of the chemical components, mechanisms, structure, and movement of ocean waters and their interaction with terrestrial and atmospheric phenomena. These programs include courses in material inputs and outputs, chemical and biochemical transformations in marine systems, equilibria studies, inorganic and organic ocean chemistry, oceanographic processes, sediment transport, zone processes, circulation, mixing, tidal movements, wave properties, and seawater properties.

Illustrative example(s)
- chemical oceanography
- oceanography
- physical oceanography

Exclusion(s)
- biological oceanography (see 26.1302 Marine biology and biological oceanography)
- hydrology (see 40.0605 Hydrology and water resources science)
- maritime studies (see 30.2901 Maritime studies)
- nautical science (see 49.0309 Nautical science/merchant marine officer)
- ocean engineering (see 14.2401 Ocean engineering)

40.0699 Geological and Earth sciences/geosciences, other

This instructional program class comprises any program not listed above that relates to Geological and Earth sciences/geosciences.

Illustrative example(s)
- geodesy
- geodetic sciences
- geodetics
- marine geology

Exclusion(s)
- geological engineering (see 14.3901 Geological/geophysical engineering)
- geological engineering technology (see 15.9999 Engineering technologies and engineering-related fields, other)
- marine sciences (see 30.3201 Marine sciences)
- topography (see 45.0702 Geographic information science and cartography)

40.08 Physics

This subseries comprises instructional program classes 40.0801 to 40.0899.

40.0801 Physics, general

This instructional program class comprises any general program that focuses on the scientific study of matter and energy, and the formulation and testing of the laws governing the behaviour of the matter-energy continuum. These programs include courses in classical and modern physics, electricity and magnetism, thermodynamics, mechanics, wave properties, nuclear processes, relativity and quantum theory, quantitative methods, and laboratory methods.

Illustrative example(s)
- experimental physics
- physics

Exclusion(s)
- astrophysics (see 40.0202 Astrophysics)
- biophysics (see 26.0203 Biophysics)
- engineering physics (see 14.1201 Engineering physics/applied physics)
- physics education (see 13.1329 Physics teacher education)
- soil physics (see 01.1202 Soil chemistry and physics)

40.0802 Atomic/molecular physics

This instructional program class comprises any program that focuses on the scientific study of the behaviour of matter-energy phenomena at the level of atoms and molecules. These programs include courses in chemical physics, atomic forces and structure, molecular orbital theory, magnetic resonance, molecular bonding, phase equilibria, quantum theory of solids, and applications to the study of specific elements and higher compounds.

Illustrative example(s)
- atomic physics
- molecular physics

Exclusion(s)
- molecular biophysics (see 26.0206 Molecular biophysics)
- nuclear physics (see 40.0806 Nuclear physics)
- particle physics (see 40.0804 Elementary particle physics)

40.0804 Elementary particle physics

This instructional program class comprises any program that focuses on the scientific study of the basic constituents of sub-atomic matter and energy, and the forces governing fundamental processes. These programs include courses in quantum theory, field theory, single-particle systems, perturbation and scattering theory, matter-radiation interaction, symmetry, quarks, capture, Schroedinger mechanics, methods for detecting particle emission and absorption, and research equipment operation and maintenance.

Illustrative example(s)
- elementary particle physics
- particle physics

Exclusion(s)
- atomic physics (see 40.0802 Atomic/molecular physics)
- molecular biophysics (see 26.0206 Molecular biophysics)
- nuclear physics (see 40.0806 Nuclear physics)

40.0805 Plasma and high-temperature physics

This instructional program class comprises any program that focuses on the scientific study of properties and behaviour of matter at high temperatures, such that molecular and atomic structures are in a disassociated ionic or electronic state. These programs include courses in magnetohydrodynamics, free electron phenomena, fusion theory, electromagnetic fields and dynamics, plasma and non-linear wave theory, instability theory, plasma shock phenomena, quantitative modelling, and research equipment operation and maintenance.

Illustrative example(s)
- high-temperature physics
- plasma physics

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)
- atomic physics (see 40.0802 Atomic/molecular physics)
- nuclear physics (see 40.0806 Nuclear physics)
- particle physics (see 40.0804 Elementary particle physics)

40.0806 Nuclear physics

This instructional program class comprises any program that focuses on the scientific study of the properties and behaviour of atomic nuclei. These programs include courses in nuclear reaction theory, quantum mechanics, energy conservation, nuclear fission and fusion, strong and weak forces, nuclear modeling, nuclear decay, nucleon scattering, pairing, photon and electron reactions, the physics of nuclear effects, statistical methods, and research equipment operation and maintenance.

Illustrative example(s)
- nuclear physics

Exclusion(s)
- atomic physics (see 40.0802 Atomic/molecular physics)
- elementary particle physics (see 40.0804 Elementary particle physics)
- medical nuclear physics - residency (see 60.0533 Medical nuclear physics residency programs)
- nuclear engineering (see 14.2301 Nuclear engineering)
- plasma physics (see 40.0805 Plasma and high-temperature physics)

40.0807 Optics/optical sciences

This instructional program class comprises any program that focuses on the scientific study of light energy, including its structure, properties and behaviour under different conditions. These programs include courses in wave theory, wave mechanics, electromagnetic theory, physical optics, geometric optics, quantum theory of light, photon detecting, laser theory, wall and beam properties, chaotic light, non-linear optics, harmonic generation, optical systems theory, and applications to engineering problems.

Illustrative example(s)
- atmospheric and space optics
- electro-optics
- optical science
- optics physics

Exclusion(s)
- dispensing optician (see 51.1801 Opticianry/ophthalmic dispensing optician)
- optical engineering (see 14.1003 Laser and optical engineering)
- optometric assistant (see 51.1802 Optometric technician/assistant)
- optometry (see 51.1701 Optometry (OD))
- orthoptics (see 51.1804 Orthoptics/orthoptist)
- photonics technology (see 15.0304 Laser and optical technology/technician)
- physiological optics (see 26.0909 Vision science/physiological optics)

40.0808 Condensed matter and materials physics

This instructional program class comprises any program that focuses on the scientific study of macroscopic physical phenomena and properties that arise from basic microscopic interactions. These programs include courses in low-temperature and solid-state physics, x-ray physics, liquids and soft materials, including the study of semiconductors, metals, superliquids, magnets, superconductors, glasses, gels, polymers, colloids, neural networks, and macromolecules.

Illustrative example(s)
- condensed-matter physics
- low-temperature physics
- solid-state physics
- supra-conductivity physics

Exclusion(s)
- atmospheric physics (see 40.0403 Atmospheric physics and dynamics)

40.0809 Acoustics

This instructional program class comprises any program that focuses on the scientific study of sound, and the properties and behaviour of acoustic wave phenomena under different conditions. These programs include courses in wave theory, the acoustic wave equation, energy transformation, vibration phenomena, sound reflection and transmission, scattering and surface wave phenomena, singularity expansion theory, ducting, and applications to specific research problems such as underwater acoustics, crystallography, and health diagnostics.

Illustrative example(s)
- acoustical physics
- acoustics physics

Exclusion(s)
- acoustic engineering (see 14.9999 Engineering, other)
- sound engineering (see 10.0203 Recording arts technology/technician)

40.0810 Theoretical and mathematical physics

This instructional program class comprises any program that focuses on the scientific and mathematical formulation and evaluation of the physical laws governing, and models describing, matter-energy phenomena, and the analysis of related experimental designs and results. These programs include courses in classical and quantum theory, relativity theory, field theory, mathematics of infinite series, vector and coordinate analysis, wave and particle theory, advanced applied calculus and geometry, analyses of continuum, cosmology, and statistical theory and analysis.

Illustrative example(s)
- computational physics
- mathematical physics
- quantum mechanics
- quantum physics
- theoretical physics

Exclusion(s)
- computational geophysics (see 40.0603 Geophysics and seismology)
- mathematical sciences (see 27.0301 Applied mathematics, general)
- mathematics (see 27.0101 Mathematics, general)
- physical chemistry (see 40.0506 Physical chemistry)
- scientific computing (see 30.3001 Computational science)
- theoretical chemistry (see 40.0511 Theoretical chemistry)

40.0899 Physics, other

This instructional program class comprises any program not listed above that relates to Physics.

Illustrative example(s)
- electrodynamics

Exclusion(s)
- chemical physics (see 40.0508 Chemical physics)
- cosmology (see 40.0202 Astrophysics)
- engineering physics (see 14.1201 Engineering physics/applied physics)
- geophysics (see 40.0603 Geophysics and seismology)
- physics teacher (see 13.1329 Physics teacher education)
- soil physics (see 01.1202 Soil chemistry and physics)

40.10 Materials sciences

This subseries comprises instructional program classes 40.1001 to 40.1099.

40.1001 Materials science

This instructional program class comprises any program that focuses on the general application of mathematical and scientific principles to the analysis and evaluation of the characteristics and behaviour of solids, including internal structure, chemical properties, transport and energy flow properties, thermodynamics of solids, stress and failure factors, chemical transformation states and processes, compound materials, and research on industrial applications of specific materials.

Illustrative example(s)
- chemical and materials science
- materials science
- materials science and engineering

Exclusion(s)
- ceramic engineering (see 14.0601 Ceramic sciences and engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- materials chemistry (see 40.1002 Materials chemistry)
- materials engineering (see 14.1801 Materials engineering)
- plastics engineering (see 14.3201 Polymer/plastics engineering)
- textile engineering (see 14.2801 Textile sciences and engineering)

40.1002 Materials chemistry

This instructional program class comprises any program that focuses on the synthesis and study of organic or inorganic materials and their electronic, magnetic, optical or mechanical properties. These programs include courses in advanced materials for photonics, lasers, chemical sensors and arrays or nanochemistry; semiconductor nanowires; and molecular electronics.

Illustrative example(s)
- materials chemistry

Exclusion(s)
- chemical and materials engineering (see 14.1801 Materials engineering)
- chemical engineering (see 14.0701 Chemical engineering)
- materials science (see 40.1001 Materials science)

40.1099 Materials sciences, other

This instructional program class comprises any program not listed above that relates to Materials sciences.

40.99 Physical sciences, other

This subseries comprises instructional program class 40.9999.

40.9999 Physical sciences, other

This instructional program class comprises any program not listed above that relates to Physical sciences.

Illustrative example(s)
- metallurgy
- spectroscopy

Exclusion(s)
- physical science technician (see 41.0399 Physical science technologies/technicians, other)

41. Science technologies/technicians

This series comprises instructional programs that prepare individuals to apply scientific principles and technical skills in support of scientific research and development.

41.00 Science technologies/technicians, general

This subseries comprises instructional program class 41.0000.

41.0000 Science technologies/technicians, general

This instructional program class comprises any general program that prepares individuals to apply scientific principles and technical skills in support of scientific research and development. These programs include courses in standard laboratory practices and procedures; techniques for analysis, testing and inspection; laboratory instrumentation and equipment operation and maintenance; laboratory and materials handling safety; and computer applications.

Illustrative example(s)
- assistant science laboratory technician
- science laboratory technician
- science laboratory technology

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- medical technologist (see 51.1005 Clinical laboratory science/medical technology/technologist)
- physical sciences (see 40.0101 Physical sciences, general)

41.01 Biology technician/biotechnology laboratory technician

This subseries comprises instructional program class 41.0101.

41.0101 Biology technician/biotechnology laboratory technician

This instructional program class comprises any program that prepares individuals to apply scientific principles and technical skills in support of biologists and biotechnologists in research, industrial, and government settings. These programs include courses in fermentation technology, cell culturing, protein purification, biologic synthesis, assaying and testing, quality control, industrial microbiology, bioprocessing, chromatography and bioseparation, genetic technology, laboratory and hazardous materials safety, and computer applications.

Illustrative example(s)
- biological technology
- biology laboratory technician
- biology laboratory technology
- biology technician
- biotechnology laboratory technician

- biotechnology technician
- biotechnology technologist

Exclusion(s)
- biological engineering (see 14.4501 Biological/biosystems engineering)
- biomedical laboratory technologist (see 51.1005 Clinical laboratory science/medical technology/technologist)
- biomedical technology (see 15.0401 Biomedical technology/technician)
- biotechnology (see 26.1201 Biotechnology)
- clinical laboratory technician (see 51.1004 Clinical/medical laboratory technician)

41.02 Nuclear and industrial radiologic technologies/technicians

This subseries comprises instructional program classes 41.0204 to 41.0299.

41.0204 Industrial radiologic technology/technician

This instructional program class comprises any program that prepares individuals to apply scientific principles and technical skills to the operation of industrial and research testing equipment using radioisotopes. These programs include courses in X-ray analysis of materials, non-destructive testing and inspection of materials, and continuous measurement of paper or metal thickness.

Illustrative example(s)
- industrial radiographer
- industrial radiography
- industrial radiological technician
- industrial radiological technologist
- industrial radiological technology

Exclusion(s)
- radiation technology (see 51.0907 Medical radiologic technology/science – radiation therapist)
- radiobiology (see 26.0209 Radiation biology/radiobiology)
- X-ray technician (see 51.0911 Radiologic technology/science – radiographer)

41.0205 Nuclear/nuclear power technology/technician

This instructional program class comprises any program that prepares individuals to apply scientific principles and technical skills in support of research scientists and operating engineers engaged in the running of nuclear reactors, and in nuclear materials processing and disposal. These programs include courses in basic nuclear physics and nuclear engineering, monitoring and safety procedures, radioactive materials handling and disposal, equipment maintenance and operation, and record keeping.

Illustrative example(s)
- nuclear energy technician
- nuclear power technology
- nuclear technician
- nuclear technology

Exclusion(s)
- nuclear engineering (see 14.2301 Nuclear engineering)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- nuclear medicine technology (see 51.0905 Nuclear medical technology/technologist)
- nuclear physics (see 40.0806 Nuclear physics)
- power engineering technology (see 47.0501 Stationary energy sources installer and operator)

41.0299 Nuclear and industrial radiologic technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Nuclear and industrial radiologic technologies/technicians.

Exclusion(s)
- industrial radiological technology (see 41.0204 Industrial radiologic technology/technician)
- nuclear engineering (see 14.2301 Nuclear engineering)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- nuclear technician (see 41.0205 Nuclear/nuclear power technology/technician)
- radiotherapy (see 51.0907 Medical radiologic technology/science – radiation therapist)
- X-ray technician (see 51.0911 Radiologic technology/science – radiographer)

41.03 Physical science technologies/technicians

This subseries comprises instructional program classes 41.0301 and 41.0399.

41.0301 Chemical technology/technician

This instructional program class comprises any program that prepares individuals to apply scientific principles and technical skills in support of chemical and biochemical research and industrial operations. These programs include courses in principles of chemistry and biochemistry, technical mathematics, computer applications, radiochemistry, industrial biochemistry, chemical instrumentation, physical chemistry, laboratory research methods, industrial processing methods and equipment, and test equipment operation and maintenance.

Illustrative example(s)
- analytical chemistry technician
- analytical chemistry technology
- chemical laboratory technician
- chemical laboratory technology
- chemical technician
- chemical technology

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- chemistry (see 40.0501 Chemistry, general)
- industrial chemistry technology (see 41.0303 Chemical process technology)

41.0303 Chemical process technology

This instructional program class comprises any program that prepares individuals to apply scientific principles and technical skills to the operation of chemical processing equipment in industries such as chemical manufacturing, petroleum refining, pharmaceutical manufacturing, and waste water treatment. These programs include courses in mathematics, chemistry, and physics; computer applications; chemical and refinery plant operations, processes, and equipment; safety, health, and environment; instrumentation; troubleshooting; and applications to specific industries.

Illustrative example(s)
- chemical process technology
- industrial chemistry technology

Exclusion(s)
- chemical engineering (see 14.0701 Chemical engineering)
- chemical engineering technology (see 15.0615 Chemical engineering technology/technician)
- chemical laboratory technology (see 41.0301 Chemical technology/technician)

- chemistry (see 40.0501 Chemistry, general)

41.0399 Physical science technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Physical science technologies/technicians.

Illustrative example(s)
- meteorological technician
- observer communicator, weather
- physical science technician
- physics technology
- weather observation

Exclusion(s)
- biological and physical sciences (see 30.0101 Biological and physical sciences)
- clinical laboratory science (see 51.1005 Clinical laboratory science/medical technology/technologist)
- physical sciences (see 40.0101 Physical sciences, general)

41.99 Science technologies/technicians, other

This subseries comprises instructional program class 41.9999.

41.9999 Science technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Science technologies/technicians.

Exclusion(s)
- pharmacy technology (see 51.0805 Pharmacy technician/assistant)

42. Psychology

This series comprises instructional programs that focus on the scientific study of the behaviour of individuals, independently or collectively, and the physical and environmental bases of mental, emotional, and neurological activity.

42.01 Psychology, general

This subseries comprises instructional program class 42.0101.

42.0101 Psychology, general

This instructional program class comprises any general program that focuses on the scientific study of individual and collective behaviour, the physical and environmental bases of behaviour, and the analysis and treatment of behaviour problems and disorders. These programs include courses in the principles of the various subfields of psychology, research methods, and psychological assessment and testing methods.

Illustrative example(s)
- general psychology
- psychology

Exclusion(s)
- applied psychology (see 42.2813 Applied psychology)
- behavioural science (see 30.1701 Behavioural sciences)
- biopsychology (see 30.1001 Biopsychology)

- cognitive science (see 30.2501 Cognitive science)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychoanalysis (see 51.1507 Psychoanalysis and psychotherapy)
- psychology teacher (see 13.1335 Psychology teacher education)

42.27 Research and experimental psychology

This subseries comprises instructional program classes 42.2701 to 42.2799.

42.2701 Cognitive psychology and psycholinguistics

This instructional program class comprises any program that focuses on the scientific study of the mechanisms and processes of learning and thinking, and associated information encoding, decoding, processing and transmitting systems. These programs include courses in theories of cognition and intelligence; studies of cognitive processes such as memory, sensation, perception, pattern recognition, problem solving, and conceptual thinking; cybernetics; psycholinguistics; and the study of biological and social communications mechanisms and processes.

Illustrative example(s)
- cognitive and motivational psychology
- cognitive psychology
- psycholinguistics

Exclusion(s)
- applied linguistics (see 16.0105 Applied linguistics)
- cognitive science (see 30.2501 Cognitive science)
- education of individuals with speech or language impairments (see 13.1012 Education/teaching of individuals with speech or language impairments)
- linguistics (see 16.0102 Linguistics)
- neuropsychology (see 42.9999 Psychology, other)

42.2702 Comparative psychology

This instructional program class comprises any program that focuses on the behaviour of members of particular species or groups and the relationship of the behaviours of the species or group to their evolutionary origins. These programs include courses in differential psychology, experimental and physiological psychology, psychopharmacology, psychology of individual differences, reinforcement theory, and neurophysiology.

Illustrative example(s)
- comparative psychology

Exclusion(s)
- behavioural sciences (see 30.1701 Behavioural sciences)
- personality psychology (see 42.2705 Personality psychology)
- physiological psychology (see 42.2706 Physiological psychology/psychobiology)
- psychopharmacology (see 42.2709 Psychopharmacology)

42.2703 Developmental and child psychology

This instructional program class comprises any program that focuses on the scientific study of the psychological growth and development of individuals from infancy through adulthood. These programs include courses in cognitive and perceptual development, emotional development, personality development, the effects of biological maturation on behaviour, theories of cognitive growth and related research methods, testing and assessment methods for different age levels, research on child and adolescent behaviour therapy, and the psychology of aging.

Illustrative example(s)
- child psychology
- developmental psychology

Exclusion(s)
- child and youth care (see 19.0701 Human development and family studies, general)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child development (see 19.0706 Child development)
- child psychiatry - residency (see 60.0507 Child and adolescent psychiatry residency programs)
- clinical child psychology (see 42.2807 Clinical child psychology)

42.2704 Experimental psychology

This instructional program class comprises any program that focuses on the scientific study of behaviour under experimental conditions and the analysis of controlled behavioural responses. These programs include courses in learning theory, research design and experimental methods, psychological measurement, statistical design and methods, analysis of cognitive and behavioural variables, and the conduct of specialized and large-scale studies.

Illustrative example(s)
- experimental psychology

Exclusion(s)
- behavioural sciences (see 30.1701 Behavioural sciences)
- cognitive science (see 30.2501 Cognitive science)
- comparative psychology (see 42.2702 Comparative psychology)
- experimental pathology (see 26.0910 Pathology/experimental pathology)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)

42.2705 Personality psychology

This instructional program class comprises any program that focuses on the unique organization of fairly permanent characteristics that set the individual apart from other individuals and, at the same time, determine how others respond to that individual. These programs include courses in Freudian, Skinnerian, Rogerian, and Ellisonian psychology; neo-Freudian psychology; psychological systems, neurophysiology, and psychopharmacology.

Illustrative example(s)
- personality psychology

Exclusion(s)
- clinical psychology (see 42.2801 Clinical psychology)
- comparative psychology (see 42.2702 Comparative psychology)
- psychosociology (see 42.2707 Social psychology)

42.2706 Physiological psychology/psychobiology

This instructional program class comprises any program that focuses on the scientific course study of the biological bases of psychological functioning, and their application to experimental and therapeutic research problems. These programs include courses in functional neuroanatomy, neural system development, biochemical neural regulatory mechanisms, neurological biophysics, memory storage and retrieval, physiology of cognition and perception, physiological bases of psychopathology and behavioural disorders, psychopharmacology, comparative psychobiology, and specialized experimental design and research methods.

Illustrative example(s)
- physiological psychology
- psychobiology

Exclusion(s)
- biopsychology (see 30.1001 Biopsychology)
- clinical neuropsychology (see 42.2801 Clinical psychology)
- human physiology (see 26.0901 Physiology, general)
- neurophysiology (see 26.1503 Neurobiology and anatomy)
- neuropsychology (see 42.9999 Psychology, other)
- neuroscience (see 26.1501 Neuroscience)

42.2707 Social psychology

This instructional program class comprises any program that focuses on the scientific study of individual behaviour in group contexts, group behaviour, and associated phenomena. These programs include courses in social learning theory, group theory and dynamics, sex roles, social cognition and inference, attribution theory, attitude formation, criminal behaviour and other social pathologies, altruistic behaviour, social development, and social ecology.

Illustrative example(s)
- psychosociology
- social psychology

Exclusion(s)
- applied social psychology (see 42.2813 Applied psychology)
- community psychology (see 42.2802 Community psychology)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)
- personality psychology (see 42.2705 Personality psychology)
- sociology (see 45.1101 Sociology)

42.2708 Psychometrics and quantitative psychology

This instructional program class comprises any program that focuses on the mathematical and statistical procedures used in psychological test construction and validation; the general problems of the measurement of behaviour; and the application of quantitative methods to research design and other methodological topics.

Illustrative example(s)
- psychometrics
- psychometry
- quantitative psychology

Exclusion(s)
- applied statistics (see 27.0501 Statistics, general)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- statistics and probability (see 27.0502 Mathematical statistics and probability)

42.2709 Psychopharmacology

This instructional program class comprises any program that focuses on the study of the behavioural effects of medications, drugs, nutrients, and chemicals (including natural and artificial toxins) in laboratory and clinical settings. These programs include courses in pharmacology, behavioural toxicology and pharmacology, neuroscience, physiology, clinical psychopharmacology, substance abuse treatments and antidotes, neurochemical mechanisms, epidemiology of chemicals and substances, biochemical interactions, and psychoactive drugs.

Illustrative example(s)
- psychopharmacology

Exclusion(s)
- neuropharmacology (see 26.1003 Neuropharmacology)

- pharmacology (see 26.1001 Pharmacology)
- pharmacology and toxicology (see 26.1007 Pharmacology and toxicology, integrated)
- substance abuse counselling (see 51.1501 Substance abuse/addiction counselling)

42.2799 Research and experimental psychology, other

This instructional program class comprises any program not listed above that relates to Research and experimental psychology.

42.28 Clinical, counselling and applied psychology

This subseries comprises instructional program classes 42.2801 to 42.2899.

42.2801 Clinical psychology

This instructional program class comprises any program that prepares individuals for the independent professional practice of clinical psychology, involving the analysis, diagnosis, and clinical treatment of psychological disorders and behavioural pathologies. These programs include courses in clinical assessment and diagnosis, personality appraisal, psychopathology, clinical psychopharmacology, behaviour modification, therapeutic intervention skills, patient interviewing, personalized and group therapy, child and adolescent therapy, cognitive and behavioural therapy, supervised clinical practice, ethical standards, and applicable regulations.

Illustrative example(s)
- adult clinical psychology
- clinical neuropsychology
- clinical psychology

Exclusion(s)
- clinical child psychology (see 42.2807 Clinical child psychology)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychology (see 42.0101 Psychology, general)
- psychopharmacology (see 42.2709 Psychopharmacology)

42.2802 Community psychology

This instructional program class comprises any program that prepares individuals to apply psychological principles to the analysis of social problems, and the implementation of intervention strategies for addressing these problems. These programs include courses in social ecology, primary and secondary prevention of social pathologies, social intervention strategies and tactics, large group counselling, social services systems behaviour, creating settings, cultural stress, and the dynamics of social change.

Illustrative example(s)
- community psychology

Exclusion(s)
- community awareness (see 33.0103 Community awareness (not for credit))
- community health science (see 51.2208 Community health and preventive medicine)
- community services (see 19.0707 Family and community services)
- social psychology (see 42.2707 Social psychology)

42.2803 Counselling psychology

This instructional program class comprises any program that prepares individuals for the independent professional practice of psychological counselling, involving the provision of therapeutic services to individuals and groups experiencing psychological problems and exhibiting distress symptoms. These programs include courses in

counselling theory, therapeutic intervention strategies, patient/counsellor relationships, testing and assessment methods and procedures, group therapy, marital and family therapy, child and adolescent therapy, supervised counselling practice, ethical standards, and applicable regulations.

Illustrative example(s)
- counselling psychology
- psychological counselling

Exclusion(s)
- clinical pastoral counselling (see 51.1506 Clinical pastoral counselling/patient counselling)
- developmental psychology (see 42.2703 Developmental and child psychology)
- educational psychology (see 42.2806 Educational psychology)
- family counselling (see 51.1505 Marriage and family therapy/counselling)
- guidance counselling (see 13.1101 Counsellor education/school counselling and guidance services)
- pastoral counselling (see 39.0701 Pastoral studies/counselling)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychoanalysis (see 51.1507 Psychoanalysis and psychotherapy)

42.2804 Industrial and organizational psychology

This instructional program class comprises any program that focuses on the scientific study of individual and group behaviour in institutional settings, applications to related problems of organization and industry, and that prepares individuals to apply such principles in industrial and organizational settings. These programs include courses in group behaviour theory, organizational theory, reward/punishment structures, human-machine and human-computer interactions, motivation dynamics, human stress studies, environmental and organizational influences on behaviour, alienation and satisfaction, and job testing and assessment.

Illustrative example(s)
- industrial psychology
- organizational psychology
- psychology of work
- psychology of work and organizations

Exclusion(s)
- behavioural science (see 30.1701 Behavioural sciences)
- human resources management (see 52.1001 Human resources management/personnel administration, general)
- industrial technology (see 15.0612 Industrial technology/technician)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)
- organizational behaviour (see 52.1003 Organizational behaviour studies)

42.2805 School psychology

This instructional program class comprises any program that prepares individuals to apply clinical and counselling psychology principles to the diagnosis and treatment of student behavioural problems. These programs include courses in child and/or adolescent development; learning theory; testing, observation and other procedures for assessing educational, personality, intelligence and motor skill development; therapeutic intervention strategies for students and families; identification and classification of disabilities and disorders affecting learning; school psychological services planning; supervised counselling practice; ethical standards; and applicable regulations.

Illustrative example(s)
- school psychology

Exclusion(s)
- counselling psychology (see 42.2803 Counselling psychology)
- educational psychology (see 42.2806 Educational psychology)

- psychology teacher (see 13.1335 Psychology teacher education)
- school counsellor (see 13.1101 Counsellor education/school counselling and guidance services)
- youth counsellor (see 44.0702 Youth services/administration)

42.2806 Educational psychology

This instructional program class comprises any program that focuses on the application of psychology to the study of the behaviour of individuals in the roles of teacher and learner, the nature and effects of learning environments, and the psychological effects of methods, resources, organization and non-school experience on the educational process. These programs include courses in learning theory, human growth and development, research methods, and psychological evaluation.

Illustrative example(s)
- educational psychology
- psychopedagogy

Exclusion(s)
- education (see 13.0101 Education, general)
- guidance counselling (see 13.1101 Counsellor education/school counselling and guidance services)
- psychological counselling (see 42.2803 Counselling psychology)
- psychology teacher (see 13.1335 Psychology teacher education)
- school psychology (see 42.2805 School psychology)

42.2807 Clinical child psychology

This instructional program class comprises any program that prepares individuals for the independent professional practice of clinical child psychology and that focuses on the developmental processes of children and associated disorders. These programs include courses in developmental neuropsychology, child psychopathology, testing of children and adolescents, pediatric psychology, psychosocial variables in child development, family therapy, behavioural assessment and intervention, clinical skills, consultation, professional standards and ethics, and applications to topics such as infancy, childhood, and adolescence.

Illustrative example(s)
- clinical child psychology

Exclusion(s)
- child and youth care counsellor (see 44.0702 Youth services/administration)
- child development (see 19.0706 Child development)
- child psychiatry - residency (see 60.0507 Child and adolescent psychiatry residency programs)
- child psychology (see 42.2703 Developmental and child psychology)
- clinical psychology (see 42.2801 Clinical psychology)

42.2808 Environmental psychology

This instructional program class comprises any program that focuses on the study of behavioural interactions between human beings and the environment in individual and group contexts, and ways to improve them. These programs include courses in contextual theory; statistics; physiological, social, and psychological responses to natural and technological hazards and disease; environmental perception and cognition; loneliness and stress; and psychological aspects of environmental design and planning.

Illustrative example(s)
- environmental psychology

Exclusion(s)
- environmental health (see 51.2202 Environmental health)
- environmental health engineering (see 14.1401 Environmental/environmental health engineering)

- environmental science (see 03.0104 Environmental science)
- environmental technology (see 15.0507 Environmental engineering technology/environmental technology)
- industrial psychology (see 42.2804 Industrial and organizational psychology)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)

42.2809 Geropsychology

This instructional program class comprises any program that focuses on the psychology of aging and of elderly individuals and populations, with reference to growth and decline across the lifespan. These programs include courses in gerontology, developmental and adult psychology, age-related development and decline of cognitive processes, age-related psychological and neurological disorders, social and personality development in aging populations and individuals, and applications to the clinical treatment and care of older adults.

Illustrative example(s)
- geropsychology

Exclusion(s)
- gerontological services (see 19.0702 Adult development and aging)
- gerontology (see 30.1101 Gerontology)

42.2810 Health/medical psychology

This instructional program class comprises any program that focuses on the psychological study of health, illness, and recovery, from the perspective that these phenomena arise from a combination of physical, behavioural, and social conditions. These programs include courses in abnormal and social psychology, psychophysiology, psychopharmacology, learning processes, clinical and behavioural therapies, biopsychosocial modelling, clinical procedures and assessment, preventive education, psychotherapy, rehabilitation processes, and research methods.

Illustrative example(s)
- health psychology
- medical psychology

Exclusion(s)
- health and fitness studies (see 31.0501 Health and physical education/fitness, general)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychotherapy (see 51.1507 Psychoanalysis and psychotherapy)
- substance abuse counselling (see 51.1501 Substance abuse/addiction counselling)

42.2811 Family psychology

This instructional program class comprises any program that prepares individuals to provide therapeutic, evaluative, and research services to families and individuals in the family unit context. These programs include courses in natural and family systems theory, family and group rituals, family evaluation and assessment, marital and couples therapy, sex therapy, parenting, interviewing techniques, genogram construction, family sculpting, diversity issues, family violence, family law, and professional standards and ethics.

Illustrative example(s)
- family psychology

Exclusion(s)
- family and child studies (see 19.0701 Human development and family studies, general)
- family counselling (see 51.1505 Marriage and family therapy/counselling)
- family systems (see 19.0704 Family systems)

42.2812 Forensic psychology

This instructional program class comprises any program that prepares individuals to apply clinical, counselling, school, and neuropsychology skills to the provision of psychological services within the criminal justice and civil legal systems, including consultation, assessment, and interventions. These programs include courses in the epidemiology of mental/behavioural disorders, risk factors for violence and criminality, profiling and patterning, psychological testing, prediction and intervention measurement, forensic assessment, criminal and civil law and procedures, secure environments, forensic treatment and intervention skills, and professional standards and ethics.

Illustrative example(s)
- criminal psychology
- forensic psychology
- psychocriminology

Exclusion(s)
- criminal science (see 43.0111 Criminalistics and criminal science)
- criminology (see 45.0401 Criminology)
- forensic pathology - residency (see 60.0517 Forensic pathology residency programs)
- forensic science (see 43.0106 Forensic science and technology)
- social psychology (see 42.2707 Social psychology)

42.2813 Applied psychology

This instructional program class comprises any program that focuses on the application of psychological theories and methods to real-world settings and problems, such as business and industry, government, education, military, and community settings. These programs include courses in applications of psychology, industrial/organizational psychology, developmental psychology, social psychology, cognitive psychology, counselling, human factors, research methods and statistics, and program evaluation.

Illustrative example(s)
- applied psychology
- applied social psychology

Exclusion(s)
- applied behaviour analysis (see 42.2814 Applied behaviour analysis)
- general psychology (see 42.0101 Psychology, general)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychoanalysis (see 51.1507 Psychoanalysis and psychotherapy)
- psychology teacher (see 13.1335 Psychology teacher education)
- social psychology (see 42.2707 Social psychology)

42.2814 Applied behaviour analysis

This instructional program class comprises any program that focuses on the application of principles of learning and behaviour to enhance the development, abilities, and choices of children and adults; and that prepares individuals to address the behavioural needs of individuals, especially those with developmental disabilities and autism. These programs include courses in behaviour analysis and learning, behavioural and functional assessment, developmental psychology, applied behavioural analysis in developmental disabilities and autism, applied behavioural analysis in mental health and aging, research methods, evaluation of interventions, and professional and ethical issues.

Illustrative example(s)
- applied behaviour analysis
- applied behavioural sciences

Exclusion(s)
- applied psychology (see 42.2813 Applied psychology)
- behavioural science (see 30.1701 Behavioural sciences)
- health behaviour (see 51.2212 Behavioural aspects of health)

42.2899 Clinical, counselling and applied psychology, other

This instructional program class comprises any program not listed above that relates to Clinical, counselling and applied psychology.

42.99 Psychology, other

This subseries comprises instructional program class 42.9999.

42.9999 Psychology, other

This instructional program class comprises any program not listed above that relates to Psychology.

Illustrative example(s)
- abnormal psychology
- neuropsychology
- sport psychology

Exclusion(s)
- animal behaviour (see 26.0708 Animal behaviour and ethology)
- behavioural science (see 30.1701 Behavioural sciences)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)
- organizational behaviour (see 52.1003 Organizational behaviour studies)

43. Security and protective services

This series comprises instructional programs that focus on the principles and procedures for providing police, fire, specialized security and protective services, other safety services and managing penal institutions.

43.01 Criminal justice and corrections

This subseries comprises instructional program classes 43.0102 to 43.0199.

43.0102 Corrections

This instructional program class comprises any program that prepares individuals to study the theories and principles, of correctional science and to function as professional corrections officers and other workers in incarceration facilities.

Illustrative example(s)
- adult correctional officer
- correction services worker
- correctional officer
- correctional services
- correctional services technology
- correctional techniques
- correctional worker
- corrections

Exclusion(s)
- corrections administration (see 43.0113 Corrections administration)

- juvenile corrections (see 43.0110 Juvenile corrections)
- law enforcement administration (see 43.0103 Criminal justice/law enforcement administration)

43.0103 Criminal justice/law enforcement administration

This instructional program class comprises any program that prepares individuals to apply theories and practices of organization management and criminal justice to the administration of public law enforcement agencies and operations. These programs include courses in law enforcement history and theory, operational command leadership, administration of public police organizations, labour relations, incident response strategies, legal and regulatory responsibilities, budgeting, public relations, and organizational leadership.

Illustrative example(s)
- criminal justice administration
- customs administration
- justice administration
- law enforcement administration
- police administration
- police management

Exclusion(s)
- bylaw enforcement (see 43.0199 Criminal justice and corrections, other)
- criminal justice studies (see 43.0104 Criminal justice/safety studies)
- criminal law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- law enforcement (see 43.0107 Criminal justice/police science)

43.0104 Criminal justice/safety studies

This instructional program class comprises any program that focuses on the criminal justice system, its organizational components and processes, and its legal and public policy contexts. These programs include courses in criminal law and policy, police and correctional systems organization, the administration of justice and the judiciary, and public attitudes regarding criminal justice issues.

Illustrative example(s)
- criminal justice studies

Exclusion(s)
- criminal justice administration (see 43.0103 Criminal justice/law enforcement administration)
- criminal law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- criminology (see 45.0401 Criminology)

43.0106 Forensic science and technology

This instructional program class comprises any program that focuses on the application of the physical, biomedical, and social sciences to the analysis and evaluation of physical evidence, human testimony and criminal suspects. These programs include courses in forensic medicine, forensic dentistry, anthropology, psychology, entomology, pathology, forensic laboratory technology and autopsy procedures, DNA and blood pattern analysis, crime scene analysis, crime scene photography, fingerprint technology, document analysis, witness and suspect examination procedures, applicable law and regulations, and professional standards and ethics.

Illustrative example(s)
- forensic science
- forensic science and technology
- forensic science technology

Exclusion(s)
- criminal science (see 43.0111 Criminalistics and criminal science)

- criminology (see 45.0401 Criminology)
- forensic accounting (see 43.0117 Financial forensics and fraud investigation)
- forensic chemistry (see 40.0510 Forensic chemistry)
- forensic pathology - residency (see 60.0517 Forensic pathology residency programs)
- forensic psychology (see 42.2812 Forensic psychology)

43.0107 Criminal justice/police science

This instructional program class comprises any program that prepares individuals to perform the duties of police and public security officers, including patrol and investigative activities, traffic control, crowd control and public relations, witness interviewing, evidence collection and management, basic crime prevention methods, weapon and equipment operation and maintenance, report preparation and other routine law enforcement responsibilities.

Illustrative example(s)
- criminal justice - policing
- First Nations constable
- justice and law enforcement
- law enforcement
- peace officer
- police foundations
- police science
- police studies
- police technology
- Royal Canadian Mounted Police

Exclusion(s)
- archaeological resources protection (see 43.0123 Cultural/archaeological resources protection)
- criminology (see 45.0401 Criminology)
- critical incident response/special police operations (see 43.0119 Critical incident response/special police operations)
- environmental law enforcement (see 03.0208 Natural resources law enforcement and protective services)
- investigation and interviewing (see 43.0114 Law enforcement investigation and interviewing)
- law enforcement administration (see 43.0103 Criminal justice/law enforcement administration)
- law enforcement intelligence analysis (see 43.0118 Law enforcement intelligence analysis)
- maritime law enforcement (see 43.0122 Maritime law enforcement)
- military science (see 28.0801 Military science, leadership and operational art)
- private investigation (see 43.9999 Security and protective services, other)
- protective services operations (see 43.0120 Protective services operations)
- sheriff (see 22.0399 Legal support services, other)

43.0109 Security and loss prevention services

This instructional program class comprises any program that prepares individuals to perform routine inspection, patrol and crime prevention services for security companies. These programs include courses in the provision of personal protection as well as property security.

Illustrative example(s)
- criminal justice - security
- private policing and asset protection
- security
- security and loss prevention services
- security guard
- security officer
- security services

Exclusion(s)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- financial advisor (see 52.0804 Financial planning and services)
- protective security (see 43.0120 Protective services operations)
- public safety (see 43.0399 Security and protective services, specialized programs, other)
- securities (see 52.0807 Investments and securities)
- security and alarm systems technician (see 47.0110 Security system installation, repair and inspection technology/technician)
- security management (see 43.0112 Securities services administration/management)
- workplace health and safety (see 15.0701 Occupational safety and health technology/technician)

43.0110 Juvenile corrections

This instructional program class comprises any program that prepares individuals to specialize in the provision of correction services to underage minor populations. These programs include courses in corrections, juvenile delinquency, juvenile development and psychology, juvenile law, and justice administration, social services, record keeping procedures, and communication skills.

Illustrative example(s)
- delinquency intervention
- juvenile corrections
- youth corrections
- youth justice

Exclusion(s)
- correctional services (see 43.0102 Corrections)
- youth counsellor (see 44.0702 Youth services/administration)

43.0111 Criminalistics and criminal science

This instructional program class comprises any program that focuses on the application of clinical and criminal laboratory science, investigative techniques, and criminology to the reconstruction of crimes and the analysis of physical evidence. These programs include courses in laboratory science, laboratory procedures, criminology and police science, evidentiary testing and analysis, computer applications, record keeping, reconstruction techniques, evidence handling and storage, and applications to specific types of evidence and crimes.

Illustrative example(s)
- criminal science
- criminalistics

Exclusion(s)
- criminology (see 45.0401 Criminology)
- forensic science (see 43.0106 Forensic science and technology)

43.0112 Securities services administration/management

This instructional program class comprises any program that prepares individuals to plan, manage, and supervise services providing private security protection for people and property and related investigative and consulting functions. These programs include courses in security and loss prevention services, private security and investigation techniques, security technologies, personnel management, business operations, marketing, applicable laws and regulations, and client relations.

Illustrative example(s)
- business and organizational security management
- security administration

- security management
- security services administration
- security services management

Exclusion(s)
- bylaw enforcement (see 43.0199 Criminal justice and corrections, other)
- corrections administration (see 43.0113 Corrections administration)
- law enforcement administration (see 43.0103 Criminal justice/law enforcement administration)
- security and alarm systems technician (see 47.0110 Security system installation, repair and inspection technology/technician)
- security and loss prevention services (see 43.0109 Security and loss prevention services)

43.0113 Corrections administration

This instructional program class comprises any program that prepares individuals to plan and manage institutional facilities and programs for housing and rehabilitating prisoners in the public and/or private sectors. These programs include courses in the principles and practice of correction, facilities planning and management, safety and security, social and health services, staff and inmate management, budgeting, communication skills, correctional psychology, and applications to specific types of correctional facilities approaches.

Illustrative example(s)
- corrections administration

Exclusion(s)
- correctional services (see 43.0102 Corrections)
- law enforcement administration (see 43.0103 Criminal justice/law enforcement administration)
- security services administration (see 43.0112 Securities services administration/management)

43.0114 Law enforcement investigation and interviewing

This instructional program class comprises any program focusing on the principles, procedures, techniques, legal concerns, and problems associated with a criminal investigation. These programs include courses in administrative law and procedures; courtroom evidence management and preparation; case presentation and court testimony; description and identification; federal criminal law and procedures and federal, provincial, territorial, and municipal quasi-criminal law and procedures; informant and suspect rights; officer liability; informant and witness management; victim awareness; interviewing techniques; psychology; criminal investigation methods and procedures; report writing and documentation; investigative techniques; and case management.

Illustrative example(s)
- investigation and interviewing
- investigative and enforcement skills

Exclusion(s)
- arson prevention and investigation (see 43.0205 Fire/arson investigation and prevention)
- economic crime investigation (see 43.0117 Financial forensics and fraud investigation)
- forest fire investigation and prevention (see 43.0206 Wildland/forest firefighting and investigation)
- law enforcement intelligence analysis (see 43.0118 Law enforcement intelligence analysis)
- police science (see 43.0107 Criminal justice/police science)

43.0115 Law enforcement record keeping and evidence management

This instructional program class comprises any program focusing on the principles and procedures for managing records in police or other security offices, including storing and retrieving evidence and related data. These programs include courses in administrative law and procedures, office management, report preparation, organizational software, database software, physical and digital evidence properties, controlled storage and retrieval, investigative file inventories, case management, security systems, and communications skills.

Illustrative example(s)
- law enforcement record keeping and evidence management

Exclusion(s)
- archival administration and records management (see 25.0103 Archives/archival administration)

43.0116 Cyber/computer forensics and counterterrorism

This instructional program class comprises any program focusing on the principles and techniques used to identify, search, seize and analyze digital media and to conduct cyber investigations against criminal and terrorist activity. These programs include courses in computer boot processes and drives, jumper setting, file access and reconstruction, hacking, network systems, cryptography, programming, investigative techniques, forensic imagery, web-based investigation methods, cyberterrorism, and applicable laws and administrative procedures.

Illustrative example(s)
- computer forensics
- cyber forensics
- forensic investigation - computer crime
- internet crime investigation
- internet forensic investigation

Exclusion(s)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- forensic auditing (see 43.0117 Financial forensics and fraud investigation)
- suspension and debarment investigation (see 43.0121 Suspension and debarment investigation)

43.0117 Financial forensics and fraud investigation

This instructional program class comprises any program focusing on the principles and techniques of conducting investigations into financial crime, terrorist activity, and the analysis and use of accounting data as evidence. These programs include courses in the principles of accounting, investigative auditing, computer investigations, accounting system documents and software, business corruption, criminal and terrorist financial networks, international money markets and movement, net worth analysis, financial fraud, exposing concealed assets, records seizure, fraud and money laundering statutes, fraud case initiation, case management, and case presentation.

Illustrative example(s)
- economic crime investigation
- forensic accounting
- forensic auditing
- fraud and money-laundering
- fraud examination and forensic accounting
- investigative and forensic accounting

Exclusion(s)
- computer forensics (see 43.0116 Cyber/computer forensics and counterterrorism)
- financial audit (see 52.0303 Auditing)
- investigation and interviewing (see 43.0114 Law enforcement investigation and interviewing)
- suspension and debarment investigation (see 43.0121 Suspension and debarment investigation)

43.0118 Law enforcement intelligence analysis

This instructional program class comprises any program focusing on the preparation of law enforcement personnel to perform intelligence and surveillance operations and to analyze and use data collected via such operations. These programs include courses in the intelligence cycle, information sources, data retrieval, digital investigation, financial investigations, document analysis, external sources, geographic information systems, link analysis, operation planning and security, case management, applicable law and regulations, and case preparation.

Illustrative example(s)
- law enforcement intelligence analysis

Exclusion(s)
- business intelligence (see 52.1301 Management science)
- investigation and interviewing (see 43.0114 Law enforcement investigation and interviewing)
- maritime law enforcement (see 43.0122 Maritime law enforcement)
- military intelligence (see 29.0501 Military technologies and applied sciences)
- police science (see 43.0107 Criminal justice/police science)

43.0119 Critical incident response/special police operations

This instructional program class comprises any program focusing on the principles and techniques for dealing with police emergencies such as hostage situations, bomb threats, barricades and terrorist incidents. These programs include courses in crisis management, command procedures, incident containment, information collection and debriefing, first responder negotiation, victim and criminal psychology, site survey and surveillance, special weapons and tactics, interagency communications and joint operations, pre-confrontation and contingency planning, assault and rescue operations, security and crowd control, media relations, and post-operation procedures.

Illustrative example(s)
- critical incident response/special police operations

Exclusion(s)
- critical incident stress management (see 51.1599 Mental and social health services and allied professions, other)
- disaster and emergency management (see 43.0302 Crisis/emergency/disaster management)
- emergency medical responder (EMR) (see 51.0810 Emergency care attendant (EMT ambulance))
- police science (see 43.0107 Criminal justice/police science)

43.0120 Protective services operations

This instructional program class comprises any program focusing on the principles and techniques of providing physical security protection to clients in various environments and situations. These programs include courses in security intelligence and information resources, operations planning and surveying, operations security, weapons and explosives, defense and offense techniques, security and surveillance systems, communications systems, perimeter and access control, weapons of mass destruction, contingency planning, crowd control, cover and evacuation, combat and vehicle techniques, and applicable legal and administrative responsibilities.

Illustrative example(s)
- bodyguard
- protective security
- protective services operations

Exclusion(s)
- police science (see 43.0107 Criminal justice/police science)
- public safety (see 43.0399 Security and protective services, specialized programs, other)
- security services (see 43.0109 Security and loss prevention services)

43.0121 Suspension and debarment investigation

This instructional program class comprises any program focusing on the principles and techniques for investigating criminal behaviour among government contractors and grantees at different levels. These programs include courses in financial fraud and money-laundering, auditing, computer investigations, legal concepts and applications, procurement law, non-procurement debarment, jurisdiction and lead agency, analytical methods, suspension, parallel proceedings, evidence protection, equitable considerations, investigative techniques, administrative and global solutions, case management and preparation.

Illustrative example(s)
- suspension and debarment investigation

Exclusion(s)
- computer forensics (see 43.0116 Cyber/computer forensics and counterterrorism)
- forensic auditing (see 43.0117 Financial forensics and fraud investigation)

43.0122 Maritime law enforcement

This instructional program class comprises any program focusing on the application of law enforcement and security principles and procedures to the marine environment. These programs include courses in criminal and nautical law, nautical terminology, seamanship and vessel operation, vessel maintenance, navigation and navigation systems, meteorology, vessel and passenger safety, radar and remote sensing systems, communications systems, vessel pursuit and stop, boarding and arrest techniques, investigative and evidence techniques, weaponry and applications to specific situations such as piracy, drug trafficking and smuggling.

Illustrative example(s)
- maritime law enforcement

Exclusion(s)
- law enforcement intelligence analysis (see 43.0118 Law enforcement intelligence analysis)
- maritime law (graduate level) (see 22.0299 Legal research and advanced professional studies (post-LLB/JD), other)
- maritime studies (see 30.2901 Maritime studies)
- police science (see 43.0107 Criminal justice/police science)

43.0123 Cultural/archaeological resources protection

This instructional program class comprises any program focusing on the application of law enforcement principles and techniques to the protection of cultural resources and the investigation of related crimes. These programs include courses in cultural resources law, archaeological standards of value, site damage assessment, evidence collection, surveillance techniques, investigative techniques, case management and preparation.

Illustrative example(s)
- archaeological resources protection
- cultural resources protection

Exclusion(s)
- archaeology (see 45.0301 Archaeology)
- police science (see 43.0107 Criminal justice/police science)

43.0199 Criminal justice and corrections, other

This instructional program class comprises any program not listed above that relates to Criminal justice and corrections.

Illustrative example(s)
- border guard
- bylaw enforcement
- law and security administration

Exclusion(s)
- network security (see 11.1003 Computer and information systems security/information assurance)
- sheriff (see 22.0399 Legal support services, other)

43.02 Fire protection

This subseries comprises instructional program classes 43.0201 to 43.0299.

43.0201 Fire prevention and safety technology/technician

This instructional program class comprises any program focusing on the application of fire science and technology to problems of reducing fire risk, loss limitation, supervising substance removal, conducting safety inspections and investigations, and advising on matters of safety procedures and fire prevention policy. These programs include courses in fire behaviour, fire simulation, structural risk assessment, materials analysis, detection and suppression systems, smoke management, supply and evacuation, public education, legal aspects of fire prevention, and related research and communications methods.

Illustrative example(s)
- advanced fire prevention technologies
- fire inspection
- fire prevention
- fire prevention education
- fire prevention technology
- fire protection
- fire protection inspection and testing
- fire protection technology
- fire risk prevention and inspection
- fire safety techniques

Exclusion(s)
- arson prevention and investigation (see 43.0205 Fire/arson investigation and prevention)
- fire protection engineering technician (see 15.9999 Engineering technologies and engineering-related fields, other)
- fire safety engineering (see 14.9999 Engineering, other)
- fire systems technology (see 43.0204 Fire systems technology)
- firefighting (see 43.0203 Fire science/firefighting)
- forest fire investigation and prevention (see 43.0206 Wildland/forest firefighting and investigation)
- hazardous materials information systems technology (see 15.0704 Hazardous materials information systems technology/technician)

43.0202 Fire services administration

This instructional program class comprises any program focusing on the principles, theory, and practices associated with the management of fire operations, firefighting services, and community fire issues. These programs include courses in fire protection history and theory, incident command leadership, administration of public fire organizations, labour relations, emergency medical services management, fire emergency response strategies and mitigation, legal and regulatory responsibilities, budgeting, public relations, and organizational leadership.

Illustrative example(s)
- fire service administration
- fire service management

43.0203 Fire science/firefighting

This instructional program class comprises any program focusing on the theory and practice of fires and firefighting. These programs include courses in fire chemistry and physics, combustible materials, computer science, building construction, fire codes and related laws, fire hydraulics, fire command, fire prevention/inspection, fire protection systems, fire suppression systems, fire/arson investigation, occupational safety, equipment operation, emergency medicine and communications.

Illustrative example(s)
- fire science
- fire science technology
- firefighter training
- firefighting
- firefighting technology
- preservice firefighter

Exclusion(s)
- fire protection (see 43.0201 Fire prevention and safety technology/technician)
- forest firefighting (see 43.0206 Wildland/forest firefighting and investigation)
- paramedic (see 51.0904 Emergency medical technology/technician (EMT paramedic))

43.0204 Fire systems technology

This instructional program class comprises any program focusing on the principles and practice of firefighting systems, building construction and related resources as applied to fire prevention, control, and mitigation. These programs include courses in fire hydraulics and dynamics, fire protection structures and systems design, fire behaviour and combustion, fire protection hydraulics and water supply, fire protection equipment and systems, building construction for fire protection, and fire apparatus.

Illustrative example(s)
- fire systems technology

Exclusion(s)
- fire alarm technician (see 47.0110 Security system installation, repair and inspection technology/technician)
- fire protection engineering technician (see 15.9999 Engineering technologies and engineering-related fields, other)
- fire protection technology (see 43.0201 Fire prevention and safety technology/technician)
- fire safety engineering (see 14.9999 Engineering, other)

43.0205 Fire/arson investigation and prevention

This instructional program class comprises any program focusing on the theory and principles of fire combustion and behaviour applied to the analysis of fires and their causes. These programs include courses in fire behaviour and combustion, fire dynamics, hazardous materials chemistry, incendiary fire analysis, fire-related human behaviour, forensic procedures, investigative techniques, case management and case preparation.

Illustrative example(s)
- arson prevention and investigation
- fire investigation

Exclusion(s)
- fire prevention (see 43.0201 Fire prevention and safety technology/technician)
- fire protection engineering technician (see 15.9999 Engineering technologies and engineering-related fields, other)
- fire safety engineering (see 14.9999 Engineering, other)

- forest fire investigation and prevention (see 43.0206 Wildland/forest firefighting and investigation)
- investigation and interviewing (see 43.0114 Law enforcement investigation and interviewing)

43.0206 Wildland/forest firefighting and investigation

This instructional program class comprises any program focusing on the application of fire science, firefighting and investigation to the prevention, control and mitigation of wildland fires and the analysis of causes. These programs include courses in fire science and behaviour, wildland environments, meteorology, wildland fire hydraulics and dynamics, water and chemical supply systems, wildland firefighting operations, airborne firefighting, firebreak engineering, communications systems, wildland arson, forensic procedures, wildland fire prevention, investigation techniques, case management and preparation.

Illustrative example(s)
- forest arson investigation and prevention
- forest fire investigation and prevention
- forest firefighting
- wildland arson investigation and prevention
- wildland fire investigation and prevention
- wildland firefighter

Exclusion(s)
- arson prevention and investigation (see 43.0205 Fire/arson investigation and prevention)
- fire prevention (see 43.0201 Fire prevention and safety technology/technician)
- firefighting (see 43.0203 Fire science/firefighting)
- forestry crew (see 03.0511 Forest technology/technician)
- investigation and interviewing (see 43.0114 Law enforcement investigation and interviewing)

43.0299 Fire protection, other

This instructional program class comprises any program not listed above that relates to Fire protection.

Exclusion(s)
- fire alarm technician (see 47.0110 Security system installation, repair and inspection technology/technician)
- fire protection engineering technician (see 15.9999 Engineering technologies and engineering-related fields, other)
- fire safety engineering (see 14.9999 Engineering, other)

43.03 Security and protective services, specialized programs

This subseries comprises instructional program classes 43.0302 to 43.0399.

43.0302 Crisis/emergency/disaster management

This instructional program class comprises any program focusing on the application of the incident command system model to formulating and implementing effective response to natural and man-made disasters. These programs include courses in contingency planning, hazard and risk assessment, joint operations, law and ethics, emergency response and recovery, event mitigation, emergency rescue and medical operations, incident command, terrorism and national security issues, law enforcement, relief administration, volunteer and citizen coordination, public relations and applications to specific types of incidents.

Illustrative example(s)
- crisis management
- disaster management
- disaster medicine and management
- disaster operations and recovery

- disaster planning and management
- emergency and disaster mitigation
- emergency management
- emergency preparedness and technology
- incident command systems
- public health preparedness and emergency management

Exclusion(s)
- critical incident response/special police operations (see 43.0119 Critical incident response/special police operations)
- emergency communications (see 43.0399 Security and protective services, specialized programs, other)
- emergency medical responder (EMR) (see 51.0810 Emergency care attendant (EMT ambulance))

43.0399 Security and protective services, specialized programs, other

This instructional program class comprises any program not listed above that relates to Security and protective services, specialized programs.

Illustrative example(s)
- 911 and emergency services communications
- 911 operator
- emergency communications
- emergency communications and response
- emergency communications operator
- emergency services communications
- emergency telecommunications
- public safety communications
- search and rescue
- search and rescue technician

Exclusion(s)
- bodyguard (see 43.0120 Protective services operations)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- emergency management (see 43.0302 Crisis/emergency/disaster management)
- military search and rescue technician (see 29.0501 Military technologies and applied sciences)
- security guard (see 43.0109 Security and loss prevention services)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

43.99 Security and protective services, other

This subseries comprises instructional program class 43.9999.

43.9999 Security and protective services, other

This instructional program class comprises any program not listed above that relates to Security and protective services.

Illustrative example(s)
- private investigation

Exclusion(s)
- paramedic (see 51.0904 Emergency medical technology/technician (EMT paramedic))
- search and rescue (see 43.0399 Security and protective services, specialized programs, other)

44. Public administration and social service professions

This series comprises instructional programs that prepare individuals to analyse, manage, and deliver public programs and services.

44.00 Human services, general

This subseries comprises instructional program class 44.0000.

44.0000 Human services, general

This instructional program class comprises any program that focuses on the general study and provision of human and social services to individuals and communities and prepares individuals to work in public and private human services agencies and organizations. These programs include courses in the social sciences, psychology, principles of social service, human services policy, planning and evaluation, social services law and administration, and applications to particular issues, services, localities, and populations.

Illustrative example(s)
- human services
- human services counsellor
- human services worker
- social services
- social services worker

Exclusion(s)
- addiction counselling (see 51.1501 Substance abuse/addiction counselling)
- community services (see 19.0707 Family and community services)
- disability and community rehabilitation (see 19.0710 Developmental services worker)
- human development studies (see 19.0701 Human development and family studies, general)
- social work (see 44.0701 Social work, general)

44.02 Community organization and advocacy

This subseries comprises instructional program class 44.0201.

44.0201 Community organization and advocacy

This instructional program class comprises any program that focuses on the theories, principles, and practice of providing services to communities, organizing communities and neighbourhoods for social action, serving as community liaisons to public agencies, and using community resources to furnish information, instruction, and assistance to all members of a community. Prepares individuals to apply such knowledge and skills in community service positions.

Illustrative example(s)
- community advocacy
- community organization and advocacy

Exclusion(s)
- community awareness (see 33.0103 Community awareness (not for credit))
- community health care (see 51.1504 Community health services/liaison/counselling)
- community involvement (see 33.0104 Community involvement (not for credit))
- community psychology (see 42.2802 Community psychology)
- community worker (see 19.0707 Family and community services)
- developmental services worker (see 19.0710 Developmental services worker)
- social work (see 44.0701 Social work, general)

44.04 Public administration

This subseries comprises instructional program class 44.0401.

44.0401 Public administration

This instructional program class comprises any program that prepares individuals to serve as managers in the executive arm of government; and that focuses on the systematic study of executive organization and management. These programs include courses in the roles, development, and principles of public administration; the management of public policy; executive-legislative relations; public budgetary processes and financial management; administrative law; public personnel management; professional ethics; and research methods.

Illustrative example(s)
- Aboriginal governance
- First Nations public administration
- government administration
- municipal administration
- municipal services management
- public administration
- public administration and governance
- public sector management
- public services management
- regional public administration

Exclusion(s)
- fundraising (see 52.0206 Non-profit/public/organizational management)
- political science (see 45.1001 Political science and government, general)
- public finance (see 52.0808 Public finance)
- public policy (see 44.0501 Public policy analysis, general)
- public relations (see 09.0902 Public relations/image management)
- urban planning (see 04.0301 City/urban, community and regional planning)

44.05 Public policy analysis

This subseries comprises instructional program classe 44.0501 to 44.0599.

44.0501 Public policy analysis, general

This instructional program class comprises any program that focuses on the systematic analysis of public policy issues and decision processes. These programs include courses in the role of economic and political factors in public decision making and policy formulation; microeconomic analysis of policy issues; resource allocation and decision modelling; cost/benefit analysis; statistical methods; and applications to specific public policy topics.

Illustrative example(s)
- public policy
- public policy analysis

Exclusion(s)
- cultural resource management and policy analysis (see 30.1202 Cultural resource management and policy analysis)
- education policy studies (see 44.0502 Education policy analysis)
- health policy (see 44.0503 Health policy analysis)
- international public policy (see 44.0504 International public policy analysis)
- natural resource management (see 03.0201 Natural resources management and policy, general)
- public administration (see 44.0401 Public administration)

44.0502 Education policy analysis

This instructional program class comprises any program that focuses on the systematic analysis of public policy issues related to education and educational systems at the local, provincial, national, and international levels. These programs include courses in social and cultural issues in education, contemporary educational policies, history of education, economics of education, international and comparative education, education and social change, educational research and evaluation methods, and applications to specific public policy topics.

Illustrative example(s)
- education policy studies
- educational policy
- educational policy studies

Exclusion(s)
- higher education policy (see 13.0406 Higher education/higher education administration)
- public policy analysis (see 44.0501 Public policy analysis, general)

44.0503 Health policy analysis

This instructional program class comprises any program that focuses on the systematic analysis of public policy issues related to domestic and international health and health care systems. These programs include courses in contemporary health issues and policies, politics and economics of health care delivery, epidemiology, public health, comparative and global health, medical law and ethics, statistical methods, and applications to specific public policy topics.

Illustrative example(s)
- health policy

Exclusion(s)
- health administration (see 51.0701 Health/health care administration/management)
- international public health/international health (see 51.2210 International public health/international health)
- public policy analysis (see 44.0501 Public policy analysis, general)

44.0504 International public policy analysis

This instructional program class comprises any program that focuses on the systematic analysis of public policy issues related to relationships among nations and among governments and non-governmental entities. These programs include courses in international politics, governance, financial policy, and security affairs; globalization; economic and social policies of developing nations; and applications to specific public policy topics such as labour and employment, immigration, and human rights.

Illustrative example(s)
- international public policy

Exclusion(s)
- international agriculture (see 01.0701 International agriculture)
- international development studies (see 45.0604 Development economics and international development)
- international economics (see 45.0605 International economics)
- international finance (see 52.0806 International finance)
- international law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- international law (graduate level) (see 22.0209 International law and legal studies (LLM, LLD, JSD/SJD))
- international political economy (see 45.1004 Political economy)
- international public health/international health (see 51.2210 International public health/international health)
- international relations (see 45.0901 International relations and affairs)
- international studies (see 30.2001 International/global studies)
- international trade (see 52.1101 International business/trade/commerce)

- international trade law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- public policy analysis (see 44.0501 Public policy analysis, general)

44.0599 Public policy analysis, other

This instructional program class comprises any program not listed above that relates to Public policy analysis.

Illustrative example(s)
- environmental policy analysis

44.07 Social work

This subseries comprises instructional program classes 44.0701 to 44.0799.

44.0701 Social work, general

This instructional program class comprises any program that prepares individuals for the professional practice of social welfare administration and counselling, and that focuses on the study of organized means of providing basic support services for vulnerable individuals and groups. These programs include courses in social welfare policy; case work planning; social counselling and intervention strategies; administrative procedures and regulations; and specific applications in areas such as child welfare and family services, probation, employment services, and disability counselling.

Illustrative example(s)
- social work

Exclusion(s)
- addiction counselling (see 51.1501 Substance abuse/addiction counselling)
- child and youth worker (see 44.0702 Youth services/administration)
- clinical social work (see 51.1503 Clinical/medical social work)
- community service worker (see 19.0707 Family and community services)
- delinquency intervention (see 43.0110 Juvenile corrections)
- developmental services worker (see 19.0710 Developmental services worker)
- human services (see 44.0000 Human services, general)

44.0702 Youth services/administration

This instructional program class comprises any program that prepares individuals to plan, manage, and implement social services for children, youth, and families. These programs include courses in child development and psychology, adolescence, family studies, social work, social services administration, juvenile and family law, program and facilities planning, youth leadership, counselling, probation, casework, applicable procedures, and regulations, and professional standards and ethics.

Illustrative example(s)
- child and youth care counsellor
- child and youth worker
- youth care worker
- youth counsellor
- youth services worker

Exclusion(s)
- child and youth care (see 19.0701 Human development and family studies, general)
- child care worker (see 19.0709 Child care provider/assistant)
- delinquency intervention (see 43.0110 Juvenile corrections)
- disability and community rehabilitation (see 19.0710 Developmental services worker)

- family and community services (see 19.0707 Family and community services)
- social work (see 44.0701 Social work, general)
- youth ministry (see 39.0702 Youth ministry)

44.0799 Social work, other

This instructional program class comprises any program not listed above that relates to Social work.

Exclusion(s)
- youth corrections (see 43.0110 Juvenile corrections)

44.99 Public administration and social service professions, other

This subseries comprises instructional program class 44.9999.

44.9999 Public administration and social service professions, other

This instructional program class comprises any program not listed above that relates to Public administration and social service professions.

Exclusion(s)
- human services worker (see 44.0000 Human services, general)

45. Social sciences

This series comprises instructional programs that focus on the systematic study of social systems, social institutions, and social behaviour.

45.01 Social sciences, general

This subseries comprises instructional program classes 45.0101 and 45.0102.

45.0101 Social sciences, general

This instructional program class comprises any program that focuses on the general study of human social behaviour and social institutions using any of the methodologies common to the social sciences and/or history, or an undifferentiated program of study in the social sciences.

Illustrative example(s)
- social sciences
- social studies

Exclusion(s)
- applied human sciences (see 19.0101 Family and consumer sciences/human sciences, general)
- humanities (see 24.0103 Humanities/humanistic studies)
- social sciences education (see 13.1317 Social science teacher education)
- social studies education (see 13.1318 Social studies teacher education)
- sociology (see 45.1101 Sociology)

45.0102 Research methodology and quantitative methods

This instructional program class comprises any program that focuses on the design of research studies, measurement of variables, data analysis, and formulation of models. These programs include courses in experimental, quasi-experimental, and case study methods; historical research; participant observation; questionnaire design; sampling theory; and statistical methods.

Illustrative example(s)
- methodology, measurement, and statistics
- research methodology and quantitative methods
- social research methods

Exclusion(s)
- clinical trial research coordination (see 51.0719 Clinical research coordinator)
- educational statistics and research methods (see 13.0603 Educational statistics and research methods)
- measurement, evaluation and research methodology in education (see 13.0604 Educational assessment, testing and measurement)
- medical research (see 51.1401 Medical scientist (MS, MSc, PhD))

45.02 Anthropology

This subseries comprises instructional program classes 45.0201 to 45.0299.

45.0201 Anthropology, general

This instructional program class comprises any program that focuses on the systematic study of human beings, their antecedents and related primates, and their cultural behaviour and institutions, in comparative perspective. These programs include courses in biological/physical anthropology, primatology, human paleontology and prehistoric archaeology, hominid evolution, anthropological linguistics, ethnography, ethnology, ethnohistory, sociocultural anthropology, psychological anthropology, research methods, and applications to areas such as medicine, forensic pathology, museum studies, and international affairs.

Illustrative example(s)
- anthropological sciences
- anthropology

Exclusion(s)
- ancient history (see 54.0199 History, other)
- ancient studies (see 30.2201 Ancient studies/civilization)
- archaeology (see 45.0301 Archaeology)
- ethnology (see 45.0204 Cultural anthropology)
- history (see 54.0101 History, general)
- medical anthropology (see 45.0203 Medical anthropology)
- museology (see 30.1401 Museology/museum studies)
- primatology (see 45.0202 Physical and biological anthropology)
- sociology and anthropology (see 45.1301 Sociology and anthropology)

45.0202 Physical and biological anthropology

This instructional program class comprises any program that focuses on the application of the biological sciences and anthropology to the study of the adaptations, variability, and the evolution of human beings and their living and fossil relatives. These programs include courses in anthropology, human and mammalian anatomy, cell biology, paleontology, human culture and behaviour, neuroscience, forensic anthropology, anatomical reconstruction, comparative anatomy, and laboratory science and methods.

Illustrative example(s)
- biological anthropology
- forensic anthropology
- paleoanthropology
- physical anthropology
- primatology

Exclusion(s)
- anatomy (see 26.0403 Anatomy)
- ancient studies (see 30.2201 Ancient studies/civilization)
- anthropological sciences (see 45.0201 Anthropology, general)
- archaeology (see 45.0301 Archaeology)
- forensic science (see 43.0106 Forensic science and technology)
- history (see 54.0101 History, general)
- medical anthropology (see 45.0203 Medical anthropology)

45.0203 Medical anthropology

This instructional program class comprises any program that focuses on biological, socio-cultural, psychological, and behavioural factors as they relate to health, illness, medical practices, and access to health care services. These programs include courses in ethno-medicine, urban health, international health, psychiatric and psychological anthropology, aging, and health and identity.

Illustrative example(s)
- medical anthropology

Exclusion(s)
- anthropology (see 45.0201 Anthropology, general)
- cultural and social anthropology (see 45.0204 Cultural anthropology)
- physical anthropology (see 45.0202 Physical and biological anthropology)

45.0204 Cultural anthropology

This instructional program class comprises any program that focuses on the study of culture and the relationship of culture to other aspects of social life. These programs include courses in cultural anthropology, anthropological theory, ethnography, linguistics, and quantitative and qualitative research methods.

Illustrative example(s)
- cultural and social anthropology
- cultural anthropology
- ethnology
- socio-cultural anthropology

Exclusion(s)
- anthropology (see 45.0201 Anthropology, general)
- European cultural history (see 54.0103 European history)
- intercultural studies (see 30.2301 Intercultural/multicultural and diversity studies)
- medical anthropology (see 45.0203 Medical anthropology)
- religion and culture (see 38.0299 Religion/religious studies, other)
- religion, culture and ethics (see 38.0001 Philosophy and religious studies, general)

45.0299 Anthropology, other

This instructional program class comprises any program not listed above that relates to Anthropology.

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- anthropology (see 45.0201 Anthropology, general)
- archaeology (see 45.0301 Archaeology)
- cultural resource management (see 30.1202 Cultural resource management and policy analysis)
- history (see 54.0101 History, general)
- museology (see 30.1401 Museology/museum studies)
- physical anthropology (see 45.0202 Physical and biological anthropology)

45.03 Archaeology

This subseries comprises instructional program class 45.0301.

45.0301 Archaeology

This instructional program class comprises any program that focuses on the systematic study of extinct societies, and the past of living societies, via the excavation, analysis and interpretation of their artifactual, human, and associated remains. These programs include courses in archaeological theory, field methods, dating methods, conservation and museum studies, cultural and physical evolution, and the study of specific past cultures.

Illustrative example(s)
- archaeology
- archaeometry
- classical archaeology
- historical archaeology

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- archaeological resources protection (see 43.0123 Cultural/archaeological resources protection)
- art conservation (see 50.0703 Art history, criticism and conservation)
- classical civilization (see 30.2202 Classical, ancient Mediterranean and Near Eastern studies and archaeology)
- cultural resource management (see 30.1202 Cultural resource management and policy analysis)
- museology (see 30.1401 Museology/museum studies)

45.04 Criminology

This subseries comprises instructional program class 45.0401.

45.0401 Criminology

This instructional program class comprises any program that focuses on the systematic study of crime as a sociopathological phenomenon, the behaviour of criminals, and the social institutions evolved to respond to crime. These programs include courses in the theory of crime, psychological and social bases of criminal behaviour, social value systems and the theory of punishment, criminal law and criminal justice systems, penology, rehabilitation and recidivism, studies of specific types of crime, social attitudes and policy, and applications to specific issues in law enforcement administration and policy.

Illustrative example(s)
- applied criminology
- criminal deviance
- criminology

Exclusion(s)
- corrections (see 43.0102 Corrections)
- criminal justice studies (see 43.0104 Criminal justice/safety studies)
- criminal law (except graduate level) (see 22.0101 Law (LLB, JD, BCL))
- criminal psychology (see 42.2812 Forensic psychology)
- criminalistics (see 43.0111 Criminalistics and criminal science)
- forensic science (see 43.0106 Forensic science and technology)
- psychosociology (see 42.2707 Social psychology)

45.05 Demography and population studies

This subseries comprises instructional program class 45.0501.

45.0501 Demography and population studies

This instructional program class comprises any program that focuses on the systematic study of population models and population phenomena, and related problems of social structure and behaviour. These programs include courses in population growth, spatial distribution, mortality and fertility factors, migration, dynamic population modelling, population estimation and projection, mathematical and statistical analysis of population data, population policy studies, and applications to problems in economics and government planning.

Illustrative example(s)
- demography
- population studies
- social demography

Exclusion(s)
- epidemiology (see 26.1309 Epidemiology)
- human geography (see 45.0701 Geography)
- public health education (see 51.2207 Public health education and promotion)
- sociology (see 45.1101 Sociology)

45.06 Economics

This subseries comprises instructional program classes 45.0601 to 45.0699.

45.0601 Economics, general

This instructional program class comprises any general program that focuses on the systematic study of the production, conservation and allocation of resources in conditions of scarcity, together with the organizational frameworks related to these processes. These programs include courses in economic theory, microeconomics and macroeconomics, comparative economic systems, money and banking systems, international economics, quantitative analytical methods, and applications to specific industries and public policy issues.

Illustrative example(s)
- economic sciences
- economic studies
- economics

Exclusion(s)
- agricultural economics (see 01.0103 Agricultural economics)
- applied economics (see 45.0602 Applied economics)
- business economics (see 52.0601 Business/managerial economics)
- consumer economics (see 19.0402 Consumer economics)
- development economics (see 45.0604 Development economics and international development)
- econometrics (see 45.0603 Econometrics and quantitative economics)
- global economics (see 45.0605 International economics)
- natural resource economics (see 03.0204 Natural resource economics)
- pharmaceutical economics (see 51.2007 Pharmacoeconomics/pharmaceutical economics (MS, MSc, PhD))
- political studies and economy (see 45.1004 Political economy)
- social economics (see 45.0699 Economics, other)

45.0602 Applied economics

This instructional program class comprises any program that focuses on the application of economic principles and analytical techniques to the study of particular industries, activities, or the exploitation of particular resources. These programs include courses in economic theory; microeconomic analysis and modelling of specific industries and commodities; the economic consequences of resource allocation decisions; regulatory and consumer factors; and the technical aspects of specific subjects as they relate to economic analysis.

Illustrative example(s)
- applied economics
- behavioural and experimental economics
- industrial economics

Exclusion(s)
- business economics (see 52.0601 Business/managerial economics)
- econometrics (see 45.0603 Econometrics and quantitative economics)
- economics (see 45.0601 Economics, general)
- international economics (see 45.0605 International economics)

45.0603 Econometrics and quantitative economics

This instructional program class comprises any program that focuses on the systematic study of mathematical and statistical analysis of economic phenomena and problems. These programs include courses in economic statistics, optimization theory, cost/benefit analysis, price theory, economic modelling, and economic forecasting and evaluation.

Illustrative example(s)
- econometrics
- mathematical economics
- quantitative economics

Exclusion(s)
- applied economics (see 45.0602 Applied economics)
- applied statistics (see 27.0501 Statistics, general)
- mathematical sciences (see 27.0301 Applied mathematics, general)
- mathematical statistics (see 27.0502 Mathematical statistics and probability)
- operations research (see 14.3701 Operations research)

45.0604 Development economics and international development

This instructional program class comprises any program that focuses on the systematic study of the economic development process and its application to the problems of specific countries and regions. These programs include courses in economic development theory, industrialization, land reform, infrastructural development, investment policy, the role of governments and business in development, international development organizations, and the study of social, health, and environmental influences on economic development.

Illustrative example(s)
- community economic development
- development economics
- economic development
- international development
- international development studies

Exclusion(s)
- applied economics (see 45.0602 Applied economics)
- international business (see 52.1101 International business/trade/commerce)

- international economics (see 45.0605 International economics)
- international finance (see 52.0806 International finance)
- international public policy (see 44.0504 International public policy analysis)
- regional and urban development (see 04.0301 City/urban, community and regional planning)

45.0605 International economics

This instructional program class comprises any program that focuses on the systematic study and analysis of international commercial behaviour and trade policy. These programs include courses in international trade theory, tariffs and quotas, commercial policy, trade factor flows, international finance and investment, currency regulation and trade exchange rates and markets, international trade negotiation, and international payments and accounting policy.

Illustrative example(s)
- global economics
- international economics

Exclusion(s)
- economics (see 45.0601 Economics, general)
- international business (see 52.1101 International business/trade/commerce)
- international development studies (see 45.0604 Development economics and international development)
- international finance (see 52.0806 International finance)
- international public policy (see 44.0504 International public policy analysis)
- international studies (see 30.2001 International/global studies)

45.0699 Economics, other

This instructional program class comprises any program not listed above that relates to Economics.

Illustrative example(s)
- history of economics
- social economics

Exclusion(s)
- economics (see 45.0601 Economics, general)

45.07 Geography and cartography

This subseries comprises instructional program classes 45.0701 to 45.0799.

45.0701 Geography

This instructional program class comprises any program that focuses on the systematic study of the spatial distribution and interrelationships of people, natural resources, plant and animal life. These programs include courses in historical and political geography, cultural geography, economic and physical geography, regional science, cartographic methods, remote sensing, spatial analysis, and applications to areas such as land-use planning, development studies, and analyses of specific countries, regions, and resources.

Illustrative example(s)
- applied geography
- cultural geography
- environmental geography
- geographic sciences
- geography
- human geography
- physical geography

- social geography

Exclusion(s)
- demography (see 45.0501 Demography and population studies)
- geodetic engineering (see 14.3801 Surveying engineering)
- geography teacher (see 13.1332 Geography teacher education)
- geomatics (see 45.0702 Geographic information science and cartography)
- range and pasture management (see 01.1106 Range science and management)
- surveying (see 15.1102 Surveying technology/surveying)

45.0702 Geographic information science and cartography

This instructional program class comprises any program that focuses on the systematic study of map-making and the application of mathematical, computer, and other techniques to the analysis of large amounts of geographic data and the science of mapping geographic information. These programs include courses in cartographic theory and map projections, computer-assisted cartography, geographic information systems, map design and layout, photogrammetry, air photo interpretation, remote sensing, spatial analysis, geodesy, cartographic editing, and applications to specific industrial, commercial, research, and governmental mapping problems.

Illustrative example(s)
- cartography
- digital mapping
- geographic information systems
- geomatics
- geomatics technician
- GIS
- map design
- photogrammetry
- remote sensing
- topography

Exclusion(s)
- drafting (see 15.1301 Drafting and design technology/technician, general)
- geography (see 45.0701 Geography)
- marine sciences (see 30.3201 Marine sciences)
- surveying (see 15.1102 Surveying technology/surveying)
- surveying engineering (see 14.3801 Surveying engineering)
- topology (see 27.0105 Topology and foundations)

45.0799 Geography and cartography, other

This instructional program class comprises any program not listed above that relates to Geography and cartography.

Illustrative example(s)
- historical geography

Exclusion(s)
- cartography (see 45.0702 Geographic information science and cartography)
- Earth science (see 40.0601 Geology/Earth science, general)
- geography (see 45.0701 Geography)
- geography education (see 13.1332 Geography teacher education)

45.09 International relations and national security studies

This subseries comprises instructional program classes 45.0901 to 45.0999.

45.0901 International relations and affairs

This instructional program class comprises any program that focuses on the systematic study of international politics and institutions, and the conduct of diplomacy and foreign policy. These programs include courses in international relations theory, foreign policy analysis, national security and strategic studies, international law and organization, the comparative study of specific countries and regions, and the theory and practice of diplomacy.

Illustrative example(s)
- foreign policy and diplomacy
- international affairs
- international politics
- international relations

Exclusion(s)
- conflict resolution studies (see 30.0501 Peace studies and conflict resolution)
- international public policy (see 44.0504 International public policy analysis)
- international studies (see 30.2001 International/global studies)
- military history (see 54.0108 Military history)
- national security studies (see 45.0902 National security policy studies)
- political science and government (see 45.1001 Political science and government, general)

45.0902 National security policy studies

This instructional program class comprises any program that focuses on the theory and application of intelligence, diplomacy, military power, and related tools of statecraft to national defense policy formulation and power projection. These programs include courses in history, political theory, public policy analysis, civil-military relations, military and defense studies, public safety, leadership, threat scenarios, regional and local issues, alliance and coalition issues, defense budgeting and economics, intelligence, and strategy.

Illustrative example(s)
- Canadian security studies programme
- national security policy studies
- national security programme
- national security studies

Exclusion(s)
- international relations (see 45.0901 International relations and affairs)
- security and defence management and policy (see 28.0801 Military science, leadership and operational art)

45.0999 International relations and national security studies, other

This instructional program class comprises any program not listed above that relates to International relations and national security studies.

45.10 Political science and government

This subseries comprises instructional program classes 45.1001 to 45.1099.

45.1001 Political science and government, general

This instructional program class comprises any general program that focuses on the systematic study of political institutions and behaviour. These programs include courses in political philosophy, political theory, comparative government and politics, political parties and interest groups, public opinion, political research methods, studies of the government and politics of specific countries, and studies of specific political institutions and processes.

Illustrative example(s)
- comparative government and politics
- comparative politics
- political philosophy
- political science
- political science and government
- political studies

Exclusion(s)
- American politics (see 45.1002 American government and politics (United States))
- Canadian government and politics (see 45.1003 Canadian government and politics)
- international politics (see 45.0901 International relations and affairs)
- political communication (see 09.0904 Political communication)
- political studies and economy (see 45.1004 Political economy)
- public administration (see 44.0401 Public administration)
- public policy (see 44.0501 Public policy analysis, general)

45.1002 American government and politics (United States)

This instructional program class comprises any program that focuses on the systematic study of United States political institutions and behaviour. These programs include courses in American political theory, political parties and interest groups, state and local governments, Constitutional law, federalism and national institutions, executive and legislative politics, judicial politics, popular attitudes and media influences, political research methods, and applications to the study of specific issues and institutions.

Illustrative example(s)
- American politics

Exclusion(s)
- American studies (see 05.0102 American/United States studies/civilization)
- government administration (see 44.0401 Public administration)
- political communication (see 09.0904 Political communication)
- political science and government (see 45.1001 Political science and government, general)
- U.S. history (see 54.0102 American history (United States))

45.1003 Canadian government and politics

This instructional program class comprises any program that focuses on the systematic study of Canadian political institutions and behaviour. These programs include courses in British and North American political theory, political parties and interest groups, provincial and local governments, Constitutional law, federalism and national institutions, executive and legislative politics, judicial politics, popular attitudes and media influences, political research methods, and applications to the study of specific issues and institutions.

Illustrative example(s)
- Canadian government and politics
- Canadian political science
- Canadian political studies
- Canadian politics

Exclusion(s)
- Canadian history (see 54.0107 Canadian history)
- Canadian studies (see 05.0115 Canadian studies)
- government administration (see 44.0401 Public administration)
- political communication (see 09.0904 Political communication)
- political science and government (see 45.1001 Political science and government, general)
- public policy analysis (see 44.0501 Public policy analysis, general)

45.1004 Political economy

This instructional program class comprises any program that focuses on the interaction between politics and economics in the formation of public policy. These programs include courses in microeconomics; macroeconomics; political theory; Canadian, comparative, and international political economy; and quantitative methods.

Illustrative example(s)
- international political economy
- political economy and government
- political studies and economy

Exclusion(s)
- economics (see 45.0601 Economics, general)
- international public policy (see 44.0504 International public policy analysis)
- political science (see 45.1001 Political science and government, general)

45.1099 Political science and government, other

This instructional program class comprises any program not listed above that relates to Political science and government.

Exclusion(s)
- American politics (see 45.1002 American government and politics (United States))
- Canadian government and politics (see 45.1003 Canadian government and politics)
- international politics (see 45.0901 International relations and affairs)
- political communication (see 09.0904 Political communication)
- public administration (see 44.0401 Public administration)
- public policy analysis (see 44.0501 Public policy analysis, general)
- public relations and communication management (see 09.0902 Public relations/image management)

45.11 Sociology

This subseries comprises instructional program class 45.1101.

45.1101 Sociology

This instructional program class comprises any program that focuses on the systematic study of human social institutions and social relationships. These programs include courses in social theory, sociological research methods, social organization and structure, social stratification and hierarchies, dynamics of social change, family structures, social deviance and control, and applications to the study of specific social groups, social institutions, and social problems.

Illustrative example(s)
- sociology

Exclusion(s)
- behavioural science (see 30.1701 Behavioural sciences)
- human ecology (see 19.0101 Family and consumer sciences/human sciences, general)
- psychosociology (see 42.2707 Social psychology)
- rural development studies (see 45.1401 Rural sociology)
- social sciences (see 45.0101 Social sciences, general)
- social work (see 44.0701 Social work, general)
- sociology and anthropology (see 45.1301 Sociology and anthropology)
- sociology education (see 13.1317 Social science teacher education)

45.12 Urban studies/affairs

This subseries comprises instructional program class 45.1201.

45.1201 Urban studies/affairs

This instructional program class comprises any program that focuses on the application of social science principles to the study of urban institutions and the forces influencing urban social and political life. These programs include courses in urban theory, the development and evolution of urban areas, urban sociology, principles of urban and social planning, and the politics and economics of urban government and services.

Illustrative example(s)
- urban affairs
- urban studies

Exclusion(s)
- social economics (see 45.0699 Economics, other)
- sociology (see 45.1101 Sociology)
- urban education and leadership (see 13.0410 Urban education and leadership)
- urban forestry (see 03.0508 Urban forestry)
- urban planning (see 04.0301 City/urban, community and regional planning)

45.13 Sociology and anthropology

This subseries comprises instructional program class 45.1301.

45.1301 Sociology and anthropology

This instructional program class comprises any program that combines sociology and anthropology to study how society is organized, the origins and development of social institutions, social change, social organizations, race, class, gender and culture.

Illustrative example(s)
- sociology and anthropology

Exclusion(s)
- anthropology (see 45.0201 Anthropology, general)
- sociology (see 45.1101 Sociology)

45.14 Rural sociology

This subseries comprises instructional program class 45.1401.

45.1401 Rural sociology

This instructional program class comprises any program that focuses on the structure and function of rural societies. These programs include courses in sociological theory, research methods, statistics, sociology of agriculture, community development, social and economic development, demography, rural poverty, gender roles in rural societies, and environmental sociology.

Illustrative example(s)
- rural development studies

Exclusion(s)
- sociology (see 45.1101 Sociology)

45.99 Social sciences, other

This subseries comprises instructional program class 45.9999.

45.9999 Social sciences, other

This instructional program class comprises any program not listed above that relates to Social sciences.

Illustrative example(s)
- human rights studies
- social and political thought

Exclusion(s)
- social demography (see 45.0501 Demography and population studies)
- social sciences (see 45.0101 Social sciences, general)
- sociology (see 45.1101 Sociology)

46. Construction trades

This series comprises instructional programs that prepare individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties.

46.00 Construction trades, general

This subseries comprises instructional program class 46.0000.

46.0000 Construction trades, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. These programs include courses in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection and other construction-related applications.

Illustrative example(s)
- construction
- construction craft labourer
- construction craft worker
- construction trades
- general construction

Exclusion(s)
- construction drafting (see 15.1303 Architectural drafting and architectural CAD/CADD)
- construction engineering (see 14.3301 Construction engineering)
- construction engineering technician (see 15.1001 Construction engineering technology/technician)
- construction management (see 52.2001 Construction management)
- heavy construction equipment operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)
- introduction to trades (see 21.0101 Pre-technology education/pre-industrial arts programs)
- residential construction (see 46.0415 Building construction technology)

46.01 Masonry/mason

This subseries comprises instructional program class 46.0101.

46.0101 Masonry/mason

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills in the laying and/or setting of exterior brick, concrete block, hard tile, marble and related materials, using trowels, levels, hammers, chisels, and other hand tools. These programs include courses in technical mathematics, blueprint reading, structural masonry, decorative masonry, foundations, reinforcement, mortar preparation, cutting and finishing, and applicable codes and standards.

Illustrative example(s)
- brick and stone mason
- bricklaying
- bricklaying-masonry
- concrete block laying
- masonry
- masonry restoration
- restoration stone mason
- stone masonry

Exclusion(s)
- concrete finishing (see 46.0402 Concrete finishing/concrete finisher)

46.02 Carpentry/carpenter

This subseries comprises instructional program class 46.0201.

46.0201 Carpentry/carpenter

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. These programs include courses in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

Illustrative example(s)
- carpenter
- carpenter-joiner
- carpentry
- construction carpentry
- finishing carpentry
- framer (carpentry)
- general carpenter

Exclusion(s)
- cabinet making (see 48.0703 Cabinetmaking and millwork)
- woodworking (see 48.0701 Woodworking, general)

46.03 Electrical and power transmission installers

This subseries comprises instructional program classes 46.0301 to 46.0399.

46.0301 Electrical and power transmission installation/installer, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills to install indoor and outdoor residential, commercial, and industrial electrical systems, and associated power transmission lines. These programs include courses in electricity, safety procedures, wiring, insulation and grounding, schematic blueprint interpretation, equipment operation and maintenance, and applicable codes and standards.

Illustrative example(s)
- electrical systems installation
- power transmission systems installation

Exclusion(s)
- electrical engineering (see 14.1001 Electrical and electronics engineering)
- electrical power lineman/linewoman (see 46.0303 Lineworker)
- electrical technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electrician (see 46.0302 Electrician)
- electronics repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- power system electrician (see 47.0501 Stationary energy sources installer and operator)

46.0302 Electrician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. These programs include courses in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.

Illustrative example(s)
- construction electrician
- electrician
- industrial electrician
- master electrician

Exclusion(s)
- electrical power lineman/linewoman (see 46.0303 Lineworker)
- electrical repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- electrical technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electromechanical technician (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- industrial electronics (see 47.0105 Industrial electronics technology/technician)

46.0303 Lineworker

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install, operate, maintain and repair local, long-distance, and rural electric power cables and communication lines; erect and construct pole and tower lines; and install underground lines and cables. These programs include courses in cable installation and repair, fibre-optic technology, trenching, mobile equipment and crane operation, high-voltage installations, maintenance and inspection, safety, remote communications, and applicable codes and standards.

Illustrative example(s)
- cable splicer

- high voltage lineman/linewoman
- lineman/linewoman
- power line installation
- power line maintenance
- power lineman/linewoman
- powerline electrician
- powerline technician
- telephone line repair
- telephone lineman/linewoman

Exclusion(s)
- electrical repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- electrical technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electrician (see 46.0302 Electrician)
- electromechanical technician (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

46.0399 Electrical and power transmission installers, other

This instructional program class comprises any program not listed above that relates to Electrical and power transmission installers.

46.04 Building/construction finishing, management and inspection

This subseries comprises instructional program classes 46.0401 to 46.0499.

46.0401 Building/property maintenance

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to keep a building functioning, and to service a variety of structures including commercial and industrial buildings and mobile homes. These programs include courses in the basic maintenance and repair skills required to service building systems, such as air conditioning, heating, plumbing, electrical, major appliances, and other mechanical systems.

Illustrative example(s)
- building envelope technician
- building maintenance
- building service technician
- facilities mechanic
- facilities technician
- property maintenance
- residential building maintenance worker

Exclusion(s)
- construction management (see 52.2001 Construction management)
- construction site management (see 46.0412 Building/construction site management/manager)
- facilities management (see 19.0604 Facilities planning and management)
- heating and air conditioning mechanic (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- real estate (see 52.1501 Real estate)

46.0402 Concrete finishing/concrete finisher

This instructional program class comprises any program that prepares individuals to prepare, construct, and finish buildings, components, and related structures using masonry mixtures of stone, gravel, sand, cement, and water. These programs include courses in site preparation, applied mathematics, mixing formulas and applications, job estimation, concrete design, finishing techniques, mold preparation, reinforcement installation, site safety, and equipment operation and maintenance.

Illustrative example(s)
- cement finisher
- cement finishing
- cement mason
- cement-applicator operator
- concrete finisher
- concrete finishing
- concrete preparation and finishing

Exclusion(s)
- concrete block laying (see 46.0101 Masonry/mason)

46.0403 Building/home/construction inspection/inspector

This instructional program class comprises any program that prepares individuals to apply industrial, labour, and governmental standards and laws to the oversight of construction projects and the maintenance of completed buildings and other structures. These programs include courses in construction processes and techniques, materials analysis, occupational safety and health, industry standards, building codes and specifications, blueprint interpretation, testing equipment and procedures, communication skills, accident investigation, and documentation.

Illustrative example(s)
- building inspection
- building inspection technology
- home inspection

Exclusion(s)
- construction management (see 52.2001 Construction management)
- construction supervision (see 46.0412 Building/construction site management/manager)
- quality inspector training (see 15.0702 Quality control technology/technician)

46.0404 Drywall installation/drywaller

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install, tape, and plaster drywall installations in interior and exterior construction jobs. These programs include courses in drywall handling and transport, cutting and mounting, taping and spackling, finishing, job analysis and estimation, site safety, tool operation and maintenance, blueprint and specification interpretation, and applicable codes and standards.

Illustrative example(s)
- drywall and acoustical mechanic
- drywall finisher and plasterer
- drywall finishing
- drywall installation
- drywall installer and finisher
- drywall taping
- drywall, acousting and lathing applicator
- lather (interior systems mechanic)
- plastering

- wall and ceiling installation

Exclusion(s)
- thermal insulation installer (see 46.0414 Insulator)

46.0406 Glazier

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install and repair fixtures, sheets, windows, and skylights made of glass, plexiglass, and other transparent materials. These programs include courses in site measurement, job analysis and estimation, material cutting and trimming, window and door installation, site safety, equipment operation and maintenance, specification interpretation, and applicable codes and standards.

Illustrative example(s)
- architectural glass and metal mechanic
- erector mechanic (glazier)
- glassworker (glazier)
- glazier
- glazier - auto glass technician

Exclusion(s)
- auto body repair (see 47.0603 Autobody/collision and repair technology/technician)
- glass blowing (see 50.0799 Fine arts and art studies, other)
- opticianry (see 51.1801 Opticianry/ophthalmic dispensing optician)

46.0408 Painting/painter and wall coverer

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to finish exterior and interior structural surfaces by applying protective or decorative coating materials, such as paint, lacquer, and wallpaper. These programs include courses in surface preparation; selecting, preparing, and applying paints and other coatings; hanging wallpaper; equipment operation and maintenance; finish selection; safety and clean-up; environmental effects on finishes; adhesion properties; and applicable codes and standards.

Illustrative example(s)
- commercial painting
- house painting
- wallpaper hanger

Exclusion(s)
- auto body painting (see 47.0603 Autobody/collision and repair technology/technician)
- carpet, flooring, and tile technician (see 46.0413 Carpet, floor, and tile worker)
- fine art painting (see 50.0708 Painting)
- home decorating (see 19.0605 Home furnishings and equipment installers)
- interior design (see 50.0408 Interior design)
- sign painting (see 50.0402 Commercial and advertising art)

46.0410 Roofer

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to prepare, install, and maintain exterior roofing materials and roofs. These programs include courses in building materials, flashing, lag bolts, site safety, equipment operation and maintenance, layering, site preparation, basic internal structural design, finishing, waterproofing, and applicable codes and standards.

Illustrative example(s)
- commercial roofing
- industrial roofing

- roofer
- roofing

Exclusion(s)
- construction trades (see 46.0000 Construction trades, general)
- thermal insulation installer (see 46.0414 Insulator)

46.0411 Metal building assembly/assembler

This instructional program class comprises any program that prepares individuals to construct industrial, storage, and commercial metal structures using prefabricated framing and siding components. These programs include courses in sheet metal working, ironworking, assembly and fastening techniques, blueprint reading, site preparation, structural design principles, safety, and applicable codes and regulations.

Illustrative example(s)
- metal building assembly
- metal structure assembly
- prefabricated metal building assembler
- prefabricated metal building assembly
- prefabricated metal structure assembler
- prefabricated metal structure assembly

Exclusion(s)
- jewellery design (see 50.0713 Metal and jewellery arts)
- metal engineering (see 14.2001 Metallurgical engineering)
- reinforcing steel erector (see 48.0509 Ironworking/ironworker)
- sheet metal technician (see 48.0506 Sheet metal technology/sheetworking)
- structural steel and plate fitter (see 48.0511 Metal fabricator)
- welding (see 48.0508 Welding technology/welder)

46.0412 Building/construction site management/manager

This instructional program class comprises any program that prepares individuals to supervise, manage, and inspect construction sites, buildings, and associated facilities. These programs include courses in site safety, personnel supervision, labour relations, diversity training, construction documentation, scheduling, resource and cost control, bid strategies, rework prevention, construction insurance and bonding, accident management and investigation, applicable laws and regulations, and communication skills.

Illustrative example(s)
- construction foreman/forewoman
- construction site management
- construction supervision

Exclusion(s)
- building engineering technology (see 15.1001 Construction engineering technology/technician)
- building inspection (see 46.0403 Building/home/construction inspection/inspector)
- construction engineering (see 14.3301 Construction engineering)
- construction management (see 52.2001 Construction management)
- construction technology (see 46.0415 Building construction technology)
- quality inspector training (see 15.0702 Quality control technology/technician)

46.0413 Carpet, floor, and tile worker

This instructional program class comprises any program that prepares individuals to plan, prepare, install, and repair carpet; linoleum; vinyl; ceramic, marble, quarry, mosaic, and terrazzo tiles; and wood materials on floors, walls, and stairs. These programs include courses in measuring, cutting, and installing materials; use of hand and power-operated equipment; estimation of material and labour costs; and safety training.

Illustrative example(s)
- carpet installation
- carpet, flooring, and tile technician
- carpet, linoleum, and soft tile layer
- ceramic tile installation
- floor covering installer
- floor laying
- flooring and hardwood technician
- terrazzo, tile and marble setter
- tilesetter
- tiling and flooring technician

Exclusion(s)
- interior decorating (see 19.0605 Home furnishings and equipment installers)
- wallpaper hanger (see 46.0408 Painting/painter and wall coverer)

46.0414 Insulator

This instructional program class comprises any program that prepares individuals to apply insulation materials to pipes, boilers, ducts, refrigeration systems, and related equipment to reduce the passage of heat, cold, sound, or fire. These programs include courses in insulation specifications, measuring and cutting insulating material, applying and securing insulation, installing vapour barriers, insulation system maintenance, asbestos removal and abatement, and safety training.

Illustrative example(s)
- boiler and pipe insulator
- firestopping insulator
- heat and frost insulator
- insulation
- insulator
- insulator (heat and frost)
- sound insulator
- thermal insulation installer

Exclusion(s)
- roofer (see 46.0410 Roofer)
- wall and ceiling installation (see 46.0404 Drywall installation/drywaller)

46.0415 Building construction technology

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. These programs include courses in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; masonry; heating, ventilation, and air conditioning; electrical and mechanical systems; interior and exterior finishing; and plumbing.

Illustrative example(s)
- building construction technology
- commercial construction

- construction technology
- home building
- residential construction
- residential construction technician

Exclusion(s)
- building construction engineering technology (see 15.1001 Construction engineering technology/technician)
- construction (see 46.0000 Construction trades, general)
- construction site management (see 46.0412 Building/construction site management/manager)

46.0499 Building/construction finishing, management and inspection, other

This instructional program class comprises any program not listed above that relates to Building/construction finishing, management and inspection.

Exclusion(s)
- construction (see 46.0000 Construction trades, general)

46.05 Plumbing and related water supply services

This subseries comprises instructional program classes 46.0502 to 46.0599.

46.0502 Pipefitting/pipefitter and sprinkler fitter

This instructional program class comprises any program that prepares individuals to design, install, and test industrial and commercial piping systems and automatic fire and exposure protection systems. These programs include courses in water systems, steam systems, heating and cooling systems, lubricating systems, piping materials, installation tools operation and maintenance, valve installation and repair, technical mathematics, blueprint interpretation, and applicable codes and standards.

Illustrative example(s)
- gas piping installation
- gasfitter
- pipefitter - fire protection mechanic specialty
- pipefitter - heating system installer specialty
- pipefitting
- sprinkler and fire protection installer
- sprinkler installation
- sprinkler systems installer
- steamfitter
- steamfitter-pipefitter

Exclusion(s)
- air conditioning and refrigeration engineering technician (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- fire protection engineering technician (see 15.9999 Engineering technologies and engineering-related fields, other)
- pipefitter - plumber specialty (see 46.0503 Plumbing technology/plumber)
- pipefitter - refrigeration mechanic specialty (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- security system installation and maintenance (see 47.0110 Security system installation, repair and inspection technology/technician)

46.0503 Plumbing technology/plumber

This instructional program class comprises any program that prepares individuals to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, in home and business environments. These programs include courses in source determination, water distribution, waster removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.

Illustrative example(s)
- master plumber
- pipefitter - plumber specialty
- plumber
- plumbing

Exclusion(s)
- air conditioning and refrigeration engineering technician (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- heating and air conditioning mechanic (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- pipefitting (see 46.0502 Pipefitting/pipefitter and sprinkler fitter)
- pressure welding (see 48.0508 Welding technology/welder)

46.0504 Well drilling/driller

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to set up, maintain, repair, and operate well drilling equipment; locate, drill, construct, and develop water, gas, and oil wells; and test and monitor wells to ensure adequate flow. These programs include courses with applications to home, business, and industrial uses.

Illustrative example(s)
- drilling
- natural gas drilling
- oil and gas drilling
- oil drilling
- oil field drilling
- oil well drilling
- oil well rigger
- water wells drilling
- well driller
- well drilling

Exclusion(s)
- drilling and blasting (see 46.0505 Blasting/blaster)
- mining engineering (see 14.2101 Mining and mineral engineering)
- mining technology (see 15.0901 Mining technology/technician)
- oil and gas engineering (see 14.2501 Petroleum engineering)
- oil and gas field operations (see 15.0903 Petroleum technology/technician)

46.0505 Blasting/blaster

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills in using a variety of explosive materials to aid in the construction process. These programs include courses in safety procedures for storing, handling, placement, charge power determination, drilling, pounding, building demolition, preparing rocky surfaces, building foundations and destruction of explosives.

Illustrative example(s)
- blaster
- blasting
- blasting technician
- drilling and blasting
- explosives technician
- surface blaster

Exclusion(s)
- oil and gas drilling (see 46.0504 Well drilling/driller)

46.0599 Plumbing and related water supply services, other

This instructional program class comprises any program not listed above that relates to Plumbing and related water supply services.

46.99 Construction trades, other

This subseries comprises instructional program class 46.9999.

46.9999 Construction trades, other

This instructional program class comprises any program not listed above that relates to Construction trades.

Illustrative example(s)
- building renovation technician
- building restoration technician
- elevator constructor
- elevator installation
- elevator mechanic
- elevator technology
- manlift technician

Exclusion(s)
- heavy construction equipment operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)

47. Mechanic and repair technologies/technicians

This series comprises instructional programs that prepare individuals to apply technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of tools, equipment, and machines.

47.00 Mechanics and repairers, general

This subseries comprises instructional program class 47.0000.

47.0000 Mechanics and repairers, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of tools, equipment, and machines.

Illustrative example(s)
- equipment mechanic
- equipment repair
- general mechanic

- machine mechanic
- machine repair
- maintenance mechanic

Exclusion(s)
- agricultural machinery technician (see 01.0205 Agricultural mechanics and equipment/machine technology)
- electromechanical technician (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- heavy duty/commercial transport repair mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- heavy equipment mechanic (see 47.0302 Heavy equipment maintenance technology/technician)
- industrial mechanic (see 47.0303 Industrial mechanics and maintenance technology)
- mechanical engineering (see 14.1901 Mechanical engineering)
- mechanical technician (see 15.0805 Mechanical engineering/mechanical technology/technician)

47.01 Electrical/electronics maintenance and repair technology

This subseries comprises instructional program classes 47.0101 to 47.0199.

47.0101 Electrical/electronics equipment installation and repair, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills to operate, maintain, and repair electrical and electronic equipment. These programs include courses in electrical circuitry, simple gearing, linkages and lubrication of machines and appliances, and the use of testing equipment.

Illustrative example(s)
- DVD player repair
- electric motor winder
- electrical maintenance
- electrical motor system mechanic
- electrical motor systems technician
- electrical repair
- electrical rewind mechanic
- electronic maintenance
- electronics repair
- radio and TV repair

Exclusion(s)
- electrical and electronic engineering (see 14.1001 Electrical and electronics engineering)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- electrician (see 46.0302 Electrician)
- electromechanical technician (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- electronic systems technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- industrial electronics (see 47.0105 Industrial electronics technology/technician)
- security system installation and maintenance (see 47.0110 Security system installation, repair and inspection technology/technician)

47.0102 Business machine repair

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to maintain and repair a variety of office machines, such as typewriters, word processing and dictation machines, calculators, duplicating machines, and mailing machines. These programs include courses in diagnostic techniques, the use of testing equipment, and the principles of mechanics, electricity, and electronics as they relate to the repair of business machines.

Illustrative example(s)
- business equipment repair
- business machine repair
- business machine technician
- office equipment maintenance
- office equipment maintenance technology
- office machine technician
- photocopier technician

Exclusion(s)
- computer repair (see 47.0104 Computer installation and repair technology/technician)

47.0103 Communications systems installation and repair technology

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair one- and two- way communications equipment and systems, including television cable systems and mobile or stationary communication devices. These programs include courses in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of communications systems.

Illustrative example(s)
- cable telecommunications technician
- cable television service installation
- cable television technician
- communication technician (apprenticeship)
- communications electrician (apprenticeship)
- communications technician (apprenticeship)
- network cabling specialist (apprenticeship)
- telephone installation
- telephone repair

Exclusion(s)
- audiovisual technician (see 10.0299 Audiovisual communications technologies/technicians, other)
- communications technician (see 10.0105 Communications technology/technician)
- electrical technology (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- security system installation and maintenance (see 47.0110 Security system installation, repair and inspection technology/technician)
- telecommunications technician (see 15.0305 Telecommunications technology/technician)

47.0104 Computer installation and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair computers and related equipment. These programs include courses in power supplies, number systems, memory structure, buffers and registers, microprocessor design, peripheral equipment, programming, and networking.

Illustrative example(s)
- computer repair
- computer repair technician
- computer service technician
- computer systems service technician
- microcomputer repair

Exclusion(s)
- business equipment repair (see 47.0102 Business machine repair)
- computer support specialist (see 11.1006 Computer support specialist)
- computer systems technology (see 15.1202 Computer technology/computer systems technology)

47.0105 Industrial electronics technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in industry and manufacturing. These programs include courses in installing, maintaining and testing various types of equipment.

Illustrative example(s)
- industrial electronics
- industrial electronics technician
- industrial electronics technology

Exclusion(s)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- electronic engineering (see 14.1001 Electrical and electronics engineering)
- electronic systems technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)
- electronics repair (see 47.0101 Electrical/electronics equipment installation and repair, general)
- industrial electrician (see 46.0302 Electrician)
- industrial technician (see 15.0612 Industrial technology/technician)

47.0106 Appliance installation and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, install, and service major gas, electric, and consumer appliances such as stoves, microwaves, refrigerators, dryers, water heaters, washers, dishwashers, and commercial units such as ice makers and coffee makers.

Illustrative example(s)
- appliance repair
- appliance service technician
- appliance technician
- electronic service technician (consumer products)
- electronics technician (consumer products)
- gas appliance technician
- home appliance repair

Exclusion(s)
- general mechanic (see 47.0000 Mechanics and repairers, general)
- telephone line installation (see 47.0103 Communications systems installation and repair technology)
- TV and VCR repair (see 47.0101 Electrical/electronics equipment installation and repair, general)

47.0110 Security system installation, repair and inspection technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install and repair household, business, and industrial security alarms, sensors, video and sound recording devices, identification systems, protective barriers, and related technologies.

Illustrative example(s)
- alarm and security technician
- alarm installation
- fire alarm and protection system
- fire alarm technician
- security alarm installation
- security alarm service technician
- security alarm technician
- security and alarm systems technician
- security system installation and maintenance
- security system technician

Exclusion(s)
- computer systems security (see 11.1003 Computer and information systems security/information assurance)
- fire systems technology (see 43.0204 Fire systems technology)
- security and loss prevention services (see 43.0109 Security and loss prevention services)
- sprinkler systems installer (see 46.0502 Pipefitting/pipefitter and sprinkler fitter)

47.0199 Electrical/electronics maintenance and repair technology, other

This instructional program class comprises any program not listed above that relates to Electrical/electronics maintenance and repair technology.

Illustrative example(s)
- motor rewinding
- motor winding

Exclusion(s)
- aircraft electronics service technician (see 47.0609 Avionics maintenance technology/technician)
- automotive electrical repair (see 47.0604 Automobile/automotive mechanics technology/technician)
- electric vehicle service technician (see 47.0614 Alternative fuel vehicle technology/technician)

47.02 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician

This subseries comprises instructional program class 47.0201.

47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning, and refrigeration systems. These programs include courses in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of heating, air conditioning and refrigeration systems.

Illustrative example(s)
- central air conditioning installer
- furnace installer and repairer
- gas and oil burner technician

- heating and air conditioning mechanic
- heating systems technician
- heating, air conditioning and refrigeration mechanic
- heating, ventilation and air conditioning mechanic
- heating, ventilation, air conditioning and refrigeration mechanic
- pipefitter - refrigeration mechanic specialty
- transport refrigeration service technician

Exclusion(s)
- energy systems technology (see 15.0503 Energy management and systems technology/technician)
- heating, ventilation, air conditioning and refrigeration technician (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- insulation (see 46.0414 Insulator)
- pipefitting (see 46.0502 Pipefitting/pipefitter and sprinkler fitter)
- plumbing (see 46.0503 Plumbing technology/plumber)

47.03 Heavy/industrial equipment maintenance technologies

This subseries comprises instructional program classes 47.0302 to 47.0399.

47.0302 Heavy equipment maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills in the field maintenance and repair of heavy equipment, and in the general maintenance and overhaul of such equipment. These programs include courses in inspection, maintenance, and repair of tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, engines and in techniques of welding and brazing.

Illustrative example(s)
- construction heavy equipment mechanics
- fluid power and control mechanic
- heavy duty equipment mechanic
- heavy duty equipment technician
- heavy equipment maintenance
- heavy equipment mechanics
- heavy equipment service technician
- heavy equipment technology
- hydraulic mechanic
- hydraulic mechanics

Exclusion(s)
- agricultural machinery technician (see 01.0205 Agricultural mechanics and equipment/machine technology)
- heavy duty/commercial transport repair mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- heavy-duty equipment operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)

47.0303 Industrial mechanics and maintenance technology

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, production machinery, marine deck machinery, and steam propulsion, refinery, and pipeline-distribution systems.

Illustrative example(s)
- construction millwright
- industrial equipment technology
- industrial maintenance mechanic
- industrial maintenance technology
- industrial mechanic
- industrial mechanic (millwright)
- industrial millwright
- industrial plant technician
- millwright
- planermill maintenance technician

Exclusion(s)
- engine machinist (see 47.0615 Engine machinist)
- industrial electronics technician (see 47.0105 Industrial electronics technology/technician)
- industrial machinist (see 48.0501 Machine tool technology/machinist)
- industrial technology (see 15.0612 Industrial technology/technician)

47.0399 Heavy/industrial equipment maintenance technologies, other

This instructional program class comprises any program not listed above that relates to Heavy/industrial equipment maintenance technologies.

47.04 Precision systems maintenance and repair technologies

This subseries comprises instructional program classes 47.0402 to 47.0499.

47.0402 Gunsmithing/gunsmith

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to make, repair, maintain, and modify firearms according to blueprints or customer specifications, using specialized hand tools and machines.

Illustrative example(s)
- firearms repair
- gunsmith
- gunsmithing

Exclusion(s)
- law enforcement (see 43.0107 Criminal justice/police science)
- machining (see 48.0501 Machine tool technology/machinist)

47.0403 Locksmithing and safe repair

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to make, repair, maintain, modify, and open locks; to make keys; to enter and change lock and safe combinations; and install and repair safes.

Illustrative example(s)
- locksmith
- locksmithing

Exclusion(s)
- machinist (see 48.0501 Machine tool technology/machinist)
- security (see 43.0109 Security and loss prevention services)
- tool making (see 48.0507 Tool and die technology/technician)

47.0404 Musical instrument fabrication and repair

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to make, repair, maintain, and tune acoustic and electric musical instruments. These programs include courses in methods and equipment for making musical instruments, electronic instrument amplification systems, techniques of cleaning, and methods of tuning musical instruments.

Illustrative example(s)
- musical instrument repair
- piano technician
- piano technology
- piano tuning
- violin maker
- violin making

Exclusion(s)
- instrumental composition (see 50.0904 Music theory and composition)
- music (see 50.0901 Music, general)
- music performance (see 50.0903 Music performance, general)
- sound engineering (see 10.0203 Recording arts technology/technician)
- woodworking (see 48.0701 Woodworking, general)

47.0408 Watchmaking and jewellery making

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to make repairs, and maintain timepieces, time-measuring devices, and jewellery items. These programs include courses in mechanical timekeeping systems, digital timekeeping systems, timesetting, casting, engraving, polishing, stonesetting, soldering, fine microscopic work, equipment and tool maintenance, redesign and restyling techniques, and customer relations.

Illustrative example(s)
- clock repair
- clockmaker-jeweller
- clockmaking
- jeweller
- jewellery making
- jewellery repair
- master clockmaker
- watch repair
- watchmaking

Exclusion(s)
- jewellery design (see 50.0713 Metal and jewellery arts)

47.0409 Parts and warehousing operations and maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to maintain inventory control, care for inventory, and make minor repairs to warehouse equipment.

Illustrative example(s)
- automotive parts and light warehousing
- automotive partsman/partswoman
- automotive partsperson
- industrial warehousing
- parts and warehousing
- parts technician

- partsman/partswoman
- partsperson
- warehouse operations
- warehouse technician

Exclusion(s)
- auto parts sales (see 52.1907 Vehicle and vehicle parts and accessories marketing operations)
- warehouse management (see 52.0409 Parts, warehousing and inventory management operations)

47.0499 Precision systems maintenance and repair technologies, other

This instructional program class comprises any program not listed above that relates to Precision systems maintenance and repair technologies.

Illustrative example(s)
- sports equipment fabrication and repair technician

47.05 Stationary energy sources installer and operator CAN

This subseries comprises instructional program class 47.0501.

47.0501 Stationary energy sources installer and operator CAN

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install, repair, operate, and maintain large power sources that could include generating electricity and heat.

Illustrative example(s)
- hydroelectricity technician
- power engineering technician
- power engineering technology
- power plant engineering technology
- power system electrician
- stationary engineer
- stationary engineering
- steam engineering
- wind turbine maintenance technician
- wind turbine technician

Exclusion(s)
- electrical systems installation (see 46.0301 Electrical and power transmission installation/installer, general)
- energy systems technician (see 15.0503 Energy management and systems technology/technician)
- heating, ventilation and air conditioning technology (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- power engineering (university) (see 14.9999 Engineering, other)

47.06 Vehicle maintenance and repair technologies

This subseries comprises instructional program classes 47.0600 to 47.0699.

47.0600 Vehicle maintenance and repair technologies, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of vehicles and mobile equipment.

Illustrative example(s)
- vehicle maintenance
- vehicle repair

Exclusion(s)
- alternative fuel powered vehicle technician (see 47.0614 Alternative fuel vehicle technology/technician)
- auto body repair (see 47.0603 Autobody/collision and repair technology/technician)
- auto mechanic (see 47.0604 Automobile/automotive mechanics technology/technician)
- commercial transport vehicle mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- diesel mechanic (see 47.0605 Diesel mechanics technology/technician)
- engine machinist (see 47.0615 Engine machinist)
- exhaust systems repair (see 47.0612 Vehicle emissions inspection and maintenance technology/technician)

47.0603 Autobody/collision and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, reconstruct and finish automobile bodies, fenders, and external features. These programs include courses in structure analysis, damage repair, non-structural analysis, mechanical and electrical components, plastics and adhesives, painting and refinishing techniques, and damage analysis and estimating.

Illustrative example(s)
- auto body mechanic
- auto body painting
- auto body repair
- auto body technician
- automotive collision repair technician
- automotive painter
- automotive refinishing technician
- automotive spray painting
- motor vehicle body refinisher
- motor vehicle body repairer (painter)

Exclusion(s)
- artistic painting (see 50.0708 Painting)
- auto glass technician (see 46.0406 Glazier)
- automotive partsman/partswoman (see 47.0409 Parts and warehousing operations and maintenance technology/technician)
- commercial painting (see 46.0408 Painting/painter and wall coverer)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0604 Automobile/automotive mechanics technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. These programs include courses in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

Illustrative example(s)
- alignment and brakes technician
- alignment mechanic
- automotive electrical repair
- automotive electronics
- automotive maintenance technician
- automotive mechanic

- automotive repair
- automotive service technician
- automotive transmission repair
- motor vehicle mechanic

Exclusion(s)
- auto body technician (see 47.0603 Autobody/collision and repair technology/technician)
- automotive engineering technician (see 15.0803 Automotive engineering technology/technician)
- brakeman/brakewoman (see 49.0208 Railroad and railway transportation)
- farm machinery mechanic (see 01.0205 Agricultural mechanics and equipment/machine technology)
- heavy duty/commercial transport repair mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- high performance powertrain mechanic (see 47.0617 High performance and custom engine technician/mechanic)
- mechanical technician (see 15.0805 Mechanical engineering/mechanical technology/technician)
- natural gas powered vehicle service technician (see 47.0614 Alternative fuel vehicle technology/technician)
- recreation vehicle (RV) mechanic (see 47.0618 Recreation vehicle (RV) service technician)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0605 Diesel mechanics technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain diesel engines in vehicles such as automobiles, buses, ships, trucks, railroad locomotives, and construction equipment; as well as stationary diesel engines in electrical generators and related equipment.

Illustrative example(s)
- automotive diesel mechanics
- diesel engine mechanic
- diesel mechanic
- diesel mechanics
- diesel service technician
- diesel technology
- heavy duty diesel mechanic
- locomotive diesel mechanics
- marine diesel mechanic
- stationary diesel mechanics

Exclusion(s)
- automotive engineering technology (see 15.0803 Automotive engineering technology/technician)
- automotive service technician (see 47.0604 Automobile/automotive mechanics technology/technician)
- farm machinery mechanic (see 01.0205 Agricultural mechanics and equipment/machine technology)
- heavy equipment mechanic (see 47.0302 Heavy equipment maintenance technology/technician)
- heavy vehicle mechanics (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- high performance powertrain mechanic (see 47.0617 High performance and custom engine technician/mechanic)
- mechanical technology (see 15.0805 Mechanical engineering/mechanical technology/technician)
- small engine repair (see 47.0606 Small engine mechanics and repair technology/technician)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0606 Small engine mechanics and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain small internal-combustion engines used on portable power equipment such as lawnmowers, chain saws, rotary tillers, and snowmobiles.

Illustrative example(s)
- outdoor power equipment technician
- small engine and equipment mechanic
- small engine mechanic
- small engine mechanics
- small engine repair
- small engine technician
- small gas engine repair
- small motor mechanic
- snowmobile mechanics

Exclusion(s)
- automotive service technician (see 47.0604 Automobile/automotive mechanics technology/technician)
- diesel engine mechanic (see 47.0605 Diesel mechanics technology/technician)
- engine machinist (see 47.0615 Engine machinist)
- high performance powertrain mechanic (see 47.0617 High performance and custom engine technician/mechanic)

47.0607 Airframe mechanics and aircraft maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all aircraft components other than engines, propellers, avionics, and instruments. These programs include courses in layout and fabrication of sheet metal, fabric, wood, and other materials into structural members, parts, and fittings, and replacement of damaged or worn parts such as control cables and hydraulic units.

Illustrative example(s)
- aircraft maintenance engineer
- aircraft maintenance engineer technician
- aircraft maintenance journeyman/journeywoman
- aircraft maintenance journeyperson
- aircraft maintenance technician
- aircraft mechanic
- aircraft sheet metal mechanics
- aircraft structural repair technician
- aircraft structural technician
- airframe mechanic

Exclusion(s)
- aerospace engineering technology (see 15.0801 Aeronautical/aerospace engineering technology/technician)
- aircraft engine mechanic (see 47.0608 Aircraft powerplant technology/technician)
- aviation sciences (see 49.0101 Aeronautics/aviation/aerospace science and technology, general)
- avionics maintenance technician (see 47.0609 Avionics maintenance technology/technician)
- flight engineer (see 49.0102 Airline/commercial/professional pilot and flight crew)

47.0608 Aircraft powerplant technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of aircraft powerplant and related systems. These programs include courses in engine inspection and maintenance, lubrication and cooling, electrical and ignition systems, carburetion, fuels and fuel systems, propeller and fan assemblies.

Illustrative example(s)
- aero engine technician
- aircraft engine mechanic

- aircraft engine technician

Exclusion(s)
- aeronautical engineering technology (see 15.0801 Aeronautical/aerospace engineering technology/technician)
- aircraft engineering (see 14.0201 Aerospace, aeronautical and astronautical/space engineering)
- aircraft mechanic (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- aviation sciences (see 49.0101 Aeronautics/aviation/aerospace science and technology, general)
- avionics technician (see 47.0609 Avionics maintenance technology/technician)

47.0609 Avionics maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of aircraft operating, control, and electronic systems. These programs include courses in flight instrumentation, aircraft communications and homing systems, radar and other sensory systems, navigation aids, and specialized systems for various types of civilian and military aircraft.

Illustrative example(s)
- aircraft electronics
- aircraft electronics service technician
- aircraft radar technician
- aviation electronics
- avionics
- avionics maintenance technician
- avionics technician
- avionics technology

Exclusion(s)
- aeronautical engineering technology (see 15.0801 Aeronautical/aerospace engineering technology/technician)
- aircraft engine mechanic (see 47.0608 Aircraft powerplant technology/technician)
- aircraft structural repair technician (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- electrical and electronic engineering (see 14.1001 Electrical and electronics engineering)
- electrical maintenance (see 47.0101 Electrical/electronics equipment installation and repair, general)
- electromechanical technician (see 15.0403 Electromechanical technology/electromechanical engineering technology)
- electronic systems technician (see 15.0303 Electrical, electronic and communications engineering technology/technician)

47.0610 Bicycle mechanics and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain bicycles and other human-powered vehicles. These programs include courses in lubrication, adjustments of moving parts, and wheel building.

Illustrative example(s)
- bicycle mechanics
- bicycle repair

Exclusion(s)
- motorcycle mechanic (see 47.0611 Motorcycle maintenance and repair technology/technician)

47.0611 Motorcycle maintenance and repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain motorcycles and other similar powered vehicles. These programs include courses in lubrication and cooling systems, electrical and ignition systems, carburetion, fuel systems and adjustments of moving parts.

Illustrative example(s)
- motocycle mechanics
- motorcycle mechanic
- motorcycle repair
- motorcycle service technician
- motorcycle technician

Exclusion(s)
- bicycle mechanics (see 47.0610 Bicycle mechanics and repair technology/technician)
- maintenance mechanic (see 47.0000 Mechanics and repairers, general)
- small engine repair (see 47.0606 Small engine mechanics and repair technology/technician)

47.0612 Vehicle emissions inspection and maintenance technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to test, repair, service, and maintain vehicle emission systems in accordance with relevant laws and regulations.

Illustrative example(s)
- exhaust systems repair
- vehicle emissions technician

Exclusion(s)
- muffler installer (see 47.0699 Vehicle maintenance and repair technologies, other)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0613 Medium/heavy vehicle and truck technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the specialized maintenance and repair of trucks, buses, and other commercial and industrial vehicles. These programs include courses in diesel engine mechanics, suspension and steering, brake systems, electrical and electronic systems, preventive maintenance inspections, drive trains, gasoline engine mechanics, HVAC systems, and auxiliary equipment installation and repair.

Illustrative example(s)
- bus mechanic
- commercial transport vehicle mechanic
- heavy vehicle mechanic
- transport trailer mechanic
- transport trailer technician
- truck and coach technician
- truck and transport mechanic
- truck and transport service technician
- truck and transport technician
- truck mechanic

Exclusion(s)
- agricultural mechanics (see 01.0205 Agricultural mechanics and equipment/machine technology)
- alternative fuel powered vehicle repair (see 47.0614 Alternative fuel vehicle technology/technician)

- auto mechanic (see 47.0604 Automobile/automotive mechanics technology/technician)
- automotive engineering technician (see 15.0803 Automotive engineering technology/technician)
- diesel mechanics (see 47.0605 Diesel mechanics technology/technician)
- heavy equipment technician (see 47.0302 Heavy equipment maintenance technology/technician)
- industrial mechanic (see 47.0303 Industrial mechanics and maintenance technology)
- machine mechanic (see 47.0000 Mechanics and repairers, general)
- recreation vehicle (RV) mechanic (see 47.0618 Recreation vehicle (RV) service technician)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0614 Alternative fuel vehicle technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the maintenance of alternative fuel vehicles and the conversion of standard vehicles to AFV status. These programs include courses in electrical vehicles, liquefied petroleum gas (LPG) vehicles, compressed natural gas, (CNG) vehicles, hybrid fuel technology, electrical and electronic systems, engine performance, diagnosis and repair, and conversion/installation.

Illustrative example(s)
- alternative fuel powered vehicle repair
- alternative fuel powered vehicle technician
- electric vehicle service technician
- hybrid powered automobile service technician
- natural gas powered vehicle service technician

Exclusion(s)
- automotive service technician (see 47.0604 Automobile/automotive mechanics technology/technician)
- heavy duty/commercial transport repair mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- high performance powertrain mechanic (see 47.0617 High performance and custom engine technician/mechanic)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0615 Engine machinist

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the building and reconstruction of automotive and commercial vehicle engines. These programs include courses in cylinder head and block, crack repair, crankshaft inspection and repair, connecting rods and pistons, balancing, block preparation, disassembly and repair, engine assembly, gas and diesel technology, and inspection and machining.

Illustrative example(s)
- engine machinist
- engine rebuilding

Exclusion(s)
- aircraft engine mechanic (see 47.0608 Aircraft powerplant technology/technician)
- automotive mechanic (see 47.0604 Automobile/automotive mechanics technology/technician)
- computer numerical control machining (see 48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist)
- diesel engine mechanic (see 47.0605 Diesel mechanics technology/technician)
- inboard and outboard motor mechanics (see 47.0616 Marine maintenance/fitter and ship repair technology/technician)
- machinist (see 48.0501 Machine tool technology/machinist)
- small engine mechanic (see 47.0606 Small engine mechanics and repair technology/technician)
- vehicle repair (see 47.0600 Vehicle maintenance and repair technologies, general)

47.0616 Marine maintenance/fitter and ship repair technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to repair outboard and inboard engines; test, maintain, and repair steering devices and electrical systems; repair metal, wood, and fibreglass hulls and vessel components; fabricate and maintain sails; and repair and balance propellers and drive shafts.

Illustrative example(s)
- fibreglass boat repair
- hull technician
- inboard and outboard motor technology
- inboard mechanic
- inboard/outboard mechanic
- marine engine technician
- marine service technician
- outboard mechanic
- shipwright
- wooden boat rebuilder/repairer

Exclusion(s)
- marine diesel mechanic (see 47.0605 Diesel mechanics technology/technician)
- marine engineering (see 14.2201 Naval architecture and marine engineering)
- marine engineering technology (see 15.0899 Mechanical engineering related technologies/technicians, other)

47.0617 High performance and custom engine technician/mechanic

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to increase the power of diesel and automotive engines; enhance the performance of automobiles; and repair, service, and maintain high performance vehicles. These programs include courses in adding performance accessories; modifying powertrains; tuning custom engines, suspension, and exhaust systems; and using dynamometers and other diagnostic equipment.

Illustrative example(s)
- automotive high performance mechanic
- automotive high performance technician
- high performance powertrain mechanic
- high performance powertrain technician

Exclusion(s)
- alternative fuel powered vehicle technician (see 47.0614 Alternative fuel vehicle technology/technician)
- auto mechanic (see 47.0604 Automobile/automotive mechanics technology/technician)
- diesel mechanic (see 47.0605 Diesel mechanics technology/technician)
- small engine mechanic (see 47.0606 Small engine mechanics and repair technology/technician)

47.0618 Recreation vehicle (RV) service technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to build, test, inspect, repair, service and maintain recreational vehicles, systems, and interior and exterior components. These programs include courses in brake, hydraulic, and towing systems; electrical systems; propane systems and propane and electric appliances; carpentry; plumbing; welding; and structural frames.

Illustrative example(s)
- recreation vehicle (RV) mechanic
- recreation vehicle (RV) service technician
- recreation vehicle (RV) technician

- recreation vehicle mechanic
- recreation vehicle service technician
- recreational vehicle service technician
- recreational vehicle technician
- RV mechanic

Exclusion(s)
- automobile mechanic (see 47.0604 Automobile/automotive mechanics technology/technician)
- truck and coach technician (see 47.0613 Medium/heavy vehicle and truck technology/technician)

47.0699 Vehicle maintenance and repair technologies, other

This instructional program class comprises any program not listed above that relates to Vehicle maintenance and repair technologies.

Illustrative example(s)
- bearings mechanic
- elevating platform mechanics
- forklift mechanic
- fuel and lube technician
- muffler installer
- railway car service and repair
- tire repair
- tire specialist

Exclusion(s)
- farm machinery mechanic (see 01.0205 Agricultural mechanics and equipment/machine technology)
- marine service technician (see 47.0616 Marine maintenance/fitter and ship repair technology/technician)
- mechanical engineering technology (see 15.0805 Mechanical engineering/mechanical technology/technician)

47.99 Mechanic and repair technologies/technicians, other

This subseries comprises instructional program class 47.9999.

47.9999 Mechanic and repair technologies/technicians, other

This instructional program class comprises any program not listed above that relates to Mechanic and repair technologies/technicians.

Illustrative example(s)
- industrial sewing machine mechanics
- sewing-machine mechanic
- vending machine electromechanics

Exclusion(s)
- small engine mechanic (see 47.0606 Small engine mechanics and repair technology/technician)

48. Precision production

This series comprises instructional programs that prepare individuals to apply technical knowledge and skills to create products using techniques of precision craftsmanship or technical illustration.

48.00 Precision production trades, general

This subseries comprises instructional program class 48.0000.

48.0000 Precision production trades, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills in creating products using precision crafting and technical illustration.

Exclusion(s)
- computer graphics for desktop publishing (see 10.0303 Prepress/desktop publishing and digital imaging design)
- computer-assisted drafting (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- drafting and design technology (see 15.1301 Drafting and design technology/technician, general)
- graphic design for print and web (see 50.0409 Graphic design)
- graphic production and printing (see 10.0301 Graphic communications, general)
- gunsmithing (see 47.0402 Gunsmithing/gunsmith)
- jewellery design (see 50.0713 Metal and jewellery arts)
- watchmaking (see 47.0408 Watchmaking and jewellery making)

48.03 Leatherworking and upholstery

This subseries comprises instructional program classes 48.0303 to 48.0399.

48.0303 Upholstery/upholsterer

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to install springs, filling, padding, covering and finishing on items such as furniture, automobile seats, caskets, mattresses, and bedsprings.

Illustrative example(s)
- auto upholstery
- furniture upholstery
- industrial upholstery
- upholstering
- upholstery

Exclusion(s)
- furniture design (see 48.0702 Furniture design and manufacturing)
- motor vehicle body repair (see 47.0603 Autobody/collision and repair technology/technician)
- textile manufacturing (see 19.0902 Apparel and textile manufacture)

48.0304 Shoe, boot and leather repair

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to make or repair all types of footwear, including replacement and mending of worn parts; repairing orthopedic footwear; refinishing and dyeing leather; and repairing other leather goods such as handbags, belts, and luggage.

Illustrative example(s)
- cobbler
- leather goods repair
- leathercraft
- shoe making
- shoe repair

Exclusion(s)
- handicrafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- sewing (see 19.0999 Apparel and textiles, other)

48.0399 Leatherworking and upholstery, other

This instructional program class comprises any program not listed above that relates to Leatherworking and upholstery.

Exclusion(s)
- handicrafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- sewing (see 19.0999 Apparel and textiles, other)

48.05 Precision metal working

This subseries comprises instructional program classes 48.0501 to 48.0599.

48.0501 Machine tool technology/machinist

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, machines, and structures in which materials are cast, formed, shaped, moulded, heat treated, cut, twisted, pressed, fused, stamped or worked.

Illustrative example(s)
- general machinist
- industrial machinist
- machine tool fitter
- machine tool operator
- machining
- machining technology
- machinist

Exclusion(s)
- engine machinist (see 47.0615 Engine machinist)
- gunsmithing (see 47.0402 Gunsmithing/gunsmith)
- locksmithing (see 47.0403 Locksmithing and safe repair)
- machine shop technology (see 48.0503 Machine shop technology/assistant)
- metal fabricator (see 48.0511 Metal fabricator)
- numerical control operator (see 48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist)
- tool and die technician (see 48.0507 Tool and die technology/technician)

48.0503 Machine shop technology/assistant

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to fabricate and modify metal parts in support of other manufacturing, repair or design activities, or as an independent business.

Illustrative example(s)
- machine shop
- machine shop assistant
- machine shop technology

Exclusion(s)
- computer numerical control machining (see 48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist)
- gunsmith (see 47.0402 Gunsmithing/gunsmith)
- introduction to trades (see 21.0101 Pre-technology education/pre-industrial arts programs)
- locksmithing (see 47.0403 Locksmithing and safe repair)
- machine tool fitter (see 48.0501 Machine tool technology/machinist)

- musical instrument repair (see 47.0404 Musical instrument fabrication and repair)
- tool and die technician (see 48.0507 Tool and die technology/technician)

48.0506 Sheet metal technology/sheetworking

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to form, shape, bend and fold extruded metals, including the creation of new products, using hand tools and machines such as cornice brakes, forming rolls, and squaring shears.

Illustrative example(s)
- architectural sheet metal worker
- industrial sheet metal working
- precision sheet metal
- sheet metal
- sheet metal fabrication
- sheet metal technician
- sheet metal work
- sheet metal worker
- tinsmith
- tinsmithing

Exclusion(s)
- airframe mechanic (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- ironworker (see 48.0509 Ironworking/ironworker)
- metal building assembly (see 46.0411 Metal building assembly/assembler)
- metal fabricator (see 48.0511 Metal fabricator)
- metal pattern maker (see 48.0507 Tool and die technology/technician)
- welder (see 48.0508 Welding technology/welder)

48.0507 Tool and die technology/technician

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to operate machine tools used in the forming of metal components, as well as the fabrication of special tools, dies, jigs and fixtures used in cutting, working and finishing metal components.

Illustrative example(s)
- die maker
- machinist-mould maker
- metal pattern maker
- molder-founder
- mould maker
- saw filing
- sharpening
- tool and die maker
- tool and die technician
- toolmaker

Exclusion(s)
- computer numerical control machining (see 48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist)
- machine shop technology (see 48.0503 Machine shop technology/assistant)
- machine tool fitter (see 48.0501 Machine tool technology/machinist)
- metal fabricator (see 48.0511 Metal fabricator)

48.0508 Welding technology/welder

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. These programs include courses in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards.

Illustrative example(s)
- arc welding
- high pressure welding
- industrial welder
- industrial welding
- pressure welding
- underwater welding
- welder
- welding
- welding technician
- welding technology

Exclusion(s)
- ironworker (see 48.0509 Ironworking/ironworker)
- plumber (see 46.0503 Plumbing technology/plumber)
- sculpture (see 50.0709 Sculpture)
- sheet metal (see 48.0506 Sheet metal technology/sheetworking)
- welder-fitter (see 48.0511 Metal fabricator)
- welding engineering technology (see 15.0614 Welding engineering technology/technician)

48.0509 Ironworking/ironworker

This instructional program class comprises any program that prepares individuals to make and install structural, ornamental, and reinforcing metal structures and supports. These programs include courses in drafting, technical mathematics, blueprint interpretation, welding, riveting, beam placement, ornamental design, structural reinforcement, crane operation, safety, and applicable codes and standards.

Illustrative example(s)
- ironworker
- ironworker (generalist)
- ironworker (reinforcing)
- ironworker reinforcing rebar
- ironworker structural
- ironworker structural and ornamental
- ironworking
- reinforcing rodworker
- reinforcing steel erector
- structural steel erector

Exclusion(s)
- metal structure assembly (see 46.0411 Metal building assembly/assembler)
- metallurgical engineering (see 14.2001 Metallurgical engineering)
- metallurgy technology (see 15.0611 Metallurgical technology/technician)
- sculpture (see 50.0709 Sculpture)
- sheet metal (see 48.0506 Sheet metal technology/sheetworking)
- structural steel and plate fitter (see 48.0511 Metal fabricator)
- welder (see 48.0508 Welding technology/welder)

48.0510 Computer numerically controlled (CNC) machinist technology/CNC machinist

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to operate computer numerically controlled (CNC) machine tools, such as lathes, mills, precision measuring tools, and related attachments and accessories, to perform machining functions, such as cutting, drilling, shaping, and finishing products and component parts. These programs include courses in CNC terminology, setup, programming, operations, and troubleshooting; blueprint reading; machining; lathe and mill operations; technical mathematics; computer literacy; CAD/CAM systems; shop and safety practices; equipment capabilities; and regulations and laws.

Illustrative example(s)
- CNC machining
- CNC programmer
- computer numerical control machining
- computerized numerically controlled manufacturing
- numerical control machine tool operation
- numerical control operator

Exclusion(s)
- engine machinist (see 47.0615 Engine machinist)
- machine shop technology (see 48.0503 Machine shop technology/assistant)
- machinist (see 48.0501 Machine tool technology/machinist)
- tool and die technician (see 48.0507 Tool and die technology/technician)

48.0511 Metal fabricator

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to further process ferrous and/or non-ferrous metal plates or shapes, and to manufacture and/or install products as interpreted through technical drawings. These programs include courses in trade tools, shop equipment, reading and interpreting blueprints, material handling, welding, thermal cutting, metallurgy, template pattern development, plate and structural fabrication, destructive and non-destructive testing, inspection, shipment preparation and fabrication installation.

Illustrative example(s)
- metal fabricator
- metal fabricator (fitter)
- metal shaping and assembly
- steel fabricator
- steel fabricator (fitter)
- steel frame assembler
- structural steel and plate fitter
- welder-fitter

Exclusion(s)
- machinist (see 48.0501 Machine tool technology/machinist)
- metal structure assembly (see 46.0411 Metal building assembly/assembler)
- reinforcing steel erector (see 48.0509 Ironworking/ironworker)
- sheet metal fabrication (see 48.0506 Sheet metal technology/sheetworking)
- tool and die technician (see 48.0507 Tool and die technology/technician)
- welder (see 48.0508 Welding technology/welder)

48.0599 Precision metal working, other

This instructional program class comprises any program not listed above that relates to Precision metal working.

Illustrative example(s)
- blacksmith

Exclusion(s)
- goldsmithing (see 50.0713 Metal and jewellery arts)
- horseshoeing (see 01.0599 Agricultural and domestic animal services, other)
- materials engineering technology (see 15.0699 Industrial production technologies/technicians, other)
- metal building assembly (see 46.0411 Metal building assembly/assembler)
- metal engineering (see 14.2001 Metallurgical engineering)
- sculpture (see 50.0709 Sculpture)

48.07 Woodworking

This subseries comprises instructional program classes 48.0701 to 48.0799.

48.0701 Woodworking, general

This instructional program class comprises any program that generally prepares individuals to apply technical knowledge and skills to lay out and shape stock; assemble wooden articles or subassemblies; mark, bind, saw, carve, and sand wooden products; repair wooden articles, and use a variety of hand and power tools.

Illustrative example(s)
- benchwork and joinery
- industrial woodworking
- joinery
- woodworking
- woodworking technician
- woodworking technology
- workshop joiner
- workshop joinery

Exclusion(s)
- cabinet making (see 48.0703 Cabinetmaking and millwork)
- carpentry (see 46.0201 Carpentry/carpenter)
- carving (see 50.0709 Sculpture)
- furniture making (see 48.0702 Furniture design and manufacturing)
- wood science (see 03.0509 Wood science and wood products/pulp and paper technology)

48.0702 Furniture design and manufacturing

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to prepare and execute furniture design projects; assemble and finish furniture articles or subassemblies; repair furniture; and use a variety of hand and power tools.

Illustrative example(s)
- furniture - milled wood
- furniture and related templates
- furniture design
- furniture making

Exclusion(s)
- cabinet making (see 48.0703 Cabinetmaking and millwork)
- home decorating (see 19.0605 Home furnishings and equipment installers)
- manufacturing technician (see 15.0613 Manufacturing engineering technology/technician)
- upholstery (see 48.0303 Upholstery/upholsterer)
- woodworking (see 48.0701 Woodworking, general)

48.0703 Cabinetmaking and millwork

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to set up, operate and repair industrial woodworking machinery, and to use such machinery to design and fabricate wooden components and complete articles.

Illustrative example(s)
- cabinet making
- cabinet making - joinery
- cabinetmaker
- cabinetmaker-joiner
- millwork

Exclusion(s)
- carpentry (see 46.0201 Carpentry/carpenter)
- carving (see 50.0709 Sculpture)
- furniture design (see 48.0702 Furniture design and manufacturing)
- wood products processing (see 03.0509 Wood science and wood products/pulp and paper technology)

48.0799 Woodworking, other

This instructional program class comprises any program not listed above that relates to Woodworking.

Exclusion(s)
- wood products processing (see 03.0509 Wood science and wood products/pulp and paper technology)
- woodworking (see 48.0701 Woodworking, general)

48.08 Boilermaking/boilermaker

This subseries comprises instructional program class 48.0801.

48.0801 Boilermaking/boilermaker

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to fabricate and repair steam boiler components. These programs include courses in principles of steam power, material selection, welding, riveting, sealing materials, pressure testing, pipefitting, and applicable codes and standards.

Illustrative example(s)
- boilermaker
- boilermaking
- construction boilermaker

Exclusion(s)
- environmental systems engineering technology (see 15.0501 Heating, ventilation, air conditioning and refrigeration engineering technology/technician)
- heating, ventilation, air conditioning and refrigeration technician (see 47.0201 Heating, air conditioning, ventilation and refrigeration maintenance technology/technician)
- pipefitting (see 46.0502 Pipefitting/pipefitter and sprinkler fitter)
- plumbing (see 46.0503 Plumbing technology/plumber)
- welding (see 48.0508 Welding technology/welder)

48.99 Precision production, other

This subseries comprises instructional program class 48.9999.

48.9999 Precision production, other

This instructional program class comprises any program not listed above that relates to Precision production.

Illustrative example(s)
- diamond cutting
- diamond cutting and polishing
- diamond polishing
- lathe operator

49. Transportation and materials moving

This series comprises instructional programs that prepare individuals to apply technical knowledge and skills to perform tasks and services that facilitate the movement of people or materials.

49.01 Air transportation

This subseries comprises instructional program classes 49.0101 to 49.0199.

49.0101 Aeronautics/aviation/aerospace science and technology, general

This instructional program class comprises any program that focuses on the general study of aviation and the aviation industry, including in-flight and ground support operations. These programs include courses in the technical, business, and general aspects of air transportation systems.

Illustrative example(s)
- aeronautical science
- aviation sciences

Exclusion(s)
- aeronautical engineering (see 14.0201 Aerospace, aeronautical and astronautical/space engineering)
- aeronautical engineering technology (see 15.0801 Aeronautical/aerospace engineering technology/technician)
- aircraft structural repair technician (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- avionics technician (see 47.0609 Avionics maintenance technology/technician)

49.0102 Airline/commercial/professional pilot and flight crew

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue, fixed or rotary aircraft. These programs include courses in principles of aircraft design and performance; aircraft flight systems and controls; flight crew operations and procedures; radio communications; navigation procedures and systems; airways safety and traffic regulations; and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for commercial and airline aircrew examinations.

Illustrative example(s)
- airline pilot
- airplane pilot
- bush pilot
- commercial pilot
- flight engineer
- helicopter pilot
- multi-engine pilot
- seaplane flying

Exclusion(s)
- aircraft pilot (private) (see 36.0119 Aircraft pilot (private) (not for credit))
- aircraft structural repair technician (see 47.0607 Airframe mechanics and aircraft maintenance technology/technician)
- aviation flight management (see 49.0104 Aviation/airway management and operations)
- flight attendant (see 49.0106 Airline flight attendant)
- flight instructor (see 49.0108 Flight instructor)
- ship pilot (see 49.0309 Nautical science/merchant marine officer)

49.0104 Aviation/airway management and operations

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the management of aviation industry operations and services. These programs include courses in airport operations, ground traffic direction, ground support and flightline operations, passenger and cargo operations, flight safety and security operations, aviation industry regulation, and related business aspects of managing aviation enterprises.

Illustrative example(s)
- airline and flight operations
- airport management
- airport operations
- aviation flight management
- aviation management
- commercial aviation management

Exclusion(s)
- flight engineer (see 49.0102 Airline/commercial/professional pilot and flight crew)
- logistics and supply management (see 52.0203 Logistics, materials, and supply chain management)
- tourism and travel management (see 52.0903 Tourism and travel services management)
- traffic technician (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation management (see 52.0209 Transportation/mobility management)

49.0105 Air traffic controller

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to air traffic management and control. These programs include courses in flight control; the use of radar and electronic scanning devices; plotting of flights; radio communication; interpretation of weather conditions affecting flights; flight instrumentation used by pilots; and maintenance of flight control centre or control tower log books.

Illustrative example(s)
- air traffic control
- air traffic controller

Exclusion(s)
- airline and flight operations (see 49.0104 Aviation/airway management and operations)
- traffic control - flagging (see 49.0207 Flagging and traffic control)
- traffic technician (see 52.0410 Traffic, customs and transportation clerk/technician)

49.0106 Airline flight attendant

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the performance of a variety of personal services conducive to the safety and comfort of airline passengers during flight, including verifying tickets, explaining the use of safety equipment, providing passenger services, and responding to in-flight emergencies.

Illustrative example(s)
- air host/hostess
- flight attendant
- flight steward/stewardess

Exclusion(s)
- food and beverage service (see 12.0507 Food service, waiter/waitress and dining room management/manager)

49.0108 Flight instructor

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the training of pilots or navigators to fly and/or navigate commercial passenger and cargo, agricultural, public service, corporate and rescue aircraft, fixed or rotary wing. These programs include courses in principles of aircraft design and performance; aircraft flight systems and controls; flight crew operations and procedures; radio communications and navigation procedures and systems; airways safety and traffic regulations; and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to administer commercial aircrew examinations.

Illustrative example(s)
- flight instructor
- flying instructor
- pilot instructor

Exclusion(s)
- helicopter pilot (see 49.0102 Airline/commercial/professional pilot and flight crew)

49.0199 Air transportation, other

This instructional program class comprises any program not listed above that relates to Air transportation.

Illustrative example(s)
- airline ticket agent

Exclusion(s)
- call centre service representative (see 52.0411 Customer service support/call centre/teleservice operation)
- travel industry management (see 52.0903 Tourism and travel services management)

49.02 Ground transportation

This subseries comprises instructional program classes 49.0202 to 49.0299.

49.0202 Construction/heavy equipment/earthmoving equipment operation

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to operate and maintain a variety of heavy equipment, such as crawler tractors, motor graders and scrapers, shovels, rigging devices, hoists, and jacks. These programs include courses in digging, ditching, sloping, stripping, grading, and backfilling, clearing and excavating.

Illustrative example(s)
- backhoe operator
- construction equipment operation
- grader operator
- heavy construction equipment operator
- heavy equipment operation
- heavy equipment operator

- heavy machinery operator
- heavy-duty equipment operator
- loader operator
- pile driving

Exclusion(s)
- agricultural power machinery operation (see 01.0204 Agricultural power machinery operation)
- crane operator (see 49.0206 Mobile crane operation/operator)
- heavy duty/commercial transport repair mechanic (see 47.0613 Medium/heavy vehicle and truck technology/technician)
- heavy equipment mechanic (see 47.0302 Heavy equipment maintenance technology/technician)
- heavy truck driving (see 49.0205 Truck and bus driver/commercial vehicle operator and instructor)

49.0205 Truck and bus driver/commercial vehicle operator and instructor

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to drive trucks and buses, delivery vehicles, for-hire vehicles and other commercial vehicles, or to instruct commercial vehicle operators. These programs include courses in operating gas, diesel, or electrically-powered vehicles; loading and unloading cargo or passengers; reporting delays or accidents on the road; verifying load against shipping papers; arranging transportation for personnel; and keeping records of receipts and fares.

Illustrative example(s)
- bus driver
- commercial driver
- heavy duty truck driver
- school bus driver
- taxi driver
- tractor trailer operation
- transport truck driver
- truck driving
- truck driving instructor
- trucking

Exclusion(s)
- crane operator (see 49.0206 Mobile crane operation/operator)
- driving instructor (see 13.1304 Driver and safety teacher education)
- farm equipment operator (see 01.0204 Agricultural power machinery operation)
- heavy machinery operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)

49.0206 Mobile crane operation/operator

This instructional program class comprises any program that prepares individuals to hoist and swing loads via complex rotating machinery that is driver operated. These programs include courses in crane operational characteristics, load and capacity chart usage, emergency control skills, safety, specific types of mobile cranes and loading devices, applicable codes and standards, and applications to particular types of jobs and loads.

Illustrative example(s)
- boom truck operator
- crane and hoist operator
- crane and hoisting equipment operator
- crane operating
- crane operator
- hoist operator
- hoisting engineer
- hoistman/hoistwoman
- mobile crane operator

Exclusion(s)
- heavy equipment operator (see 49.0202 Construction/heavy equipment/earthmoving equipment operation)
- heavy truck driving (see 49.0205 Truck and bus driver/commercial vehicle operator and instructor)

49.0207 Flagging and traffic control

This instructional program class comprises any program that prepares individuals to control the movement of traffic through construction and maintenance zones and to protect the safety of work crews, drivers, and pedestrians. These programs include courses in flagging duties and responsibilities, the traffic control zone, flagging signals, pavement markers, freeway flagging, utility flagging, emergency response flagging, and night traffic control.

Illustrative example(s)
- flagging
- flagman/flagwoman
- flags person
- flagsman/flagswoman
- traffic control - flagging

Exclusion(s)
- air traffic control (see 49.0105 Air traffic controller)
- rail traffic controller (see 49.0208 Railroad and railway transportation)
- traffic engineering (see 14.0804 Transportation and highway engineering)
- traffic technician (see 52.0410 Traffic, customs and transportation clerk/technician)

49.0208 Railroad and railway transportation

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to the operation of railroads and other aspects of the railway industry, including railroad and railyard service. These programs include courses in railway culture, operating skills, General Code of Operation rules, conductor service, signal systems, switching, transportation of hazardous materials, safety, and railway telecommunications systems.

Illustrative example(s)
- brakeman/brakewoman
- locomotive engineer
- rail traffic controller
- rail yardmaster
- railroad conductor
- railway conductor
- railway dispatcher
- railway operations
- train conductor
- train dispatcher

Exclusion(s)
- alignment and brakes technician (see 47.0604 Automobile/automotive mechanics technology/technician)
- engineering (see 14.0101 Engineering, general)
- traffic control - flagging (see 49.0207 Flagging and traffic control)
- traffic technician (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation engineering (see 14.0804 Transportation and highway engineering)

49.0299 Ground transportation, other

This instructional program class comprises any program not listed above that relates to Ground transportation.

Illustrative example(s)
- fork lift operator
- lift truck operator

Exclusion(s)
- driving instructor (see 13.1304 Driver and safety teacher education)
- traffic engineering (see 14.0804 Transportation and highway engineering)
- traffic technician (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation management (see 52.0209 Transportation/mobility management)

49.03 Marine transportation

This subseries comprises instructional program classes 49.0303 to 49.0399.

49.0303 Commercial fishing

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to function as commercial fishermen, fishing operations supervisors or in related fishing industry operations. These programs include courses in fishing vessel operation; fishing equipment operation and maintenance; equipment repair; catch identification, sorting, and storage; safety procedures; record keeping; and applicable legal regulations.

Illustrative example(s)
- commercial fishing
- fisherman/fisherwoman
- fishing captain
- fishing master

Exclusion(s)
- fish farming (see 01.0303 Aquaculture)
- fisheries science (see 03.0301 Fishing and fisheries sciences and management)
- marine resources management (see 03.0205 Water, wetlands and marine resources management)

49.0304 Diver, professional and instructor

This instructional program class comprises any program that prepares individuals to apply technical knowledge and skills to function as professional deep-water or scuba divers, diving instructors, or diving support personnel. These programs include courses in the use of diving equipment and related specialized gear; diving safety procedures; operation and maintenance of underwater life-support systems; underwater communication systems; decompression systems; underwater salvage; exploration, rescue, and photography; and installation and fitting of underwater mechanical systems and their maintenance, repair or demolition.

Illustrative example(s)
- commercial diving
- deep-sea diving
- diving instructor
- offshore diver
- professional diving
- scuba diving
- scuba diving instructor

Exclusion(s)
- athletic coach (see 31.0501 Health and physical education/fitness, general)
- fitness instructor (see 31.0507 Physical fitness technician)

49.0309 Nautical science/merchant marine officer

This instructional program class comprises any program that prepares individuals to serve as captains, executive officers, engineers and ranking mates on commercially licensed inland, coastal and ocean-going vessels. These programs include courses in maritime traditions and law; maritime policy; economics and management of commercial marine operations; basic naval architecture and engineering; shipboard power systems engineering; crew supervision; and administrative procedures.

Illustrative example(s)
- deck officer
- marine navigation
- master mariner
- merchant marine
- nautical science
- sea captain
- ship captain
- ship pilot
- tugboat master
- watchkeeping mate

Exclusion(s)
- fishing captain (see 49.0303 Commercial fishing)
- marine biology (see 26.1302 Marine biology and biological oceanography)
- marine engineering technology (see 15.0899 Mechanical engineering related technologies/technicians, other)
- marine sciences (see 30.3201 Marine sciences)
- marine service technician (see 47.0616 Marine maintenance/fitter and ship repair technology/technician)
- maritime studies (see 30.2901 Maritime studies)
- nautical engineering (see 14.2201 Naval architecture and marine engineering)
- oceanography (see 40.0607 Oceanography, chemical and physical)

49.0399 Marine transportation, other

This instructional program class comprises any program not listed above that relates to Marine transportation.

Illustrative example(s)
- lighthouse keeper
- longshoreman/longshorewoman

Exclusion(s)
- marine diesel mechanic (see 47.0605 Diesel mechanics technology/technician)
- marine service technician (see 47.0616 Marine maintenance/fitter and ship repair technology/technician)

49.99 Transportation and materials moving, other

This subseries comprises instructional program class 49.9999.

49.9999 Transportation and materials moving, other

This instructional program class comprises any program not listed above that relates to Transportation and materials moving.

Exclusion(s)
- train conductor (see 49.0208 Railroad and railway transportation)
- transportation clerk (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation management (see 52.0209 Transportation/mobility management)

- urban transportation planning (see 04.0301 City/urban, community and regional planning)

50. Visual and performing arts

This series comprises instructional programs that focus on the creation and interpretation of works and performances that use auditory, kinesthetic, and visual phenomena to express ideas and emotions in various forms, subject to aesthetic criteria.

50.01 Visual, digital and performing arts, general

This subseries comprises instructional program classes 50.0101 and 50.0102.

50.0101 Visual and performing arts, general

This instructional program class comprises any general, undifferentiated program that focuses on the visual and performing arts and that prepares individuals in any of the visual artistic media or performing disciplines.

Illustrative example(s)
- performing arts
- visual and creative arts
- visual and performing arts
- visual arts

Exclusion(s)
- art therapy (see 51.2301 Art therapy/therapist)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- digital arts (see 50.0102 Digital arts, general)

50.0102 Digital arts, general

This instructional program class comprises any general, undifferentiated program that focuses on the use of computerized digital images as the primary medium of expression in the visual and performing arts, and that may prepare individuals for a wide variety of careers using new media, including graphic design, digital animation, motion graphics, 3D visualization, game and interactive media design, music and sound design, video production, web design, photography, and other fields.

Illustrative example(s)
- digital art
- digital arts

Exclusion(s)
- commercial and digital photography (see 50.0406 Commercial photography)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- digital media (see 09.0702 Digital communication and media/multimedia)
- visual and creative arts (see 50.0101 Visual and performing arts, general)

50.02 Crafts/craft design, folk art and artisanry

This subseries comprises instructional program class 50.0201.

50.0201 Crafts/craft design, folk art and artisanry

This instructional program class comprises any program that focuses on the aesthetics, techniques, and creative processes for designing and fashioning objects in one or more of the handcraft or folk art traditions, and that prepares individuals to create in any of these media.

Illustrative example(s)
- arts and crafts
- crafts
- handicrafts
- traditional arts and crafts

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- fabric design (see 19.0902 Apparel and textile manufacture)
- handicrafts and model-making (see 36.0102 Handicrafts and model-making (not for credit))
- pottery (see 50.0711 Ceramic arts and ceramics)
- silversmithing (see 50.0713 Metal and jewellery arts)
- visual and creative arts (see 50.0101 Visual and performing arts, general)
- weaving (see 50.0712 Fibre, textile and weaving arts)

50.03 Dance

This subseries comprises instructional program classes 50.0301 to 50.0399.

50.0301 Dance, general

This instructional program class comprises any general program that prepares individuals to express ideas, feelings, and/or inner visions through the performance of one or more of the dance disciplines, including but not limited to ballet, modern, jazz, ethnic, and folk dance, and that focuses on the study and analysis of dance as a cultural phenomenon. These programs include courses in technique, choreography, Laban notation, dance history and criticism, and dance production.

Illustrative example(s)
- choreography, dance
- classical dance
- contemporary dance
- dance
- dance movement studies
- dancing
- modern dance

Exclusion(s)
- ballet dancer (see 50.0302 Ballet)
- dance teacher (see 13.1324 Drama and dance teacher education)
- dance therapy (see 51.2302 Dance therapy/therapist)
- dancing (not for credit) (see 36.0114 Dancing (not for credit))
- visual and performing arts (see 50.0101 Visual and performing arts, general)

50.0302 Ballet

This instructional program class comprises any program that prepares individuals to express ideals and feelings through interpretation of classical dance choreography. These programs include courses in ballet exercise, solo and ensemble dance, history of ballet, ballet choreography, Laban notation, ballet technique, and interpretations of specific styles and schools.

Illustrative example(s)
- ballet
- ballet dancer
- ballet dancing
- classical ballet

Exclusion(s)
- ballet teacher (see 13.1324 Drama and dance teacher education)
- classical dance (see 50.0301 Dance, general)
- dance therapy (see 51.2302 Dance therapy/therapist)
- dancing (not for credit) (see 36.0114 Dancing (not for credit))

50.0399 Dance, other

This instructional program class comprises any program not listed above that relates to Dance.

Exclusion(s)
- ballet (see 50.0302 Ballet)
- dance (see 50.0301 Dance, general)
- dance teacher (see 13.1324 Drama and dance teacher education)
- dance therapy (see 51.2302 Dance therapy/therapist)
- dancing (not for credit) (see 36.0114 Dancing (not for credit))

50.04 Design and applied arts

This subseries comprises instructional program classes 50.0401 to 50.0499.

50.0401 Design and visual communications, general

This instructional program class comprises any program in the applied visual arts that focuses on the general principles and techniques for effectively communicating ideas and information, and packaging products, in digital and other formats to business and consumer audiences, and that prepares individuals in any of the applied art media.

Illustrative example(s)
- applied arts
- communication design
- creative design
- design arts
- visual communications

Exclusion(s)
- advertising design (see 50.0402 Commercial and advertising art)
- art studies (see 50.0701 Art/art studies, general)
- audiovisual technology (see 10.0299 Audiovisual communications technologies/technicians, other)
- computer graphics for prepress (see 10.0303 Prepress/desktop publishing and digital imaging design)
- drawing (see 50.0705 Drawing)
- graphic communications (see 10.0301 Graphic communications, general)
- graphic design (see 50.0409 Graphic design)
- industrial design (see 50.0404 Industrial and product design)
- web design (see 11.0801 Web page, digital/multimedia and information resources design)

50.0402 Commercial and advertising art

This instructional program class comprises any program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of digital or printed media. These programs include courses in concept design, layout, paste-up, and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage, and computer graphics.

Illustrative example(s)
- advertising art

- advertising design
- commercial art
- commercial art painting
- commercial artist
- creative advertising design
- sign painting

Exclusion(s)
- advertising (see 09.0903 Advertising)
- commercial photography (see 50.0406 Commercial photography)
- graphic communications (see 10.0301 Graphic communications, general)
- illustration (see 50.0410 Illustration)

50.0404 Industrial and product design

This instructional program class comprises any program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via the creation of effective forms, shapes, and packaging for manufactured products. These programs include courses in designing in a wide variety of plastic and digital media, prototype construction, design development and refinement, principles of cost saving, and product structure and performance criteria relevant to aesthetic design parameters.

Illustrative example(s)
- industrial design

Exclusion(s)
- design arts (see 50.0401 Design and visual communications, general)
- industrial arts teacher (see 13.1309 Technology teacher education/industrial arts teacher education)
- industrial drafting (see 15.1301 Drafting and design technology/technician, general)
- industrial engineering (see 14.3501 Industrial engineering)
- industrial engineering technology (see 15.0612 Industrial technology/technician)

50.0406 Commercial photography

This instructional program class comprises any program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences, and recording events and people, via digital, film, still and video photography. These programs include courses in specialized camera and equipment operation and maintenance, applications to commercial and industrial needs, and photography business operations.

Illustrative example(s)
- advertising photography
- applied photography
- commercial and digital photography
- commercial photography

Exclusion(s)
- commercial art (see 50.0402 Commercial and advertising art)
- digital arts (see 50.0102 Digital arts, general)
- photofinishing (see 10.0201 Photographic and film/video technology/technician and assistant)
- photography (except commercial) (see 50.0605 Photography)
- photojournalism (see 09.0404 Photojournalism)

50.0407 Fashion/apparel design

This instructional program class comprises any program that prepares individuals to apply artistic principles and techniques to the professional design of commercial fashions, apparel, and accessories, and the management of fashion development projects. These programs include courses in apparel design; accessory design; the design of men's, women's, and children's wear; flat pattern design; computer-assisted design and manufacturing; concept planning; designing in specific materials; labour and cost analysis; history of fashion; fabric art and printing; and the principles of management and operations in the fashion industry.

Illustrative example(s)
- apparel design
- clothing design
- creative fashion design
- fashion design
- fashion design and technology
- fashion designer
- fashion patternmaker
- garment design
- haute couture

Exclusion(s)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- custom tailoring and alterations (see 19.0999 Apparel and textiles, other)
- fabric design (see 19.0902 Apparel and textile manufacture)
- fashion consultant (see 19.0906 Fashion and fabric consultant)
- fashion management and design (see 19.0905 Apparel and textile marketing management)
- weaving (see 50.0712 Fibre, textile and weaving arts)

50.0408 Interior design

This instructional program class comprises any program in the applied visual arts that prepares individuals to apply artistic principles and techniques to the professional planning, designing, equipping, and furnishing residential and commercial interior spaces. These programs include courses in computer applications drafting and graphic techniques; principles of interior lighting, acoustics, systems integration, and colour coordination; furniture and furnishings; textiles and their finishing; the history of interior design and period styles; basic structural design; building codes and inspection regulations; and applications to office, hotel, factory, restaurant and housing design.

Illustrative example(s)
- interior design

Exclusion(s)
- environmental design (see 04.0401 Environmental design/architecture)
- interior architecture (see 04.0501 Interior architecture)
- interior decorating (see 19.0605 Home furnishings and equipment installers)

50.0409 Graphic design

This instructional program class comprises any program that prepares individuals to apply artistic and computer techniques to the interpretation of technical and commercial concepts. These programs include courses in computer-assisted art and design, printmaking, concepts sketching, technical drawing, color theory, imaging, studio technique, still and life modeling, multimedia applications, communication skills and commercial art business operations.

Illustrative example(s)
- creative graphics
- graphic arts

- graphic design
- graphic design technology

Exclusion(s)
- advertising art (see 50.0402 Commercial and advertising art)
- computer graphics (see 11.0803 Computer graphics)
- computer-aided design (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- digital imaging design (see 10.0303 Prepress/desktop publishing and digital imaging design)
- graphic communications (see 10.0301 Graphic communications, general)
- web page design (see 11.0801 Web page, digital/multimedia and information resources design)

50.0410 Illustration

This instructional program class comprises any program that prepares individuals to use artistic techniques to develop and execute interpretations of the concepts of authors and designers to specifications. These programs include courses in book illustration, fashion illustration, map illustration, rendering, exhibit preparation, textual layout, cartooning, and the use of various artistic techniques as requested by clients.

Illustrative example(s)
- graphic illustration
- illustration
- technical illustration

Exclusion(s)
- computer animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- computer-aided design (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- drawing (see 50.0705 Drawing)
- medical illustration (see 51.2703 Medical illustration/medical illustrator)

50.0411 Game and interactive media design

This instructional program class comprises any program that focuses on the design, development, and programming of interactive media entertainment, including computer and video games, virtual environments, Internet applications, and other interactive media. These programs include courses in theory of games, turn-based games, real-time games, visual and interactive design, story development, animation, simulation, and programming.

Illustrative example(s)
- game design
- game development

Exclusion(s)
- computer animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- modeling, virtual environments and simulation (see 11.0804 Modeling, virtual environments and simulation)

50.0499 Design and applied arts, other

This instructional program class comprises any program not listed above that relates to Design and applied arts.

Exclusion(s)
- computer-aided design (see 15.1302 CAD/CADD drafting and/or design technology/technician)
- environmental design (see 04.0401 Environmental design/architecture)
- floral design (see 01.0608 Floriculture/floristry operations and management)
- industrial drafting (see 15.1301 Drafting and design technology/technician, general)
- theatrical design (see 50.0502 Technical theatre/theatre design and technology)

50.05 Drama/theatre arts and stagecraft

This subseries comprises instructional program classes 50.0501 to 50.0599.

50.0501 Drama and dramatics/theatre arts, general

This instructional program class comprises any program that focuses on the general study of dramatic works and their performance. These programs include courses in major works of dramatic literature, dramatic styles and types, and the principles of organizing and producing full live or filmed productions.

Illustrative example(s)
- drama and theatre
- dramatic arts
- theatre
- theatre arts
- theatre arts studies
- theatre studies

Exclusion(s)
- art therapy (see 51.2301 Art therapy/therapist)
- dance (see 50.0301 Dance, general)
- drama education (see 13.1324 Drama and dance teacher education)
- performing arts (see 50.0101 Visual and performing arts, general)
- theatre (not for credit) (see 36.0117 Theatre (not for credit))

50.0502 Technical theatre/theatre design and technology

This instructional program class comprises any program that prepares individuals to apply artistic, technical and dramatic principles and techniques to the communication of dramatic information, ideas, moods, and feelings through technical theatre methods. These programs include courses in set design, lighting design, sound effects, theatre acoustics, scene painting, property management, costume design, technical direction and production and the use of related computer applications.

Illustrative example(s)
- motion picture and theatre set dresser
- scene painting
- scenery and lighting
- set design
- set dresser
- technical scenography
- technical theatre
- theatre technical production
- theatre technician
- theatrical design

Exclusion(s)
- costume design (see 50.0510 Costume design)
- creative fashion design (see 50.0407 Fashion/apparel design)
- interior decorating (see 19.0605 Home furnishings and equipment installers)
- makeup (see 12.0406 Makeup artist/specialist)
- technical drafting (see 15.1301 Drafting and design technology/technician, general)
- theatre (not for credit) (see 36.0117 Theatre (not for credit))

50.0504 Playwriting and screenwriting

This instructional program class comprises any program that focuses on the principles and techniques for communicating dramatic information, ideas, moods, and feelings through the composition of creative written works for the theatre, film, and/or television. These programs include courses in creative writing craft, scene writing, script development, stage and/or camera instructions, line and moment analysis, script reading, script editing, and the creation of full productions.

Illustrative example(s)
- dramatic writing
- playwriting
- screenwriting
- script writing
- writing for screen and television

Exclusion(s)
- English creative writing (see 23.1302 English creative writing)
- English technical and professional writing (see 23.1303 English professional, technical, business, and scientific writing)
- English writing (see 23.1301 English writing, general)
- French creative writing (see 55.1302 French creative writing)
- French writing (see 55.1301 French writing, general)

50.0505 Theatre literature, history and criticism

This instructional program class comprises any program that focuses on the study of the history, literature, theory, and analysis of written plays, theatrical productions, and theatre methods and organization. These programs include courses in historical method; critical theory; literary analysis; the study of themes and archetypes in dramatic literature; the history of acting, directing, and technical theatre; and the study of specific historical and cultural styles and traditions.

Illustrative example(s)
- theatre criticism
- theatre history
- theatre history and analysis
- theatre literature
- theatre literature, history and criticism

Exclusion(s)
- comparative literature (see 16.0104 Comparative literature)
- English literature (see 23.1401 English literature, general)
- film history, theory, and criticism (see 50.0601 Film/cinema/video studies)
- French general literature (see 55.1401 French literature, general)
- history (see 54.0101 History, general)

50.0506 Acting

This instructional program class comprises any program that prepares individuals to communicate dramatic information, ideas, moods, and feelings through the achievement of naturalistic and believable behaviour in imaginary circumstances. These programs include courses in voice and acting speech, stage dialects, movement, improvisation, acting styles, theatre history, script interpretation, and actor coaching.

Illustrative example(s)
- acting
- dramatic actor/actress
- stage acting

- theatre performance

Exclusion(s)
- drama education (see 13.1324 Drama and dance teacher education)
- English speech and rhetorical studies (see 23.1304 English rhetoric and composition)
- French speech and rhetoric studies (see 55.1304 French rhetoric and composition)

50.0507 Directing and theatrical production

This instructional program class comprises any program that prepares individuals to manage the planning, design, preparation, and production of plays and other theatrical entertainment programs. These programs include courses in theatrical design, program management, dramatic production, rehearsal management, personnel management and casting, actor coaching, directing concepts and techniques, theatre history, scene work, script interpretation, business management, marketing, public relations, and communications skills.

Illustrative example(s)
- direction of plays
- stage direction
- theatre directing
- theatre production

Exclusion(s)
- artist management (see 50.1001 Arts, entertainment, and media management, general)
- film directing (see 50.0602 Cinematography and film/video production)
- theatrical management (see 50.1004 Theatre/theatre arts management)

50.0509 Musical theatre

This instructional program class comprises any program that focuses on the principles and techniques for integrating theatre, music, and dance into a unified production. These programs include courses in acting, dance, voice, technical theatre, musical genres, piano, and history of musical theatre.

Illustrative example(s)
- music theatre
- musical theatre
- musical theatre performance

Exclusion(s)
- music (see 50.0901 Music, general)
- music performance (see 50.0903 Music performance, general)
- music production (see 50.0999 Music, other)
- musical orchestration (see 50.0904 Music theory and composition)
- orchestral conducting (see 50.0906 Conducting)

50.0510 Costume design

This instructional program class comprises any program that prepares individuals to design and select costumes for characters in theatre and the performing arts and to serve as part of a production team. These programs include courses in costume design, script analysis, theory and criticism, period styles, history of costume, stage makeup, rendering, and costume construction.

Illustrative example(s)
- costume design
- costume studies
- historic costumes
- museum costumes

Exclusion(s)
- museum technology (see 30.1401 Museology/museum studies)
- technical theatre (see 50.0502 Technical theatre/theatre design and technology)

50.0599 Drama/theatre arts and stagecraft, other

This instructional program class comprises any program not listed above that relates to Drama/theatre arts and stagecraft.

50.06 Film/video and photographic arts

This subseries comprises instructional program classes 50.0601 to 50.0699.

50.0601 Film/cinema/video studies

This instructional program class comprises any program in the visual arts that focuses on the study of the history, development, theory, and criticism of the film/video arts, as well as the basic principles of film making and film production.

Illustrative example(s)
- cinema studies
- film and video studies
- film history
- film history, theory, and criticism
- film studies
- film theory
- motion picture studies

Exclusion(s)
- documentary production (see 50.0607 Documentary production)
- film production (see 50.0602 Cinematography and film/video production)
- photo lab technician (see 10.0201 Photographic and film/video technology/technician and assistant)
- theatre history (see 50.0505 Theatre literature, history and criticism)

50.0602 Cinematography and film/video production

This instructional program class comprises any program that prepares individuals to communicate dramatic information, ideas, moods, and feelings through the making and producing of films and videos. These programs include courses in theory of film, film technology and equipment operation, film production, film directing, film editing, cinematographic art, film audio, techniques for making specific types of films and/or videos, media technologies, computer image making, multi-media production, and the planning and management of film/video operations.

Illustrative example(s)
- cinema production
- cinematography
- film and video production
- film directing
- film making
- film production
- motion picture production

Exclusion(s)
- 2D and 3D animation technology (see 10.0304 Animation, interactive technology, video graphics and special effects)
- documentary production (see 50.0607 Documentary production)

- film studies (see 50.0601 Film/cinema/video studies)
- photo lab technician (see 10.0201 Photographic and film/video technology/technician and assistant)
- theatre production (see 50.0507 Directing and theatrical production)

50.0605 Photography

This instructional program class comprises any program that focuses on the principles and techniques of communicating information, ideas, moods, and feelings through the creation of images on photographic film, plates, digital images and that prepares individuals to be professional photographic artists. These programs include courses in camera and equipment operation and maintenance, film and plate developing, light and composition, films and printing media, colour and special effects, photographic art, photographic history, use of computer applications to record or enhance images and applications to the photography of various subjects.

Illustrative example(s)
- creative photography
- photographic art
- photography (except commercial)

Exclusion(s)
- commercial photography (see 50.0406 Commercial photography)
- photofinishing (see 10.0201 Photographic and film/video technology/technician and assistant)
- photojournalism (see 09.0404 Photojournalism)

50.0607 Documentary production

This instructional program class comprises any program that prepares individuals to produce nonfiction film and video. These programs include courses in film and video writing, directing, and production; film studies; history of the documentary; research techniques; videography; editing; and business aspects of film production.

Illustrative example(s)
- documentary production

Exclusion(s)
- film and video production (see 50.0602 Cinematography and film/video production)
- film studies (see 50.0601 Film/cinema/video studies)

50.0699 Film/video and photographic arts, other

This instructional program class comprises any program not listed above that relates to Film/video and photographic arts.

Exclusion(s)
- audiovisual technician (see 10.0299 Audiovisual communications technologies/technicians, other)
- commercial photography (see 50.0406 Commercial photography)
- photography, film and video - technologist/technician and assistant (see 10.0201 Photographic and film/video technology/technician and assistant)
- photojournalism (see 09.0404 Photojournalism)

50.07 Fine arts and art studies

This subseries comprises instructional program classes 50.0701 to 50.0799.

50.0701 Art/art studies, general

This instructional program class comprises any general program that focuses on the introductory study and appreciation of the visual arts. These programs include courses in art, photography, and other visual communications media.

Illustrative example(s)
- art studies

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- art teacher (see 13.1302 Art teacher education)
- art therapy (see 51.2301 Art therapy/therapist)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- arts and science (see 24.0102 General studies)
- design arts (see 50.0401 Design and visual communications, general)

50.0702 Fine/studio arts, general

This instructional program class comprises any program that prepares individuals to generally function as creative artists in the visual and plastic media. These programs include courses in the traditional fine arts media (drawing, painting, sculpture, printmaking, CAD/CAM) and/or modern media (ceramics, textiles, intermedia, photography, digital images); theory of art; colour theory; composition and perspective; anatomy; the techniques and procedures for maintaining equipment and managing a studio; and art portfolio marketing.

Illustrative example(s)
- fine arts
- plastic arts
- studio arts

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- commercial art (see 50.0402 Commercial and advertising art)
- fine arts education (see 13.1302 Art teacher education)
- photographic art (see 50.0605 Photography)

50.0703 Art history, criticism and conservation

This instructional program class comprises any program that focuses on the study of the historical development of art as a social and intellectual phenomenon, the analysis of works of art, and art conservation. These programs include courses in the theory of art, art history research methods, connoisseurship, the preservation and conservation of works of art, and the study of specific periods, cultures, styles, and themes.

Illustrative example(s)
- art conservation
- art history
- art history and criticism
- art restoration
- fine art history
- history and philosophy of art

Exclusion(s)
- cultural resource management (see 30.1202 Cultural resource management and policy analysis)
- history (see 54.0101 History, general)
- museology (see 30.1401 Museology/museum studies)

50.0705 Drawing

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions through representation by lines made on a surface. These programs include courses in eye-hand coordination; line, value, shape, and perspective; figure and still life drawing; the use of media such as pen and ink, pencil, charcoal, pastel, and brush; and personal style development.

Illustrative example(s)
- drawing

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- graphic design (see 50.0409 Graphic design)
- illustration (see 50.0410 Illustration)
- technical drawing (see 15.1301 Drafting and design technology/technician, general)

50.0706 Intermedia/multimedia

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions in either two or three dimensions, through simultaneous use of a variety of materials and media.

Illustrative example(s)
- intermedia
- multimedia art

Exclusion(s)
- digital media (see 09.0702 Digital communication and media/multimedia)
- educational media (see 13.0501 Educational/instructional technology)
- interactive multimedia and design (see 11.0801 Web page, digital/multimedia and information resources design)
- webmaster (see 11.1004 Web/multimedia management and webmaster)

50.0708 Painting

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by the application of paints and related chemical colour substances to canvases or other materials. These programs include courses in colour and colour mixing; surface preparation; composition; oil and acrylic media; watercolour media; painting techniques; and personal style development.

Illustrative example(s)
- artistic painting
- fine art painting

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- commercial painting (see 46.0408 Painting/painter and wall coverer)
- fine arts (see 50.0702 Fine/studio arts, general)
- sign painting (see 50.0402 Commercial and advertising art)

50.0709 Sculpture

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by creating three-dimensional art works. These programs include courses in the analysis of form in space; round and relief concepts; sculptural composition; modern and experimental methods; different media such as clay, plaster, wood, stone, and metal; techniques such as carving, moulding, welding, casting, and modelling; and personal style development.

Illustrative example(s)
- carving
- sculpture

Exclusion(s)
- art (see 36.0110 Art (not for credit))
- handicrafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- ironwork (see 48.0509 Ironworking/ironworker)
- jewellery design (see 50.0713 Metal and jewellery arts)
- woodworking (see 48.0701 Woodworking, general)

50.0710 Printmaking

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by rendering art concepts onto surfaces and transferring images, via ink or dyes, onto paper or fabric. These programs include courses in monochrome and colour printing; tonality; chemistry; equipment set-up and maintenance; techniques such as serigraphy, lithography, intaglio, woodcut, block, stencil, relief, etching, and composite; and personal style development.

Illustrative example(s)
- lithography
- photolythography
- printmaking
- serigraphy
- silk screen printing

Exclusion(s)
- graphic communications (see 10.0301 Graphic communications, general)
- platemaking (see 10.0306 Platemaker/imager)
- screen printing (see 10.0305 Graphic and printing equipment operator, general production)

50.0711 Ceramic arts and ceramics

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by producing art works out of clay and similar materials. These programs include courses in hand-built and wheel-thrown techniques; moulding; slips and glazes; trimming and decorating; firing and kiln operation; oxidation; mixed media; ceramic murals; and personal style development.

Illustrative example(s)
- ceramic arts
- ceramics
- pottery

Exclusion(s)
- art studies (see 50.0701 Art/art studies, general)
- ceramic sciences (see 14.0601 Ceramic sciences and engineering)
- crafts (see 50.0201 Crafts/craft design, folk art and artisanry)

50.0712 Fibre, textile and weaving arts

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by constructing art works from woven or non-woven fabrics and fibrous materials. These programs include courses in weaving techniques and loom operation; non-woven techniques such as knitting, coiling, netting, and crocheting; quilting; dyeing and pigmentation; printing and other finishing techniques; pattern design; tapestry; and personal style development.

Illustrative example(s)
- fibre arts
- textile arts
- textile studies
- weaving

Exclusion(s)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- fabric design (see 19.0902 Apparel and textile manufacture)
- fashion design (see 50.0407 Fashion/apparel design)
- handicrafts (see 50.0201 Crafts/craft design, folk art and artisanry)

50.0713 Metal and jewellery arts

This instructional program class comprises any program that prepares individuals creatively and technically to express emotions, ideas, or inner visions by fashioning art works from gems, other stones, and precious metals. These programs include courses in gemology; metalsmithing and finishing; stone cutting and polishing; metal and non-metal casting and moulding; electroforming; metal colouring; enamelling; photo etching; lapidary technique and art; design concepts; and personal style development.

Illustrative example(s)
- gemology
- goldsmithing
- jewellery arts
- jewellery design
- silversmithing

Exclusion(s)
- crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- jeweller (see 47.0408 Watchmaking and jewellery making)
- mineralogy (see 40.0606 Geochemistry and petrology)

50.0799 Fine arts and art studies, other

This instructional program class comprises any program not listed above that relates to Fine arts and art studies.

Illustrative example(s)
- artistic glass making
- glass blower
- glass blowing
- picture framing

Exclusion(s)
- art therapy (see 51.2301 Art therapy/therapist)
- arts and crafts (see 50.0201 Crafts/craft design, folk art and artisanry)
- glazier (see 46.0406 Glazier)

50.09 Music

This subseries comprises instructional program classes 50.0901 to 50.0999.

50.0901 Music, general

This instructional program class comprises any general program that focuses on the introductory study and appreciation of music and the performing arts. These programs include courses in music, dance, and other performing arts media.

Illustrative example(s)
- classical music
- music
- music foundation
- musical arts

Exclusion(s)
- music (not for credit) (see 36.0115 Music (not for credit))
- music teacher (see 13.1312 Music teacher education)
- music technology (see 50.0913 Music technology)
- music therapy (see 51.2305 Music therapy/therapist)
- musical theatre (see 50.0509 Musical theatre)
- piano tuning (see 47.0404 Musical instrument fabrication and repair)
- religious music (see 39.0501 Religious/sacred music)
- sound engineering (see 10.0203 Recording arts technology/technician)

50.0902 Music history, literature and theory

This instructional program class comprises any program that focuses on the study of the historical evolution of music as a social and intellectual phenomenon, the development of musical instruments and techniques, and the analysis and criticism of musical literature. These programs include courses in music history research methods, aesthetic analysis of musical compositions, history of musical writing and notation, the development of musical instruments, the development of music theory, and the study of specific periods, cultural traditions, styles, and themes.

Illustrative example(s)
- music criticism
- music history
- music history and literature
- music literature

Exclusion(s)
- art history and criticism (see 50.0703 Art history, criticism and conservation)
- history (see 54.0101 History, general)
- music teacher (see 13.1312 Music teacher education)
- music theory and composition (see 50.0904 Music theory and composition)
- musicology (see 50.0905 Musicology and ethnomusicology)

50.0903 Music performance, general

This instructional program class comprises any program that generally prepares individuals to master musical instruments and performing art as solo and/or ensemble performers. These programs include courses in one or more specific instruments from various instrumental groupings.

Illustrative example(s)
- chamber music performance

- early music performance
- instrumental performance
- music performance
- music performance studies
- orchestral performance
- period instrument performance
- period instruments
- popular music performance

Exclusion(s)
- brass instruments (see 50.0914 Brass instruments)
- guitar (see 50.0911 Stringed instruments)
- jazz performance (see 50.0910 Jazz/jazz studies)
- music - percussion (see 50.0916 Percussion instruments)
- music (not for credit) (see 36.0115 Music (not for credit))
- music technology (see 50.0913 Music technology)
- musical theatre (see 50.0509 Musical theatre)
- opera singing (see 50.0908 Voice and opera)
- piano (see 50.0907 Keyboard instruments)
- woodwind (see 50.0915 Woodwind instruments)

50.0904 Music theory and composition

This instructional program class comprises any program that focuses on the study of the principles of sound manipulation as applied to the creation of music, and the techniques of creating and arranging music. These programs include courses in aural theory, melody, counterpoint, complex harmony, modulation, chromatics, improvisation, progressions, musical writing, instrumentation, orchestration, electronic and computer applications, studies of specific musical styles, and development of original creative ability.

Illustrative example(s)
- electroacoustic composition
- instrumental composition
- music arranging
- music composition
- music theory and composition
- musical orchestration

Exclusion(s)
- computer-assisted sonic design (see 50.0913 Music technology)
- music foundation (see 50.0901 Music, general)
- music history (see 50.0902 Music history, literature and theory)
- music teacher (see 13.1312 Music teacher education)
- musical theatre (see 50.0509 Musical theatre)

50.0905 Musicology and ethnomusicology

This instructional program class comprises any program that focuses on the systematic study of the forms and methods of music art, and the functions of music, in Western and non-Western societies and cultures. These programs include courses in music theory, musicological research methods, and studies of specific cultural styles such as jazz, folk music, rock, ethnic musical traditions, and the music of non-Western cultures.

Illustrative example(s)
- ethnomusicology
- musicology

Exclusion(s)
- music history (see 50.0902 Music history, literature and theory)
- music teacher (see 13.1312 Music teacher education)
- musical arts (see 50.0901 Music, general)

50.0906 Conducting

This instructional program class comprises any program that prepares individuals to master the art of leading bands, choirs, orchestras and other ensembles in performance, and related music leadership. These programs include courses in score analysis and arranging, rehearsal and performance leadership, music coaching, arrangement and performance planning, ensemble operations management, and applications to specific school or professional ensembles.

Illustrative example(s)
- choral conducting
- orchestra conductor
- orchestral conducting

Exclusion(s)
- classical music (see 50.0901 Music, general)
- music teacher (see 13.1312 Music teacher education)
- musical orchestration (see 50.0904 Music theory and composition)
- musical theatre (see 50.0509 Musical theatre)
- religious music (see 39.0501 Religious/sacred music)

50.0907 Keyboard instruments

This instructional program class comprises any program that prepares individuals to master the piano, organ, or related keyboard instruments and performing art as solo, ensemble, and/or accompanist performers. These programs include courses in piano and keyboard pedagogy, ensemble playing, accompanying, service playing, repertoire, keyboard and pedal skills, recital, and personal style development.

Illustrative example(s)
- harpsichord
- music - keyboard
- organ
- piano
- piano performance

Exclusion(s)
- music performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)
- piano technician (see 47.0404 Musical instrument fabrication and repair)
- religious music (see 39.0501 Religious/sacred music)

50.0908 Voice and opera

This instructional program class comprises any program that prepares individuals to master the human voice and performing art as solo and/or ensemble performers in concert, choir, opera, or other forms of singing. These programs include courses in voice pedagogy, diction, vocal physiology and exercise, expressive movement, repertoire, recital, and personal style development.

Illustrative example(s)
- baritone (singer)
- music - vocal
- opera

- opera singing
- operatic performance
- singing
- vocal performance
- voice

Exclusion(s)
- baritone (brass instrument) (see 50.0914 Brass instruments)
- music performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)
- religious music (see 39.0501 Religious/sacred music)

50.0910 Jazz/jazz studies

This instructional program class comprises any program that prepares individuals to study and master the performance and composition of jazz. These programs include courses in the history of jazz and related musical styles such as the blues, jazz composition and theory, improvisation, jazz instrument and ensemble performance, and related topics.

Illustrative example(s)
- jazz
- jazz music
- jazz performance
- jazz studies

Exclusion(s)
- music performance (see 50.0903 Music performance, general)
- music teaching (see 13.1312 Music teacher education)

50.0911 Stringed instruments

This instructional program class comprises any program that prepares individuals to master a stringed instrument and performing arts as solo, ensemble and/or accompanist performers. These programs include courses in playing and personal style development.

Illustrative example(s)
- cello
- double bass
- guitar
- harp
- viola
- violin
- violin performance

Exclusion(s)
- music performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)
- violin making (see 47.0404 Musical instrument fabrication and repair)

50.0912 Music pedagogy

This instructional program class comprises any program that prepares individuals to provide musical instruction and tutoring to clients in private and institutional settings. These programs include courses in music theory, music composition, mastery of one or more instruments, familiarity with various musical genres and styles, principles of music education, and client communications.

Illustrative example(s)
- instrumental pedagogy
- Kodaly concept of music education
- Kodaly methodology
- music pedagogy
- Suzuki method
- Suzuki piano pedagogy

Exclusion(s)
- learning sciences research (see 13.0607 Learning sciences)
- music (see 50.0901 Music, general)
- music education (see 13.1312 Music teacher education)

50.0913 Music technology

This instructional program class comprises any program that focuses on the creative aspects of the blending of music and technology; and that prepares individuals to apply technical knowledge and skills to the composition, recording, synthesis, and performance of music; audio-visual production; scoring for film and multimedia; and software and multimedia development. These programs include courses in music theory, music history, composition, acoustics, recording technology, computer composition, electronic music synthesis, technology-based performance, 3D sound and spatial audio, and music business and law.

Illustrative example(s)
- computer-assisted scoring
- computer-assisted sonic design
- music technology

Exclusion(s)
- audio recording technology (see 10.0203 Recording arts technology/technician)
- music (see 50.0901 Music, general)
- music composition (see 50.0904 Music theory and composition)
- music performance (see 50.0903 Music performance, general)
- music production (see 50.0999 Music, other)

50.0914 Brass instruments

This instructional program class comprises any program that prepares individuals to master a brass instrument and performing art as solo, ensemble, and/or accompanist performers. These programs include courses in playing and personal style development.

Illustrative example(s)
- baritone (brass instrument)
- brass instruments
- euphonium
- horn
- trombone
- trumpet
- tuba

Exclusion(s)
- baritone (singer) (see 50.0908 Voice and opera)
- instrumental performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)

50.0915 Woodwind instruments

This instructional program class comprises any program that prepares individuals to master a woodwind instrument and performing art as solo, ensemble, and/or accompanist performers. These programs include courses in playing and personal style development.

Illustrative example(s)
- bassoon
- clarinet
- flute
- oboe
- saxophone
- woodwind

Exclusion(s)
- instrumental performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)

50.0916 Percussion instruments

This instructional program class comprises any program that prepares individuals to master percussion instruments and performing art for a variety of musical settings, including orchestral, solo, chamber, commercial, or nontraditional. These programs include courses in playing and personal style development.

Illustrative example(s)
- bass drum
- music - percussion
- snare drum
- timpani
- vibraphone

Exclusion(s)
- instrumental performance (see 50.0903 Music performance, general)
- music teacher (see 13.1312 Music teacher education)

50.0999 Music, other

This instructional program class comprises any program not listed above that relates to Music.

Illustrative example(s)
- music production

Exclusion(s)
- music recording engineering (see 10.0203 Recording arts technology/technician)
- music teacher (see 13.1312 Music teacher education)
- music technology (see 50.0913 Music technology)
- music therapy (see 51.2305 Music therapy/therapist)
- musical theatre (see 50.0509 Musical theatre)
- piano tuning (see 47.0404 Musical instrument fabrication and repair)
- religious music (see 39.0501 Religious/sacred music)

50.10 Arts, entertainment, and media management

This subseries comprises instructional program classes 50.1001 to 50.1099.

50.1001 Arts, entertainment, and media management, general

This instructional program class comprises any program that prepares individuals to organize and manage various aspects of the visual arts, performing arts, and entertainment media industries. These programs include courses in business and financial management, marketing and fund-raising, labour relations for the arts, event promotion and management, product and artist management, and applicable law.

Illustrative example(s)
- artist management
- arts administration
- arts management
- entertainment business
- performing arts administration

Exclusion(s)
- fine arts management (see 50.1002 Fine and studio arts management)
- management (see 52.0201 Business administration and management, general)
- music industry management (see 50.1003 Music management)
- theatre arts management (see 50.1004 Theatre/theatre arts management)

50.1002 Fine and studio arts management

This instructional program class comprises any program that prepares individuals to organize and manage fine and studio art organizations, operations, and facilities. These programs include courses in business and financial management; marketing and fundraising; personnel management and labour relations; event promotion and management; public relations and arts advocacy; arts law; and applications to specific arts activities such as galleries, museums, studios, foundations, and community organizations.

Illustrative example(s)
- fine arts management
- studio arts management
- visual arts management

Exclusion(s)
- arts administration (see 50.1001 Arts, entertainment, and media management, general)
- music industry management (see 50.1003 Music management)
- theatre arts management (see 50.1004 Theatre/theatre arts management)

50.1003 Music management

This instructional program class comprises any program that prepares individuals to organize and manage music organizations, operations, facilities, and personnel. These programs include courses in business and financial management; marketing and fundraising; personnel management and labour relations; event promotion and management; music products merchandising; artist agency and promotion; music law; and applications to specific activities such as managing theatres, recording studios and companies, bands and other ensembles, individual artists, and music organizations.

Illustrative example(s)
- music administrative studies
- music business
- music industry management
- music management
- music merchandising

Exclusion(s)
- arts administration (see 50.1001 Arts, entertainment, and media management, general)

50.1004 Theatre/theatre arts management

This instructional program class comprises any program that prepares individuals to apply business management principles to the management of theatres and production corporations. These programs include courses in theatrical production, theatre design and planning, fund-raising and promotion, investment strategies, human resources management, theatre operations management, marketing, public relations, financial management and insurance, and applicable laws and regulations.

Illustrative example(s)
- theatre arts management
- theatrical management

Exclusion(s)
- arts administration (see 50.1001 Arts, entertainment, and media management, general)
- business administration (see 52.0201 Business administration and management, general)
- fundraising (see 52.0206 Non-profit/public/organizational management)
- production management (see 52.0205 Operations management and supervision)

50.1099 Arts, entertainment, and media management, other

This instructional program class comprises any program not listed above related to Arts, entertainment, and media management.

50.99 Visual and performing arts, other

This subseries comprises instructional program class 50.9999.

50.9999 Visual and performing arts, other

This instructional program class comprises any program not listed above that relates to Visual and performing arts.

Illustrative example(s)
- circus arts

Exclusion(s)
- art therapy (see 51.2301 Art therapy/therapist)
- dance therapy (see 51.2302 Dance therapy/therapist)
- drama education (see 13.1324 Drama and dance teacher education)
- music teacher (see 13.1312 Music teacher education)
- music therapy (see 51.2305 Music therapy/therapist)

51. Health professions and related programs

This series comprises instructional programs that prepare individuals to practice as licensed professionals and assistants in the health care professions and related clinical sciences and administrative and support services.

51.00 Health services/allied health/health sciences, general

This subseries comprises instructional program classes 51.0000 and 51.0001.

51.0000 Health services/allied health/health sciences, general

This instructional program class comprises any general, introductory, undifferentiated, or joint program in health services occupations that prepares individuals for either entry into specialized training programs or for a variety of concentrations in the allied health area. These programs include courses in the basic sciences, research and clinical procedures, and aspects of the subject matter related to various health occupations.

Illustrative example(s)
- health
- health sciences
- health services
- health studies

Exclusion(s)
- health care interpreting (see 16.0103 Language interpretation and translation)
- health law (graduate level) (see 22.0208 Health law (LLM, MJ, LLD, JSD/SJD))
- health promotion and wellness (see 51.0001 Health and wellness, general)
- home health aide (see 51.2602 Home health aide/home attendant)
- medical biology (see 26.0102 Biomedical sciences, general)
- medicine (see 51.1201 Medicine (MD))

51.0001 Health and wellness, general

This instructional program class comprises any program of study that prepares individuals to assume roles as health/wellness professionals in private business and industry, community organizations, and health care settings. These programs include courses in personal health, community health and welfare, nutrition, epidemiology, disease prevention, fitness and exercise, and health behaviours.

Illustrative example(s)
- health and wellness
- health promotion and wellness
- wellness, health promotion and injury prevention

Exclusion(s)
- health sciences (see 51.0000 Health services/allied health/health sciences, general)

51.01 Chiropractic (DC)

This subseries comprises instructional program class 51.0101.

51.0101 Chiropractic (DC)

This instructional program class comprises any program that prepares individuals for the independent professional practice of chiropractic, a health care and healing system based on the application of non-invasive treatments and spinal adjustments to alleviate health problems caused by vertebral misalignments affecting bodily function as derived from the philosophy of Daniel Palmer. These programs include courses in the basic medical sciences, chiropractic theory and science, postural and spinal analysis, diagnostic radiology and ultrasound, adjustment technique, patient counselling, professional standards and ethics, and practice management.

Illustrative example(s)
- chiropractic
- chiropractor

Exclusion(s)
- chiropodist (see 51.2101 Podiatric medicine/podiatry (DPM))
- chiropractic assistant (see 51.0813 Chiropractic assistant/technician)

- pre-chiropractic studies (see 51.1106 Pre-chiropractic studies)

51.02 Communication disorders sciences and services

This subseries comprises instructional program classes 51.0201 to 51.0299.

51.0201 Communication sciences and disorders, general

This instructional program class comprises any program that focuses on the application of biomedical, psychological, and physical principles to the study of the scientific bases, development, and treatment of speech, language, hearing, and cognitive communication problems caused by disease, injury, or disability. These programs include courses in language science, hearing science, speech and voice science, biology of communication, behavioural linguistics, psychology, and applications to the development of diagnostic and rehabilitative strategies and technologies.

Illustrative example(s)
- communication disorders
- communication sciences and disorders

Exclusion(s)
- audiology (see 51.0202 Audiology/audiologist)
- communications (see 09.0100 Communication, general)
- speech communication (see 09.0101 Speech communication and rhetoric)
- speech-language pathology (see 51.0203 Speech-language pathology/pathologist)
- teacher of the deaf (see 13.1003 Education/teaching of individuals with hearing impairments including deafness)

51.0202 Audiology/audiologist

This instructional program class comprises any program that prepares individuals to diagnose and treat hearing loss and other disorders involving the ear, advise patients on means to use their remaining hearing, and select and fit hearing aids and other devices. These programs include courses in acoustics, anatomy and physiology of hearing, hearing measurement, auditory pathology, middle and inner ear analysis, rehabilitation therapies and assistive technologies, and pediatric and other special applications.

Illustrative example(s)
- audiologist
- audiology
- audiology and hearing sciences

Exclusion(s)
- communication disorders (see 51.0201 Communication sciences and disorders, general)
- hearing aid specialist (see 51.0918 Hearing instrument specialist)
- speech therapy and audiology (see 51.0204 Audiology/audiologist and speech-language pathology/pathologist)
- teacher of the deaf (see 13.1003 Education/teaching of individuals with hearing impairments including deafness)

51.0203 Speech-language pathology/pathologist

This instructional program class comprises any program that prepares individuals to evaluate the speaking, language interpretation, and related physiological and cognitive capabilities of children and/or adults and develop treatment and rehabilitative solutions in consultation with clinicians and educators. These programs include courses in the anatomy and physiology of speech and hearing; biomechanics of swallowing and vocal articulation; communications disorders; psychology of auditory function and cognitive communication; language assessment and diagnostic techniques; and rehabilitative and management therapies.

Illustrative example(s)
- speech language pathologist
- speech pathologist
- speech pathology
- speech therapy
- speech-language pathology

Exclusion(s)
- audiology and speech therapy (see 51.0204 Audiology/audiologist and speech-language pathology/pathologist)
- communication disorders (see 51.0201 Communication sciences and disorders, general)
- communication studies (see 09.0100 Communication, general)
- education of individuals with speech or language impairments (see 13.1012 Education/teaching of individuals with speech or language impairments)
- speech teacher education (see 13.1331 Speech teacher education)
- speech-language pathology assistant (see 51.0816 Speech-language pathology assistant)

51.0204 Audiology/audiologist and speech-language pathology/pathologist

This instructional program class comprises any integrated program that prepares individuals to work as both audiologists and speech-language pathologists. These programs include courses in a variety of communication disorder studies, audiology, speech pathology, language acquisition, and the design and implementation of comprehensive therapeutic and rehabilitative solutions to communications problems.

Illustrative example(s)
- audiology and speech-language pathology
- speech pathology and audiology
- speech therapy and audiology

Exclusion(s)
- audiologist (see 51.0202 Audiology/audiologist)
- communication disorders (see 51.0201 Communication sciences and disorders, general)
- education of individuals with speech or language impairments (see 13.1012 Education/teaching of individuals with speech or language impairments)
- speech-language pathology (see 51.0203 Speech-language pathology/pathologist)

51.0299 Communication disorders sciences and services, other

This instructional program class comprises any program not listed above that relates to Communication disorders sciences and services.

Illustrative example(s)
- child speech-language disorders
- pre-speech language pathology and audiology

Exclusion(s)
- communication sciences and disorders (see 51.0201 Communication sciences and disorders, general)
- speech-language pathology assistant (see 51.0816 Speech-language pathology assistant)

51.04 Dentistry (DDS, DMD)

This subseries comprises instructional program class 51.0401.

51.0401 Dentistry (DDS, DMD)

This instructional program class comprises any program that prepares individuals for the independent professional practice of dentistry/dental medicine, encompassing the evaluation, diagnosis, prevention, and treatment of diseases, disorders, and conditions of the oral cavity, maxillofacial area, and adjacent structures and their impact on the human body and health. These programs include courses in the basic biomedical sciences; occlusion; dental health and prevention; oral pathology; cariology; operative dentistry; oral radiology; principles of the various dental specialties; pain management; oral medicine; clinic and health care management; patient counselling; and professional standards and ethics.

Illustrative example(s)
- DDS
- dentist
- dentistry
- DMD
- doctor of dental medicine
- doctor of dental surgery

Exclusion(s)
- advanced education in general dentistry program (see 51.0502 Advanced general dentistry (Cert., MS, MSc, PhD))
- dental sciences (MS, MSc, PhD) (see 51.0501 Dental clinical sciences, general (MS, MSc, PhD))
- dental/oral surgery specialty - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)
- oral and maxillofacial surgery (Cert., MS, MSc, PhD) (see 51.0507 Oral/maxillofacial surgery (Cert., MS, MSc, PhD))
- pediatric dentistry (Cert., MS, MSc, PhD) (see 51.0509 Pediatric dentistry/pedodontics (Cert., MS, MSc, PhD))
- pre-dentistry (see 51.1101 Pre-dentistry studies)

51.05 Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD)

This subseries comprises instructional program classes 51.0501– 51.0599.

51.0501 Dental clinical sciences, general (MS, MSc, PhD)

This instructional program class comprises any program integrated or undifferentiated program that generally prepares dentists in one or more of the oral sciences and advanced/graduate dentistry specialties.

Illustrative example(s)
- dental clinical sciences (MS, MSc, PhD)
- dental sciences (MS, MSc, PhD)

Exclusion(s)
- dental assistant (see 51.0601 Dental assisting/assistant)
- dental hygienist (see 51.0602 Dental hygiene/hygienist)
- dental technology (see 51.0603 Dental laboratory technology/technician)
- dental/oral surgery specialty - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- dentistry (see 51.0401 Dentistry (DDS, DMD))
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)

51.0502 Advanced general dentistry (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of dental clinical techniques and dental practice issues. These programs include courses in subjects such as the history of dentistry; advanced dental practice management; dental ethics and jurisprudence; social and behavioural science studies of dentistry; advanced restorative dentistry; oral medicine; oral radiology; advanced clinical procedures and technology; and others.

Illustrative example(s)
- advanced education in general dentistry program
- advanced general dentistry
- AEGD

Exclusion(s)
- dental/oral surgery specialty - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- dentistry (see 51.0401 Dentistry (DDS, DMD))

51.0503 Oral biology and oral and maxillofacial pathology (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the growth, development, diseases, healing properties, and neurological components of the oral cavity, related tissues and organs, and associated craniofacial areas. These programs include courses in oral microbiology microanatomy, craniofacial pain, humoral aspects of disease, etiology and histology of caries, plaque ecology, wound healing, oral disease epidemiology, oral manifestations of systemic disease, lesions, normal and pathologic physiology, and related molecular and physical studies.

Illustrative example(s)
- craniofacial biology (MS, MSc, PhD)
- oral and craniofacial biology (MS, MSc, PhD)
- oral and maxillofacial pathology (MS, MSc, PhD)
- oral biology (MS, MSc, PhD)
- oral biology and oral and maxillofacial pathology (MS, MSc, PhD)

Exclusion(s)
- biology (see 26.0101 Biology/biological sciences, general)
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)
- pathology (see 26.0910 Pathology/experimental pathology)

51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH)

This instructional program class comprises any program that focuses on the scientific study of dental disease prevention and control, community dental health promotion, and prepares dentists and public health professionals to function as dental health specialists. These programs include courses in preventive dentistry; the relationship of oral disease to health and quality of life; patient and practitioner behaviour; dental epidemiology; nutrition and dental health; dental care policy and delivery; oral health program planning and administration; biostatistics; and research methods.

Illustrative example(s)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH)

Exclusion(s)
- dental hygienist (see 51.0602 Dental hygiene/hygienist)
- dental public health specialty - residency (see 60.0102 Dental public health residency programs)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health education (see 51.2207 Public health education and promotion)

51.0505 Dental materials (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the biomaterials and inert and active compounds used in dental procedures; the development of dental materials; and their effects on the living tissues of the oral cavity and systemic bodily health. These programs include courses in materials science, dental bioengineering, biocompatibility of materials; physics and mechanics of dental materials; elastic and plastic deformation; surface bonding; and applications to fixed and removable prostheses and restorative procedures.

Illustrative example(s)
- dental materials (MS, MSc, PhD)

Exclusion(s)
- dental technology (see 51.0603 Dental laboratory technology/technician)
- materials science (see 40.1001 Materials science)
- prosthodontics (Cert., MS, MSc, PhD) (see 51.0511 Prosthodontics/prosthodontology (Cert., MS, MSc, PhD))
- prosthodontics specialty - residency (see 60.0108 Prosthodontics residency programs)

51.0506 Endodontics/endodontology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the morphology, physiology, and pathology of human dental pulp and periradicular tissues, and prepares dentists to diagnose and treat internal diseases and injuries of teeth. These programs include courses in theory and practice of endodontics; pulpal disease; relationship of endodontic conditions to other dental/oral health issues; endodontic operative technique; and patient care and management.

Illustrative example(s)
- endodontics (Cert., MS, MSc, PhD)
- endodontist (Cert., MS, MSc, PhD)

Exclusion(s)
- endodontics specialty - residency (see 60.0103 Endodontics residency programs)

51.0507 Oral/maxillofacial surgery (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the diagnosis and intrusive and adjunctive treatment of diseases, injuries, and defects of the oral and maxillofacial regions, including functional and aesthetic aspects. These programs include courses in pharmacology, analgesia, anesthesia, anxiety control, surgical procedures and techniques, surgical instrumentation, exodontia, oral diseases and malfunctions, soft and hard tissue pathology, dentoalveolar surgery, infection management, and prosthetic implantation.

Illustrative example(s)
- oral and maxillofacial surgery (Cert., MS, MSc, PhD)
- oral surgery (Cert., MS, MSc, PhD)

Exclusion(s)
- dental/oral surgery specialty - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- dentistry (see 51.0401 Dentistry (DDS, DMD))
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)

51.0508 Orthodontics/orthodontology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the guidance of growing dental structures and the correction of misalignments, disproportionate growth, and traumas caused by genetics, disease, injuries, and dysfunctional behaviours. These programs include courses in craniofacial growth

and development, malocclusion, design and fabrication of orthodontic appliances, craniofacial alignment, physiological function and analysis, cephalometrics, model analysis, space analysis, surgical orthodontics, cleft lip and palate, and treatment planning and management.

Illustrative example(s)
- orthodontics (Cert., MS, MSc, PhD)
- orthodontics and dentofacial orthopedics (Cert., MS, MSc, PhD)
- orthodontist (Cert., MS, MSc, PhD)
- orthodontology (Cert., MS, MSc, PhD)

Exclusion(s)
- orthodontic assistant (see 51.0699 Dental support services and allied professions, other)
- orthodontics specialty - residency (see 60.0105 Orthodontics residency programs)

51.0509 Pediatric dentistry/pedodontics (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the therapeutic and preventive care of the oral health of children from birth through adolescence, and the care of adults with physical, mental, and emotional disabilities. These programs include courses in developmental oral biology, preventive medicine, diet therapy and counselling, pediatric restorative procedures, pulp therapy, trauma management, anesthesia, treatment planning, patient management, and the treatment of handicapped patients.

Illustrative example(s)
- pediatric dentistry (Cert., MS, MSc, PhD)
- pedodontics (Cert., MS, MSc, PhD)

Exclusion(s)
- pedodontics specialty - residency (see 60.0106 Pediatric dentistry residency programs)

51.0510 Periodontics/periodontology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the etiology and treatment of diseases of the gingivae (gum tissue) and supporting bone, nerve, and vascular structures. These programs include courses in periodontium pathology, diagnostic procedures and equipment, occlusion, nutritional aspects of periodontology, surgical treatments, and patient care and management.

Illustrative example(s)
- periodontics (Cert., MS, MSc, PhD)
- periodontist (Cert., MS, MSc, PhD)
- periodontology (Cert., MS, MSc, PhD)

Exclusion(s)
- periodontics specialty - residency (see 60.0107 Periodontology residency programs)

51.0511 Prosthodontics/prosthodontology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the advanced study of the restoration and maintenance of teeth, oral function, and aesthetic form through the use of single or compound materials, structures, and artificial devices. These programs include courses in implant dentistry, surgical procedures, denture design and fabrication, fixed and removable prosthodontics, restorative techniques, occlusion therapy and devices, geriatric dentistry, cosmetic dentistry, and temporomandibular joint dysfunction.

Illustrative example(s)
- prosthetic dentistry (Cert., MS, MSc, PhD)
- prosthodontics (Cert., MS, MSc, PhD)
- prosthodontology (Cert., MS, MSc, PhD)

Exclusion(s)
- prosthodontics specialty - residency (see 60.0108 Prosthodontics residency programs)

51.0599 Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD), other

This instructional program class comprises any program not listed above that relates to Advanced/graduate dentistry and oral sciences (Cert., MS, MSc, PhD).

51.06 Dental support services and allied professions

This subseries comprises instructional program classes 51.0601 to 51.0699.

51.0601 Dental assisting/assistant

This instructional program class comprises any program that prepares individuals to provide patient care, take dental radiographs (X-ray photographs), prepare patients and equipment for dental procedures, and discharge office administrative functions under the supervision of dentists and dental hygienists. These programs include courses in medical record keeping, general office duties, reception and patient intake, scheduling, equipment maintenance and sterilization, basic radiography, pre-operative and postoperative patient care and instruction, chairside assisting, taking tooth and mouth impressions, and supervised practice.

Illustrative example(s)
- certified dental assistant (CDA)
- dental assistant
- dental assisting
- dental nursing
- registered dental assistant (RDA)

Exclusion(s)
- dental hygienist (see 51.0602 Dental hygiene/hygienist)
- dental laboratory technician (see 51.0603 Dental laboratory technology/technician)
- dental office administration (see 51.0705 Medical office management/administration)
- dental receptionist (see 51.0712 Medical reception/receptionist)
- dental secretarial (see 51.0716 Medical administrative/executive assistant and medical secretary)

51.0602 Dental hygiene/hygienist

This instructional program class comprises any program that prepares individuals to clean teeth and apply preventive materials; provide oral health education and treatment counselling to patients; identify oral pathologies and injuries; and manage dental hygiene practices. These programs include courses in dental anatomy, microbiology, and pathology; dental hygiene theory and techniques; cleaning equipment operation and maintenance; dental materials; radiology; patient education and counselling; office management; supervised clinical training; and professional standards.

Illustrative example(s)
- dental hygiene
- dental hygienist
- registered dental hygienist (RDH)

Exclusion(s)
- dental assistant (see 51.0601 Dental assisting/assistant)
- dental therapy (see 51.0699 Dental support services and allied professions, other)

51.0603 Dental laboratory technology/technician

This instructional program class comprises any program that prepares individuals, under the supervision of dentists, to design and construct dental prostheses such as caps, crowns, bridges, dentures, splints, and orthodontic appliances. These programs include courses in dental anatomy, dental materials, ceramics technology, impressions, complete dentures, partial dentures, orthodontics, crowns and bridges, sculpture, bonding and assembly techniques, and equipment operation.

Illustrative example(s)
- dental laboratory technician
- dental laboratory technology
- dental technician
- dental technology
- denturist
- denturology

Exclusion(s)
- dental assistant (see 51.0601 Dental assisting/assistant)
- dental hygienist (see 51.0602 Dental hygiene/hygienist)

51.0699 Dental support services and allied professions, other

This instructional program class comprises any program not listed above that relates to Dental support services and allied professions.

Illustrative example(s)
- dental therapy
- orthodontic assistant

Exclusion(s)
- dental assistant (see 51.0601 Dental assisting/assistant)
- dental hygienist (see 51.0602 Dental hygiene/hygienist)
- orthodontics (Cert., MS, MSc, PhD) (see 51.0508 Orthodontics/orthodontology (Cert., MS, MSc, PhD))

51.07 Health and medical administrative services

This subseries comprises instructional program classes 51.0701 to 51.0799.

51.0701 Health/health care administration/management

This instructional program class comprises any program that prepares individuals to develop, plan, and manage health care operations and services within health care facilities and across health care systems. These programs include courses in planning, business management, financial management, public relations, human resources management, health care systems operation and management, health care resource allocation and policy making, health laws and regulations, and applications to specific types of health care services.

Illustrative example(s)
- health administration
- health care administration
- health care management
- health management
- medical administration

Exclusion(s)
- health policy (see 44.0503 Health policy analysis)
- health services administration (see 51.2211 Health services administration)

- hospital management (see 51.0702 Hospital and health care facilities administration/management)
- long term care administration (see 51.0718 Long term care administration/management)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- medical office administration (see 51.0705 Medical office management/administration)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)

51.0702 Hospital and health care facilities administration/management

This instructional program class comprises any program that prepares individuals to apply managerial principles to the administration of hospitals, clinics, nursing homes, and other health care facilities. These programs include courses in facilities planning, building and operations management, business management, financial management and insurance, fund-raising and marketing, public relations, human resources management and labour relations, health care facilities operations, principles of health care delivery, and applicable laws and regulations.

Illustrative example(s)
- hospital administration
- hospital management
- management of health care facilities

Exclusion(s)
- health care administration (see 51.0701 Health/health care administration/management)
- health services administration (see 51.2211 Health services administration)
- long term care administration (see 51.0718 Long term care administration/management)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)

51.0703 Health unit coordinator/ward clerk

This instructional program class comprises any program that prepares individuals, under the supervision of nurses or ward supervisors, to perform routine administrative and reception duties in a patient care unit within a hospital or other health care facility. These programs include courses in receiving and directing visitors, transcribing medical and nursing orders, preparing requisition forms, scheduling patient appointments and procedures, monitoring patients and personnel, and interpersonal skills.

Illustrative example(s)
- health unit clerk
- health unit coordinator
- hospital unit clerk
- medical unit clerk
- nursing unit clerk
- ward clerk

Exclusion(s)
- medical clerk (see 51.0710 Medical office assistant/specialist)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)
- office clerk (see 52.0408 General office occupations and clerical services)

51.0704 Health unit manager/ward supervisor

This instructional program class comprises any program that prepares individuals, under the supervision of nursing or medical service administrators, to supervise and coordinate the operations of one or more patient care units in hospitals or other health care facilities. These programs include courses in planning and initiating administrative procedures, personnel supervision, interpersonal skills, general and/or specialized health care operations and procedures, and consultation with other medical, nursing, and administrative team members.

Illustrative example(s)
- health unit manager
- health unit supervisor
- ward supervisor

Exclusion(s)
- health unit coordinator (see 51.0703 Health unit coordinator/ward clerk)

51.0705 Medical office management/administration

This instructional program class comprises any program that prepares individuals to manage the specialized business functions of a medical or clinical office. These programs include courses in business office operations, business and financial record keeping, personnel supervision, medical and health care policy administration, conference planning, scheduling and coordination, public relations, and applicable laws and regulations.

Illustrative example(s)
- dental office administration
- health office administration
- medical office administration
- medical office management
- medical office manager

Exclusion(s)
- hospital administration (see 51.0702 Hospital and health care facilities administration/management)
- medical administration (see 51.0701 Health/health care administration/management)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- medical office assistant (see 51.0710 Medical office assistant/specialist)
- office management (see 52.0204 Office management and supervision)

51.0706 Health information/medical records administration/administrator

This instructional program class comprises any program that prepares individuals to plan, design, and manage systems, processes, and facilities used to collect, store, secure, retrieve, analyse, and transmit medical records and other health information used by clinical professionals and health care organizations. These programs include courses in the principles and basic content of the biomedical and clinical sciences; information technology and applications; data and database management; clinical research methodologies; health information resources and systems; office management; legal requirements; and professional standards.

Illustrative example(s)
- health information management
- health information science
- health records administration
- medical archive management
- medical records administration
- medical records management

Exclusion(s)
- archival management (see 25.0103 Archives/archival administration)
- information science (see 11.0401 Information science/studies)
- management information systems (see 52.1201 Management information systems, general)
- medical clerk (see 51.0710 Medical office assistant/specialist)
- medical records technology (see 51.0707 Health information/medical records technology/technician)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)

51.0707 Health information/medical records technology/technician

This instructional program class comprises any program that prepares individuals, under the supervision of health information administrators and other professionals, to construct medical records and clinical databases, perform manipulations on retrieved data, control the security and quality of records, and supervise data entry and technical maintenance personnel. These programs include courses in clinical and biomedical science data and information requirements; database management; data coding and validation; information security; quality control; health information content and structure; medical business procedures; and legal requirements.

Illustrative example(s)
- health information technology
- health records technician
- health records technology
- medical archives technology
- medical records technician
- medical records technology

Exclusion(s)
- health records administration (see 51.0706 Health information/medical records administration/administrator)
- library techniques (see 25.0301 Library and archives assisting)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- records management (see 25.0103 Archives/archival administration)

51.0708 Medical transcription/transcriptionist

This instructional program class comprises any program that prepares individuals to execute verbatim medical conference minutes, medical reports, and medical orders. These programs include courses in dictation and simultaneous recording, analysis of notes and visual evidence, medical terminology, data processing applications and skills, formal medical report and correspondence formats, professional standards, and applicable laws and regulations.

Illustrative example(s)
- medical dictatypist
- medical stenographer
- medical transcription
- medical transcriptionist

Exclusion(s)
- medical clerk (see 51.0710 Medical office assistant/specialist)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)

51.0709 Medical office computer specialist/assistant

This instructional program class comprises any program that prepares individuals to apply computer programming, troubleshooting, and information technology skills to the installation, maintenance, and upgrade of standard, customized, or proprietary medical software and associated hardware. These programs include courses in computer programming, systems analysis, networking, telecommunications, medical records and informatics software applications, information technology, systems administration, computer security, and applicable regulations and certifications or licenses.

Illustrative example(s)
- medical office computer assistant
- medical office computer specialist

Exclusion(s)
- computer programming (see 11.0201 Computer programming/programmer, general)
- computer software technician (see 15.1204 Computer software technology/technician)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- medical informatics (see 51.2706 Medical informatics)

51.0710 Medical office assistant/specialist

This instructional program class comprises any program that prepares individuals, under the supervision of office managers and other professionals, to perform routine administrative duties in a medical, clinical, or health care facility/system office environment. These programs include courses in general office skills, data processing, office equipment operation, principles of medical record keeping and business regulations, medical/clinical office procedures, and communications skills.

Illustrative example(s)
- clinic office assistant
- doctor's office assistant
- medical clerk
- medical office assistant

Exclusion(s)
- medical administration (see 51.0701 Health/health care administration/management)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- medical office administration (see 51.0705 Medical office management/administration)
- medical records technician (see 51.0707 Health information/medical records technology/technician)

51.0711 Medical/health management and clinical assistant/specialist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, nurses, or other health care professionals, to perform medical office or facilities management services and perform one or more clinical allied health specialties. These programs include courses in health care management; medical office administration; medical laws and regulations; training in one or more diagnostic, treatment, therapy, or laboratory specialties at the assistant level or above; and applicable professional standards and ethics.

Illustrative example(s)
- medical/health management and clinical assistant/specialist

Exclusion(s)
- health care management (see 51.0701 Health/health care administration/management)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- medical assistant (see 51.0801 Medical/clinical assistant)
- medical office administration (see 51.0705 Medical office management/administration)
- physician assistant (see 51.0912 Physician assistant)

51.0712 Medical reception/receptionist

This instructional program class comprises any program that prepares individuals, under the supervision of office managers, nurses, or physicians, to provide customer service, visitor reception, and patient intake and discharge services. These programs include courses in medical office and health care facility procedures, medical terminology, interpersonal skills, record keeping, customer service, telephone skills, data entry, interpersonal communications skills, and applicable policies and regulations.

Illustrative example(s)
- dental reception
- dental receptionist
- medical office receptionist
- medical receptionist
- veterinary receptionist

Exclusion(s)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)
- receptionist (see 52.0406 Receptionist)

51.0713 Medical insurance coding specialist/coder

This instructional program class comprises any program that prepares individuals to perform specialized data entry, classification, and record keeping procedures related to medical diagnostic, treatment, billing, and insurance documentation. These programs include courses in medical records and insurance software applications, basic anatomy and physiology, medical terminology, fundamentals of medical science and treatment procedures, data classification and coding, data entry skills, and regulations relating to Medicare and insurance documentation.

Illustrative example(s)
- medical insurance coding

Exclusion(s)
- health/medical claims examiner (see 51.0715 Health/medical claims examiner)
- insurance (see 52.1701 Insurance)
- medical insurance billing (see 51.0714 Medical insurance specialist/medical biller)

51.0714 Medical insurance specialist/medical biller

This instructional program class comprises any program that prepares individuals to perform and manage the medical and health insurance operations in a medical office, health care facility, health maintenance organization, or insurance provider. These programs include courses in health and medical insurance processes; health insurance laws, policies, and regulations; insurance records and paperwork administration; insurance office administration; health/medical insurance software applications; personnel supervision; business mathematics; billing and collection procedures; medical terminology; and communications skills.

Illustrative example(s)
- medical insurance billing

Exclusion(s)
- health/medical claims examiner (see 51.0715 Health/medical claims examiner)
- insurance (see 52.1701 Insurance)
- medical insurance coding (see 51.0713 Medical insurance coding specialist/coder)

51.0715 Health/medical claims examiner

This instructional program class comprises any program that prepares individuals to perform specialized investigatory, analytical, evaluative, and consultative functions related to health/medical insurance operations and their regulation. These programs include courses in health and medical insurance processes and procedures; health insurance laws and regulations; health care industry laws; record keeping; analytic and investigatory techniques; evaluation methods; field operations methods; office procedures; related software applications; oral and written communications skills; interviewing techniques; and professional standards and ethics.

Illustrative example(s)
- health/medical claims examiner

Exclusion(s)
- insurance (see 52.1701 Insurance)
- medical insurance billing (see 51.0714 Medical insurance specialist/medical biller)
- medical insurance coding (see 51.0713 Medical insurance coding specialist/coder)

51.0716 Medical administrative/executive assistant and medical secretary

This instructional program class comprises any program that prepares individuals to perform the duties of special assistants and personal secretaries for practicing physicians and nurses, health care facilities and services administrators, and other health care professionals. These programs include courses in business and medical communications, medical terminology, principles of health care operations, public relations and interpersonal communications, software applications, record keeping and filing systems, scheduling and meeting planning, applicable policies and regulations, and professional standards and ethics.

Illustrative example(s)
- dental secretarial
- dental secretary
- medical administrative assistant
- medical secretarial
- medical secretary
- veterinary office administration
- veterinary secretary

Exclusion(s)
- administrative assistant (see 52.0401 Administrative assistant and secretarial science, general)
- executive assistant (see 52.0402 Executive assistant/executive secretary)
- medical administration (see 51.0701 Health/health care administration/management)
- medical office administration (see 51.0705 Medical office management/administration)
- medical office assistant (see 51.0710 Medical office assistant/specialist)

51.0717 Medical staff services technology/technician

This instructional program class comprises any program that prepares individuals to perform credentialing, privileging, personnel management, and accreditation compliance services for hospitals and other health care facilities and organizations. These programs include courses in medical staff organization and management, medical terminology, credentialing and re-credentialing, health care accreditation and regulatory standards, health care laws, meeting and negotiation management, and office information systems management.

Illustrative example(s)
- medical staff services technician
- medical staff services technology

51.0718 Long term care administration/management

This instructional program class comprises any program that prepares individuals to apply managerial principles to the administration of nursing homes, assisted living facilities, adult day care, home health services, and other long term care settings and agencies serving the elderly and disabled. These programs include courses in social and clinical aspects of aging, health care delivery systems, nursing home administration, assisted living administration, aging policy and government programs, ethics, business management, financial management, human resource management, marketing, and applicable laws and regulations.

Illustrative example(s)
- long term care administration
- long term care management

Exclusion(s)
- health care management (see 51.0701 Health/health care administration/management)
- management of health care facilities (see 51.0702 Hospital and health care facilities administration/management)

51.0719 Clinical research coordinator

This instructional program class comprises any program that prepares individuals for careers as clinical research administrators or clinical research coordinators where they work under the supervision of a principal investigator to organize, coordinate and administer clinical research trials. These programs include courses in pharmacology, medical terminology, foundations of clinical research, project management, ethics, research design and data management, and legal and regulatory compliance .

Illustrative example(s)
- clinical trial research coordination
- clinical trials management

Exclusion(s)
- medical research (see 51.1401 Medical scientist (MS, MSc, PhD))
- operations research (see 14.3701 Operations research)
- research and development management (see 52.0210 Research and development management)
- research methodology and quantitative methods (see 45.0102 Research methodology and quantitative methods)

51.0799 Health and medical administrative services, other

This instructional program class comprises any program not listed above that relates to Health and medical administrative services.

51.08 Allied health and medical assisting services

This subseries comprises instructional program classes 51.0802 to 51.0899.

51.0801 Medical/clinical assistant

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, to provide medical office administrative services and perform clinical duties including patient intake and care, routine diagnostic and recording procedures, pre-examination and examination assistance, and the administration of medications and first aid. These programs include courses in basic anatomy and physiology; medical terminology; medical laws and ethics; patient psychology and communications; medical office procedures; and clinical diagnostic, examination, testing, and treatment procedures.

Illustrative example(s)
- clinical assistant
- medical assistant
- medical clinical assistant

Exclusion(s)
- medical office assistant (see 51.0710 Medical office assistant/specialist)
- medical/health management and clinical assistant/specialist (see 51.0711 Medical/health management and clinical assistant/specialist)
- nursing assistant (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- physician assistant (see 51.0912 Physician assistant)

51.0802 Clinical/medical laboratory assistant

This instructional program class comprises any program that prepares individuals, under the supervision of physicians or laboratory scientists or technologists, to perform testing procedures, phlebotomy, and other duties in support of laboratory teams. These programs include courses in clinical procedures, various laboratory tests, laboratory mathematics, computer technology, equipment operation and maintenance, sterilization and safety, communications skills, and interpersonal skills.

Illustrative example(s)
- medical laboratory assistant

Exclusion(s)
- biology lab technology (see 41.0101 Biology technician/biotechnology laboratory technician)
- clinical laboratory science (see 51.1005 Clinical laboratory science/medical technology/technologist)
- clinical laboratory technician (see 51.1004 Clinical/medical laboratory technician)
- medical assistant (see 51.0801 Medical/clinical assistant)

51.0803 Occupational therapist assistant

This instructional program class comprises any program that prepares individuals, under the supervision of occupational therapists, to direct patient participation in skill-enhancing, learning, and motivational tasks; correct or diminish pathologies; and to provide direct health education and promotion services. These programs include courses in human lifespan development, occupational therapy principles and practice skills, treatment planning and implementation, record keeping and documentation, patient education and intervention, activity and program direction, and assistive services management.

Illustrative example(s)
- occupational therapist assistant
- occupational therapy assistant

Exclusion(s)
- occupational health nursing (see 51.3815 Occupational and environmental health nurse/nursing)
- occupational medicine - residency (see 60.0420 Occupational medicine residency programs)
- occupational therapist (see 51.2306 Occupational therapy/therapist)
- physiotherapy assistant (see 51.0806 Physical therapy technician/assistant)
- rehabilitation assistant (RA) (see 51.0817 Rehabilitation assistant)
- vocational rehabilitation counsellor (see 51.2310 Vocational rehabilitation counselling/counsellor)

51.0805 Pharmacy technician/assistant

This instructional program class comprises any program that prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. These programs include courses in medical and pharmaceutical terminology; principles of pharmacology and pharmaceutics; drug identification; pharmacy laboratory procedures; prescription interpretation; patient communication and education; safety procedures; record keeping; measurement and testing techniques; pharmacy business operations; prescription preparation; logistics and dispensing operations; and applicable standards and regulations.

Illustrative example(s)
- pharmacist assistant
- pharmacy assistant
- pharmacy technician
- pharmacy technology

Exclusion(s)
- pharmacology (see 26.1001 Pharmacology)

- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))
- pre-pharmacy (see 51.1103 Pre-pharmacy studies)

51.0806 Physical therapy technician/assistant

This instructional program class comprises any program that prepares individuals, under the supervision of a physical therapist, to implement physical therapy treatment care plans, train patients, conduct treatment interventions, use equipment, and observe and record patient progress. These programs include courses in applied anatomy and physiology, applied kinesiology, principles and procedures of physical therapy, basic neurology and orthopedics, physical therapy modalities, documentation skills, psychosocial aspects of health care, wound and injury care, electrotherapy, working with orthotics and prostheses, and personal and professional ethics.

Illustrative example(s)
- physical therapy assistant
- physiotherapist assistant
- physiotherapy assistant

Exclusion(s)
- kinesiology and health science (see 31.0505 Kinesiology and exercise science)
- occupational therapist assistant (see 51.0803 Occupational therapist assistant)
- physical therapy (see 51.2308 Physical therapy/therapist)
- rehabilitation assistant (RA) (see 51.0817 Rehabilitation assistant)

51.0808 Veterinary/animal health technology/technician and veterinary assistant

This instructional program class comprises any program that prepares individuals, under the supervision of veterinarians, laboratory animal specialists, and zoological professionals, to provide patient management, care, and clinical procedures assistance as well as owner communication. These programs include courses in animal nursing care, animal health and nutrition, animal handling, clinical pathology, radiology, anesthesiology, dental prophylaxis, surgical assisting, clinical laboratory procedures, office administration skills, patient and owner management, and applicable standards and regulations.

Illustrative example(s)
- animal care technology
- animal health technician
- animal health technology
- veterinary assistant
- veterinary technician
- veterinary technology

Exclusion(s)
- animal health (see 01.0903 Animal health)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary sciences (Cert., MS, MSc, PhD) (see 51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD))

51.0809 Anesthesiologist assistant

This instructional program class comprises any program that prepares individuals to assist anesthesiologists and nurse anesthetists in developing and implementing patient anesthesia care plans, including pre-operative, surgical theatre, recovery room, and postoperative/intensive care procedures. These programs include courses in patient data collection, catheter insertion, airway management and drug administration, assisting the administration and monitoring of regional and peripheral nerve blockades, support therapy, adjusting anesthetic levels during surgery, interoperative monitoring, postoperative procedures, pain clinics and patient education, and administrative tasks.

Illustrative example(s)
- anaesthetist assistant
- anesthesiologist assistant

Exclusion(s)
- anesthesiology - residency (see 60.0403 Anesthesiology residency programs)
- critical care anesthesiology - residency (see 60.0511 Critical care medicine residency programs)
- nurse anesthetist (see 51.3804 Nurse anesthetist)
- respiratory therapy technology (see 51.0812 Respiratory therapy technician/assistant)
- veterinary anesthesiology - residency (see 60.0301 Veterinary anesthesiology residency programs)

51.0810 Emergency care attendant (EMT ambulance)

This instructional program class comprises any program that prepares individuals to assist licensed EMTs, under the supervision of a physician, to prepare and transport ill or injured patients, and to operate emergency vehicles and equipment such as life support units. These programs include courses in first aid and emergency medicine field techniques; patient stabilization and care; medical field communications; equipment operation and maintenance; emergency vehicle operation; and applicable standards and regulations.

Illustrative example(s)
- ambulance attendant
- ambulance technician
- emergency medical care attendant
- emergency medical responder (EMR)
- emergency medical technician - ambulance (EMT-A)
- emergency medical technician (ambulance)

Exclusion(s)
- critical incident response/special police operations (see 43.0119 Critical incident response/special police operations)
- emergency management (see 43.0302 Crisis/emergency/disaster management)
- paramedic (see 51.0904 Emergency medical technology/technician (EMT paramedic))
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)

51.0811 Pathology/pathologist assistant

This instructional program class comprises any program that prepares individuals, under the supervision of pathologists, to assist in the performance of autopsies, obtaining and preparing surgical specimens, preparing autopsy reports, and interacting with other clinicians, officials, and individuals. These programs include courses in anatomy; physiology; medical terminology; general, systemic, forensic, and pediatric pathology; autopsy procedures; surgical technique; medical photography; tissue preparation; record keeping and laboratory administration; interpersonal skills; and applicable standards and regulations.

Illustrative example(s)
- pathology assistant
- pathology technician

Exclusion(s)
- pathology - residency (see 60.0424 Pathology residency programs)
- pathology (see 26.0910 Pathology/experimental pathology)
- speech-language pathology assistant (see 51.0816 Speech-language pathology assistant)

51.0812 Respiratory therapy technician/assistant

This instructional program class comprises any program that prepares individuals to administer general respiratory care procedures under the supervision of respiratory therapists in a variety of clinical settings. These programs include courses in patient data collection and monitoring, airway management, installation of nebulizers and other respiratory assistance devices, application and monitoring of breathing gases, equipment operation and maintenance, safety and sanitation procedures, and applicable regulations.

Illustrative example(s)
- respiratory therapist assistant
- respiratory therapy technology

Exclusion(s)
- anesthesiologist assistant (see 51.0809 Anesthesiologist assistant)
- nurse anesthetist (see 51.3804 Nurse anesthetist)
- respiratory therapist (see 51.0908 Respiratory care therapy/therapist)

51.0813 Chiropractic assistant/technician

This instructional program class comprises any program that prepares individuals, under the supervision of a chiropractor, to provide patient management, examination, and treatment services. These programs include courses in the principles and procedures of chiropractic; radiographic X-ray procedures and techniques; X-ray film analysis and media studies; orthopedic and neurological testing; clinical laboratory procedures; patient management and education; office administrative skills; and applicable laws and regulations.

Illustrative example(s)
- chiropractic assistant

Exclusion(s)
- chiropractor (see 51.0101 Chiropractic (DC))
- medical assistant (see 51.0801 Medical/clinical assistant)
- medical office assistant (see 51.0710 Medical office assistant/specialist)

51.0814 Radiologist assistant

This instructional program class comprises any program that prepares individuals, under the supervision of a physician, to perform patient assessment, patient management, selected imaging procedures and to make initial observations of diagnostic images. These programs include courses in radiologic procedures and techniques, cross sectional anatomy, pharmacology, pathophysiology, patient assessment, patient care and management, and radiation biology.

Illustrative example(s)
- radiologist assistant

Exclusion(s)
- medical radiation technology (see 51.0907 Medical radiologic technology/science – radiation therapist)
- radiation protection/health physics technician (see 51.0916 Radiation protection/health physics technician)
- radiology technologist (see 51.0911 Radiologic technology/science – radiographer)

51.0815 Lactation consultant

This instructional program class comprises any program that prepares individuals to provide lactation management services and breastfeeding support to women, and to work as a lactation consultant in a variety of clinical settings. These programs include courses in anatomy and physiology of lactation, nutrition, breastfeeding techniques and technologies, common concerns and solutions, management of special situations, breastfeeding instruction, professional and legal concerns, and advocacy.

Illustrative example(s)
- lactation consultant
- lactation counsellor
- lactation education
- lactation management

51.0816 Speech-language pathology assistant

This instructional program class comprises any program that prepares individuals, under the supervision of speech-language pathologists, to assist in the provision of speech-language pathology services to individuals of all ages, including screenings and assessments, following treatment plans or protocols, documenting and reporting patient performance, performing checks and maintenance of equipment, and providing support in research projects. These programs include courses in speech and language development, phonetics, childhood and adult communication disorders, speech and hearing screening, and clinical procedures in speech-language pathology.

Illustrative example(s)
- communicative disorders assistant
- speech-language pathology assistant
- speech-language therapy assistant

Exclusion(s)
- child speech-language disorders (see 51.0299 Communication disorders sciences and services, other)
- occupational therapy and speech-language therapy assistant (see 51.0817 Rehabilitation assistant)
- pathology assistant (see 51.0811 Pathology/pathologist assistant)
- speech-language pathology (see 51.0203 Speech-language pathology/pathologist)

51.0817 Rehabilitation assistant CAN

This instructional program class comprises any program that prepares individuals to cross train in at least two of occupational therapist assistant, physical therapist assistant, and speech-language pathology assistant, in order to implement therapies, direct and train patients, and provide services under the supervision of an occupational therapist, physical therapist, or speech-language pathologist. These programs include courses in the principles, procedures and practice skills of occupational therapy, physical therapy, and speech-language pathology; applied anatomy and physiology; normal functional movement; disabling conditions; psychology; infection control; wound and injury care; documentation and record keeping; and ethics and professional practices.

Illustrative example(s)
- occupational therapy and physical therapy assistant
- occupational therapy and speech-language therapy assistant
- physical therapy and speech-language therapy assistant
- physiotherapy and occupational therapy assistant
- rehab assistant
- rehabilitation assistant (RA)
- rehabilitation therapist assistant
- rehabilitation therapy assistant
- therapy assistant - occupational therapy and physiotherapy

Exclusion(s)
- occupational therapy assistant (see 51.0803 Occupational therapist assistant)
- pediatric rehabilitation medicine - residency (see 60.0563 Pediatric rehabilitation medicine residency programs)
- physical therapy assistant (see 51.0806 Physical therapy technician/assistant)
- rehabilitation aide (see 51.2604 Rehabilitation aide)
- rehabilitation science (see 51.2314 Rehabilitation science)
- speech-language pathology assistant (see 51.0816 Speech-language pathology assistant)

51.0899 Allied health and medical assisting services, other

This instructional program class comprises any program not listed above that relates to Allied health and medical assisting services.

51.09 Allied health diagnostic, intervention and treatment professions

This subseries comprises instructional program classes 51.0901 to 51.0999.

51.0901 Cardiovascular technology/technologist

This instructional program class comprises any program that prepares individuals to perform invasive, non-invasive, and peripheral examinations of the cardiovascular system at the request of physicians to aid in diagnoses and therapeutic treatments. These programs include courses in reviewing and recording patient histories and clinical data; patient care; investigative and examination procedures; diagnostic procedures; data analysis and documentation; physician consultation; equipment operation and monitoring; and professional standards and ethics.

Illustrative example(s)
- cardiology technician
- cardiology technologist
- cardiology technology
- cardiovascular technician

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- cardiovascular science (see 26.0907 Cardiovascular science)
- clinical cardiac electrophysiology - residency (see 60.0508 Clinical cardiac electrophysiology residency programs)
- EKG technician (see 51.0902 Electrocardiograph technology/technician)

51.0902 Electrocardiograph technology/technician

This instructional program class comprises any program that prepares individuals, under the supervision of physicians and nurses, to administer EKG and ECG diagnostic examinations and report results to the treatment team. These programs include courses in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG and ECG administration, equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.

Illustrative example(s)
- ECG technician
- ECG technologist
- ECG technology
- EKG technician
- electrocardiograph technician

Exclusion(s)
- cardiovascular technician (see 51.0901 Cardiovascular technology/technologist)

51.0903 Electroneurodiagnostic/electroencephalographic technology/technologist

This instructional program class comprises any program that prepares individuals, under the supervision of a physician, to study and record electrical activity in the brain and nervous system for purposes of patient monitoring and supporting diagnoses. These programs include courses in patient communication and care; taking and

abstracting patient histories; application of recording electrodes; electroencephalogram (EEG), evoked potential (EP), and polysomnogram (PSG) equipment operation and procedural techniques; and data recording and documentation.

Illustrative example(s)
- EEG technician
- electroencephalographic technician
- electroneurodiagnostic technologist

51.0904 Emergency medical technology/technician (EMT paramedic)

This instructional program class comprises any program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise ambulance personnel. These programs include courses in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.

Illustrative example(s)
- emergency medical technician - paramedic (EMT-P)
- emergency medical technician (paramedic)
- paramedic

Exclusion(s)
- ambulance attendant (see 51.0810 Emergency care attendant (EMT ambulance))
- emergency medicine - residency (see 60.0412 Emergency medicine residency programs)
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)

51.0905 Nuclear medical technology/technologist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, to employ radioactive and stable nuclides in diagnostic evaluations and therapeutic applications while monitoring for patient health and safety. These programs include courses in nuclear physics, health physics, instrumentation and statistics, biochemistry, immunology, radiopharmacology, radiation biology, clinical nuclear medicine, radionuclide therapy, computer applications, safety regulations, equipment operation, quality control, laboratory procedures, taking patient histories, patient evaluation and monitoring, emergency first aid, administration and record keeping, and personnel supervision.

Illustrative example(s)
- nuclear medicine technician
- nuclear medicine technologist
- nuclear medicine technology

Exclusion(s)
- medical radiation technology (see 51.0907 Medical radiologic technology/science – radiation therapist)
- nuclear engineering (see 14.2301 Nuclear engineering)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- nuclear medicine - residency (see 60.0418 Nuclear medicine residency programs)
- nuclear radiology - residency (see 60.0545 Nuclear radiology residency programs)
- radiation biology (see 26.0209 Radiation biology/radiobiology)
- radiological technologist (see 51.0911 Radiologic technology/science – radiographer)

51.0906 Perfusion technology/perfusionist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians and nurses, to operate extracorporeal circulation and autotransfusion equipment during medical procedures and surgeries where the support or temporary replacement of a patient's own respiratory or circulatory system is required. These programs include courses in equipment selection and operation; physician and medical team consultation; patient condition monitoring; procedural techniques; and principles of respiratory and circulatory physiology.

Illustrative example(s)
- perfusionist

51.0907 Medical radiologic technology/science – radiation therapist

This instructional program class comprises any program that prepares individuals to administer prescribed courses of radiation treatment, manage patients undergoing radiation therapy, and maintain pertinent records. These programs include courses in applied anatomy and physiology, oncologic pathology, radiation biology, radiation oncology procedures and techniques, radiation dosimetry, tumour localization, treatment planning, patient communication and management, data collection, record keeping, and applicable standards and regulations.

Illustrative example(s)
- medical radiation technology
- radiation oncology technology
- radiation technology
- radiation therapy
- radiotherapy

Exclusion(s)
- mammography (see 51.0919 Mammography technician/technology)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- radiation oncology - residency (see 60.0430 Radiation oncology residency programs)
- radiological technologist (see 51.0911 Radiologic technology/science – radiographer)
- radiologist assistant (see 51.0814 Radiologist assistant)
- therapeutic radiologic physics - residency (see 60.0580 Therapeutic radiologic physics residency programs)

51.0908 Respiratory care therapy/therapist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, to assist in developing respiratory care plans, administer respiratory care procedures, supervise personnel and equipment operation, maintain records, and consult with other health care team members. These programs include courses in the applied basic biomedical sciences; anatomy, physiology, and pathology of the respiratory system; clinical medicine; therapeutic procedures; clinical expressions; data collection and record keeping; patient communication; equipment operation and maintenance; personnel supervision; and procedures for special population groups.

Illustrative example(s)
- inhalation therapy
- respiratory therapist
- respiratory therapy

Exclusion(s)
- respiratory therapy technology (see 51.0812 Respiratory therapy technician/assistant)

51.0909 Surgical technology/technologist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians and surgical nurses, to maintain, monitor, and enforce the sterile field and adherence to aseptic technique by pre-operative, surgical team, and postoperative personnel. These programs include courses in instrument and equipment sterilization and handling; surgical supplies management; wound exposure and closure; surgical computer and robot operation and monitoring; maintenance of hemostasis; and patient and team scrubbing.

Illustrative example(s)
- operating room technician
- operating room technologist
- surgical technician

Exclusion(s)
- medical assistant (see 51.0801 Medical/clinical assistant)
- sterile supply technician (see 51.1012 Sterile processing technology/technician)
- surgical nursing (see 51.3812 Perioperative/operating room and surgical nurse/nursing)

51.0910 Diagnostic medical sonography/sonographer and ultrasound technician

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, to utilize medical ultrasound techniques to gather sonographic data used to diagnose a variety of conditions and diseases. These programs include courses in obtaining, reviewing, and integrating patient histories and data; patient instruction and care; anatomic, physiologic and pathologic data recording; sonographic data processing; sonography equipment operation; and professional standards and ethics.

Illustrative example(s)
- diagnostic medical sonography
- medical sonography
- medical ultrasound technology
- sonography
- ultrasonography
- ultrasound technician
- ultrasound technology
- vascular sonography

Exclusion(s)
- acoustical physics (see 40.0809 Acoustics)
- X-ray technician (see 51.0911 Radiologic technology/science – radiographer)

51.0911 Radiologic technology/science – radiographer

This instructional program class comprises any program that prepares individuals, under the supervision of physicians, to provide medical imaging services to patients and attending health care professionals. These programs include courses in applied anatomy and physiology, patient positioning, radiographic technique, radiation biology, safety and emergency procedures, equipment operation and maintenance, quality assurance, patient education, and medical imaging/radiologic services management.

Illustrative example(s)
- radiographer
- radiologic technology
- radiological technologist
- radiology technologist
- X-ray technician
- X-ray technology

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- laboratory and X-ray technology (see 51.0921 Combined laboratory and X-ray technology)
- magnetic resonance imaging technology (see 51.0920 Magnetic resonance imaging (MRI) technology/technician)
- mammography (see 51.0919 Mammography technician/technology)
- medical radiation technology (see 51.0907 Medical radiologic technology/science – radiation therapist)
- nuclear engineering technology (see 15.1401 Nuclear engineering technology/technician)
- nuclear radiology - residency (see 60.0545 Nuclear radiology residency programs)
- pediatric radiology - residency (see 60.0562 Pediatric radiology residency programs)
- radiation biology (see 26.0209 Radiation biology/radiobiology)
- radiation protection/health physics technician (see 51.0916 Radiation protection/health physics technician)
- radiologist assistant (see 51.0814 Radiologist assistant)
- therapeutic radiologic physics - residency (see 60.0580 Therapeutic radiologic physics residency programs)

51.0912 Physician assistant

This instructional program class comprises any program that prepares individuals to practice medicine, including diagnoses and treatment therapies, under the supervision of a physician. These programs include courses in the basic medical and clinical sciences and specialized preparation in fields such as family medicine; pediatrics; obstetrics; gynecology; general surgery; psychiatry; behavioural medicine; the delivery of health care services to homebound patients, rural populations, underserved populations; and community health services.

Illustrative example(s)
- physician assistant

Exclusion(s)
- doctor's office assistant (see 51.0710 Medical office assistant/specialist)
- medical assistant (see 51.0801 Medical/clinical assistant)
- registered nursing (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.0913 Athletic training/trainer

This instructional program class comprises any program that prepares individuals to work in consultation with, and under the supervision of physicians to prevent and treat sports injuries and associated conditions. These programs include courses in the identification, evaluation, and treatment of athletic injuries and illnesses; first aid and emergency care; therapeutic exercise; anatomy and physiology; exercise physiology; kinesiology and biomechanics; nutrition; sports psychology; personal and community health; knowledge of various sports and their biomechanical and physiological demands; and applicable professional standards and regulations.

Illustrative example(s)
- athletic therapist
- athletic therapy
- athletic trainer
- sports injury therapist

Exclusion(s)
- athletic coach (see 31.0501 Health and physical education/fitness, general)
- exercise physiology (see 26.0908 Exercise physiology)
- kinesiology (see 31.0505 Kinesiology and exercise science)
- physical education teacher (see 13.1314 Physical education teaching and coaching)
- physical therapy (see 51.2308 Physical therapy/therapist)

51.0914 Gene/genetic therapy

This instructional program class comprises any program that focuses on the application of genetics to the therapeutic treatment of diseases and inherited abnormalities through the targeted modification of gene expression, and prepares individuals to administer genetic therapies. These programs include courses in medical genetics, genome analysis, pharmacology of gene transfer, viral vectors, non-viral therapeutic techniques, genetic screening, targeted gene delivery, vector production, safety and quality assurance, clinical trials management, and bioethics.

Illustrative example(s)
- gene therapy

Exclusion(s)
- cytogenetics (see 51.1010 Cytogenetics/genetics/clinical genetics technology/technologist)
- genetic counselling (see 51.1509 Genetic counselling/counsellor)
- genetics (see 26.0801 Genetics, general)

51.0915 Cardiopulmonary technology/technologist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians and nurses, to perform both cardiovascular and pulmonary diagnostic and therapeutic procedures. These programs include courses in cardiopulmonary pharmacology; anatomy and physiology of the heart, peripheral vascular system, and lungs; pulmonary and cardiovascular disease and dysfunction; peripheral vascular Doppler procedures; invasive and non-invasive cardiology; pulmonary function tests; blood gas analysis; echocardiograph procedures; bronchoscopy; patient management; patient history taking and record keeping; applications to clinical research; and emergency procedures.

Illustrative example(s)
- cardiopulmonary technologist
- cardiopulmonary technology

Exclusion(s)
- cardiovascular science (see 26.0907 Cardiovascular science)
- cardiovascular technician (see 51.0901 Cardiovascular technology/technologist)
- EKG technician (see 51.0902 Electrocardiograph technology/technician)
- respiratory therapist (see 51.0908 Respiratory care therapy/therapist)

51.0916 Radiation protection/health physics technician

This instructional program class comprises any program that prepares individuals, under the supervision of health physicists, occupational safety and health specialists, and public health officials, to monitor and control radiation exposure and implement preventive measures in health care, work, and natural environments. These programs include courses in radiation physics, environmental radioactivity, radiological instrumentation, electronics of radiation detection equipment, radioactive waste management and control, safety and handling procedures, decontamination procedures, radioactivity testing and analysis, and communications skills.

Illustrative example(s)
- radiation protection/health physics technician

Exclusion(s)
- hazardous materials management (see 15.0508 Hazardous materials management and waste technology/technician)
- health physics (see 51.2205 Health/medical physics)
- radiologist assistant (see 51.0814 Radiologist assistant)

51.0917 Polysomnography

This instructional program class comprises any program that prepares individuals to work under the supervision of a physician to provide comprehensive evaluation and treatment of sleep disorders. These programs include courses in human anatomy and physiology, polysomnographic technology, polysomnography scoring, neuroanatomy and neurophysiology of sleep, sleep disorders, and medical terminology.

Illustrative example(s)
- polysomnography
- polysomnography technology
- sleep technology

Exclusion(s)
- sleep medicine - residency (see 60.0575 Sleep medicine residency programs)

51.0918 Hearing instrument specialist

This instructional program class comprises any program that prepares individuals to test the hearing of, and to select, fit and dispense appropriate hearing aids for patients. These programs include courses in acoustics, anatomy and physiology of the ear, hearing testing, hearing aid fitting and technology, health promotion and rehabilitation, counselling and communication, business management, and professional ethics.

Illustrative example(s)
- hearing aid practitioner
- hearing aid specialist
- hearing aid technician
- hearing instrument specialist

Exclusion(s)
- audiology (see 51.0202 Audiology/audiologist)

51.0919 Mammography technician/technology

This instructional program class comprises any program that prepares registered radiographers to become registered mammographers. These programs include courses in anatomy and physiology, mammography instrumentation, mammography positioning, principles and procedures of mammography, and quality assurance.

Illustrative example(s)
- mammography

Exclusion(s)
- medical oncology - residency (see 60.0534 Medical oncology residency programs)
- radiation oncology technology (see 51.0907 Medical radiologic technology/science – radiation therapist)
- radiographer (see 51.0911 Radiologic technology/science – radiographer)

51.0920 Magnetic resonance imaging (MRI) technology/technician

This instructional program class comprises any program that prepares individuals who are radiological technicians to utilize MRI technology to obtain still and moving images of various vascular structures in the human body that aid the physician in the diagnosis or treatment of disease and injury. These programs include courses in MRI imaging, sectional anatomy and pathology, MRI technology, MRI techniques and procedures, MRI physics, and clinical training.

Illustrative example(s)
- magnetic resonance imaging technician
- magnetic resonance imaging technology

- MRI technician
- MRI technology

Exclusion(s)
- radiological technologist (see 51.0911 Radiologic technology/science – radiographer)

51.0921 Combined laboratory and X-ray technology CAN

This instructional program class comprises any program that prepares individuals to perform general medical laboratory procedures, general diagnostic radiographic procedures, and electrocardiograms. These programs include courses in anatomy and physiology, radiographic anatomy, radiation science and apparatus, image exposure and processing, radiographic technique, patient care in radiography, radiobiology and protection, general laboratory practice, specimen collection and handling, hematology, hemostasis, hematopathology, clinical chemistry, urinalysis, infection control and safety, electrocardiography, medical terminology, medical computer applications, quality management and professional practices.

Illustrative example(s)
- laboratory and X-ray technology

Exclusion(s)
- medical laboratory technician (see 51.1004 Clinical/medical laboratory technician)
- X-ray technology (see 51.0911 Radiologic technology/science – radiographer)

51.0999 Allied health diagnostic, intervention and treatment professions, other

This instructional program class comprises any program not listed above that relates to Allied health diagnostic, intervention and treatment professions.

51.10 Clinical/medical laboratory science/research and allied professions

This subseries comprises instructional program classes 51.1001 to 51.1099.

51.1001 Blood bank technology specialist

This instructional program class comprises any program that prepares individuals to perform routine and specialized blood testing procedures, collect and process blood donations, and support physicians and other clinicians administering transfusion therapy. These programs include courses in basic cellular biology, immunohematology, blood bank procedures, blood typing, antigen and antibody identification tests, hemolytic and transfusion responses and diseases, donor selection, blood drawing and storage, blood separation, viral marker testing, laboratory and personnel supervision, safety and sterilization, and applicable laws and regulations.

Illustrative example(s)
- blood bank technologist
- blood bank technology specialist

Exclusion(s)
- blood banking - residency (see 60.0503 Blood banking/transfusion medicine residency programs)
- hematology technologist (see 51.1003 Hematology technology/technician)

51.1002 Cytotechnology/cytotechnologist

This instructional program class comprises any program that prepares individuals to work with pathologists to detect changes in body cells that may indicate, and permit diagnosis of, the early development of cancers and other diseases. These programs include courses in biochemistry, microbiology, applied mathematics, microscopy, slide preparation, identification of cellular structures and abnormalities, and laboratory procedures and safety.

Illustrative example(s)
- cytotechnologist
- cytotechnology

Exclusion(s)
- cytogenetics (see 51.1010 Cytogenetics/genetics/clinical genetics technology/technologist)
- cytology (see 26.0401 Cell/cellular biology and histology)
- cytopathology - residency (see 60.0512 Cytopathology residency programs)

51.1003 Hematology technology/technician

This instructional program class comprises any program that prepares individuals, under the supervision of clinical laboratory scientists and health care professionals, to perform tests and analyses of blood samples. These programs include courses in clinical laboratory procedures; blood anatomy and physiology; cellular and molecular biology; blood pathology and disease indicators; quantitative, qualitative, and coagulation testing methodologies; equipment operation and maintenance; and recordkeeping.

Illustrative example(s)
- hematology technician
- hematology technologist
- hematology technology

Exclusion(s)
- blood bank technology specialist (see 51.1001 Blood bank technology specialist)
- hematological pathology - residency (see 60.0523 Hematological pathology residency programs)
- hematology - residency (see 60.0524 Hematology residency programs)

51.1004 Clinical/medical laboratory technician

This instructional program class comprises any program that prepares individuals, under the supervision of clinical laboratory scientists/medical technologists, to perform routine medical laboratory procedures and tests and to apply preset strategies to record and analyse data. These programs include courses in general laboratory procedures and skills; laboratory mathematics; medical computer applications; interpersonal and communications skills; and the basic principles of hematology; medical microbiology; immunohematology; immunology; clinical chemistry, and urinalysis.

Illustrative example(s)
- clinical laboratory technician
- medical laboratory technician

Exclusion(s)
- biology lab technology (see 41.0101 Biology technician/biotechnology laboratory technician)
- clinical laboratory science (see 51.1005 Clinical laboratory science/medical technology/technologist)
- laboratory and X-ray technology (see 51.0921 Combined laboratory and X-ray technology)
- laboratory medicine - residency (see 60.0529 Laboratory medicine residency programs)
- medical laboratory assistant (see 51.0802 Clinical/medical laboratory assistant)

51.1005 Clinical laboratory science/medical technology/technologist

This instructional program class comprises any program that prepares individuals to conduct and supervise complex medical tests, clinical trials, and research experiments; manage clinical laboratories; and consult with physicians and clinical researchers on diagnoses, disease causation and spread, and research outcomes. These programs include courses in the theory and practice of hematology; clinical chemistry; microbiology; immunology; immunohematology; physiological relationships to test results; laboratory procedures and quality assurance controls; test and research design and implementation; analytic techniques; laboratory management; data development and reporting; medical informatics; and professional standards and regulations.

Illustrative example(s)
- biomedical laboratory technologist
- clinical laboratory science
- clinical laboratory technologist
- medical technologist

Exclusion(s)
- biology lab technology (see 41.0101 Biology technician/biotechnology laboratory technician)
- biomedical technology (see 15.0401 Biomedical technology/technician)
- clinical laboratory technician (see 51.1004 Clinical/medical laboratory technician)
- laboratory medicine - residency (see 60.0529 Laboratory medicine residency programs)
- medical laboratory assistant (see 51.0802 Clinical/medical laboratory assistant)
- science laboratory technology (see 41.0000 Science technologies/technicians, general)

51.1006 Ophthalmic laboratory technology/technician

This instructional program class comprises any program that prepares individuals, under the supervision of ophthalmologists and optometrists, to cut, grind, edge, and finish corrective lenses and to fabricate eyewear. These programs include courses in optical theory, applied mathematics, lens surfacing and finishing, tinting and coating, impact resistance treatment and testing, frame construction and repair, prescription interpretation, equipment operation and maintenance, follow-up adjustment, record keeping, and laboratory safety procedures.

Illustrative example(s)
- ophthalmic laboratory technician
- ophthalmic laboratory technologist

Exclusion(s)
- ophthalmic assistant (see 51.1803 Ophthalmic technician/technologist)
- ophthalmic dispensing (see 51.1801 Opticianry/ophthalmic dispensing optician)
- ophthalmology - residency (see 60.0421 Ophthalmology residency programs)
- optometric assistant (see 51.1802 Optometric technician/assistant)
- optometry (see 51.1701 Optometry (OD))

51.1007 Histologic technology/histotechnologist

This instructional program class comprises any program that prepares individuals, at the request of physicians, researchers, and laboratory scientists, to identify tissue structures and cell components and relate these findings to physiological functions and to the detection and diagnosis of diseases and other abnormalities. These programs include courses in medical chemistry; histochemistry; biochemistry; anatomy; physiology; medical informatics; applied mathematics; electron microscopy; instrumentation; quality control procedures; data recording and analysis; laboratory administration; medical terminology; and professional standards and ethics.

Illustrative example(s)
- histologic technologist

Exclusion(s)
- histologic technician (see 51.1008 Histologic technician)
- histology (see 26.0401 Cell/cellular biology and histology)

51.1008 Histologic technician

This instructional program class comprises any program that prepares individuals, under the supervision of histotechnologists and other clinical laboratory scientists, to prepare and process tissue samples and perform routine histologic procedures and tests. These programs include courses in fixation, dehydration, embedding,

sectioning, decalcification, microincineration, mounting, routine and special steaming, laboratory mathematics, laboratory procedures and safety, instrumentation and microscopy, computer applications, preparation of museum specimens, and recording and administrative procedures.

Illustrative example(s)
- histologic technician

Exclusion(s)
- histologic technologist (see 51.1007 Histologic technology/histotechnologist)
- histology (see 26.0401 Cell/cellular biology and histology)

51.1009 Phlebotomy technician/phlebotomist

This instructional program class comprises any program that prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. These programs include courses in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.

Illustrative example(s)
- phlebotomy

Exclusion(s)
- hematology - residency (see 60.0524 Hematology residency programs)
- hematology technologist (see 51.1003 Hematology technology/technician)

51.1010 Cytogenetics/genetics/clinical genetics technology/technologist

This instructional program class comprises any program that prepares individuals to perform analyses of the human genome and chromosomes for the research and diagnosis of genetic diseases and defects, in preparation for organ transplants, and in support of treatments for cancers and leukemias. These programs include courses in chromosome analysis, fluorescent in situ hybridization (FISH), molecular genetic techniques, cytotechnology, and photomicrography.

Illustrative example(s)
- cytogenetics

Exclusion(s)
- clinical cytogenetics - residency (see 60.0406 Clinical cytogenetics residency programs)
- cytology (see 26.0401 Cell/cellular biology and histology)
- cytopathology - residency (see 60.0512 Cytopathology residency programs)
- cytotechnology (see 51.1002 Cytotechnology/cytotechnologist)

51.1011 Renal/dialysis technologist/technician

This instructional program class comprises any program that prepares individuals to administer hemodialysis treatments to patients with renal failure under the supervision of a nurse or physician. These programs include courses in basic anatomy and physiology, dialysis prescription interpretation, dialysite preparation, extracorporeal circuit and dialyzer set-up and maintenance, equipment monitoring, patient preparation, taking vital signs, documentation and communication, venipuncture and local anesthesia administration, emergency intervention, safety and sanitation, and professional standards and ethics.

Illustrative example(s)
- dialysis technologist
- dialysis technology

51.1012 Sterile processing technology/technician

This instructional program class comprises any program that prepares individuals to clean, sterilize, and assemble surgical instruments, equipment, and supplies for use in operating rooms and other medical and surgical facilities. These programs include courses in sterilization; infection control; decontamination; and surgical instrumentation processing, distribution, and record keeping.

Illustrative example(s)
- sterile processing
- sterile processing and distribution
- sterile supply technician
- sterile technician
- sterilization technician

Exclusion(s)
- surgical technician (see 51.0909 Surgical technology/technologist)

51.1099 Clinical/medical laboratory science and allied professions, other

This instructional program class comprises any program not listed above that relates to Clinical/medical laboratory science and allied professions.

Illustrative example(s)
- pharmaceutical technician
- pharmaceutical technology

Exclusion(s)
- clinical laboratory technician (see 51.1004 Clinical/medical laboratory technician)
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)

51.11 Health/medical preparatory programs

This subseries comprises instructional program classes 51.1101 to 51.1199.

51.1101 Pre-dentistry studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in dentistry.

Illustrative example(s)
- pre-dentistry

Exclusion(s)
- dental/oral surgery specialty - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- dentistry (see 51.0401 Dentistry (DDS, DMD))

51.1102 Pre-medicine/pre-medical studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in medicine, osteopathic medicine, or podiatric medicine.

Illustrative example(s)
- pre-med
- pre-medicine

Exclusion(s)
- family medicine - residency (see 60.0413 Family medicine residency programs)
- internal medicine - residency (see 60.0415 Internal medicine residency programs)
- medical biology (see 26.0102 Biomedical sciences, general)
- medical science (see 51.1401 Medical scientist (MS, MSc, PhD))
- medicine (see 51.1201 Medicine (MD))

51.1103 Pre-pharmacy studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in pharmacy.

Illustrative example(s)
- pre-pharmacy

Exclusion(s)
- pharmacology (see 26.1001 Pharmacology)
- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))
- pharmacy administration (see 51.2002 Pharmacy administration and pharmacy policy and regulatory affairs (MS, MSc, PhD))

51.1104 Pre-veterinary studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in veterinary medicine.

Illustrative example(s)
- pre-veterinary medicine

Exclusion(s)
- animal biology (see 26.0701 Zoology/animal biology, general)
- animal health (see 01.0903 Animal health)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)

51.1105 Pre-nursing studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in Nursing.

Illustrative example(s)
- pre-nursing

Exclusion(s)
- medical assistant (see 51.0801 Medical/clinical assistant)
- nursing administration (see 51.3802 Nursing administration (MSN, MS, MScN, MSc, PhD))
- physician assistant (see 51.0912 Physician assistant)
- registered nursing (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.1106 Pre-chiropractic studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in chiropractic medicine.

Illustrative example(s)
- pre-chiropractic studies

Exclusion(s)
- chiropractic (see 51.0101 Chiropractic (DC))

51.1107 Pre-occupational therapy studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in occupational therapy.

Illustrative example(s)
- pre-occupational therapy studies

Exclusion(s)
- occupational therapy (see 51.2306 Occupational therapy/therapist)

51.1108 Pre-optometry studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in optometry.

Illustrative example(s)
- pre-optometry studies

Exclusion(s)
- optometry (see 51.1701 Optometry (OD))

51.1109 Pre-physical therapy studies

This instructional program class comprises any program that prepares individuals for admission to a professional program in physical therapy.

Illustrative example(s)
- pre-physical therapy studies

Exclusion(s)
- physical therapy (see 51.2308 Physical therapy/therapist)

51.1199 Health/medical preparatory programs, other

This instructional program class comprises any program not listed above that relates to Health/medical preparatory programs.

Illustrative example(s)
- pre-health science

51.12 Medicine (MD)

This subseries comprises instructional program class 51.1201.

51.1201 Medicine (MD)

This instructional program class comprises any program that prepares individuals for the independent professional practice of medicine, involving the prevention, diagnosis, and treatment of illnesses, injuries, and other disorders of the human body. These programs include courses in the basic medical sciences, clinical medicine, examination and

diagnosis, patient communications, medical ethics and laws, professional standards, and rotations in specialties such as internal medicine, surgery, pediatrics, obstetrics and gynecology, orthopedics, neurology, ophthalmology, radiology, clinical pathology, anesthesiology, family medicine, and psychiatry.

Illustrative example(s)
- doctor
- doctor of medicine
- general medicine
- general physician
- general practice
- general practitioner
- MD
- medical doctor
- medicine
- physician

Exclusion(s)
- family medicine - residency (see 60.0413 Family medicine residency programs)
- internal medicine - residency (see 60.0415 Internal medicine residency programs)
- medical biology (see 26.0102 Biomedical sciences, general)
- medical science (see 51.1401 Medical scientist (MS, MSc, PhD))
- pre-medicine (see 51.1102 Pre-medicine/pre-medical studies)

51.14 Medical scientist (MS, MSc, PhD)

This subseries comprises instructional program class 51.1401.

51.1401 Medical scientist (MS, MSc, PhD)

This instructional program class comprises any undifferentiated clinical science program that prepares clinicians to conduct clinical and translational research in various areas. Note: Programs that prepare clinicians to conduct research in specific scientific fields should report under the relevant CIP code series (e.g., Series 26 Biological and Biomedical Sciences).

Illustrative example(s)
- experimental medicine
- medical research
- medical science
- medical scientist

Exclusion(s)
- clinical trial research coordination (see 51.0719 Clinical research coordinator)
- laboratory medicine - residency (see 60.0529 Laboratory medicine residency programs)
- medical biology (see 26.0102 Biomedical sciences, general)
- medical engineering (see 14.0501 Bioengineering and biomedical engineering)
- medicine (see 51.1201 Medicine (MD))
- research methodology and quantitative methods (see 45.0102 Research methodology and quantitative methods)

51.15 Mental and social health services and allied professions

This subseries comprises instructional program classes 51.1501 to 51.1599.

51.1501 Substance abuse/addiction counselling

This instructional program class comprises any program that prepares individuals to help prevent substance abuse, counsel individuals and families with drug and alcohol problems, and perform intervention and therapeutic services for persons suffering from addiction. These programs include courses in individual and group counselling skills, psychology of addiction, sociology, crisis intervention, substance abuse identification methodologies, substance abuse treatment modalities, substance abuse prevention and treatment resources, pharmacology and behavioural aspects of abused substances, treatment evaluation, patient observation and education, group dynamics, professional standards and ethics, and applicable laws and regulations.

Illustrative example(s)
- addiction counselling
- addiction intervention
- drug and alcohol counselling
- substance abuse counselling

Exclusion(s)
- addiction psychiatry - residency (see 60.0501 Addiction psychiatry residency programs)
- counselling psychology (see 42.2803 Counselling psychology)
- psychopharmacology (see 42.2709 Psychopharmacology)
- social work (see 44.0701 Social work, general)

51.1502 Psychiatric/mental health services technician

This instructional program class comprises any program that prepares individuals, under the supervision of psychiatrists, psychologists, nurses, and other mental health care professionals, to provide direct patient care services, assist in developing and implementing treatment plans, administer medications, and perform related administrative functions. These programs include courses in mental health theory, applied psychopathology, patient communication and management, crisis intervention, psychotropic medication, mental health treatment procedures, substance abuse, record keeping, clinical administrative skills, and applicable standards and regulations.

Illustrative example(s)
- mental health care

Exclusion(s)
- psychiatric nurse (see 51.3810 Psychiatric/mental health nurse/nursing)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- registered psychiatric nurse (see 51.3823 Registered psychiatric nurse/nursing)
- suicide prevention (see 51.1508 Mental health counselling/counsellor)

51.1503 Clinical/medical social work

This instructional program class comprises any program that prepares individuals for the specialized professional practice of social work, in collaboration with other health care professionals, in hospitals and other health care facilities and organizations. These programs include courses in social work, psychiatric case work, clinical interviewing techniques, therapeutic intervention strategies, patient testing and evaluation, patient and family counselling, social rehabilitation, patient care planning, record keeping, and support services liaison.

Illustrative example(s)
- clinical social work
- medical social work

Exclusion(s)
- social work (see 44.0701 Social work, general)

51.1504 Community health services/liaison/counselling

This instructional program class comprises any program that prepares individuals to serve as facilitators, advocates, and referral professionals linking health care and related social services with affected recipient communities. These programs include courses in public and community health, human and social services, health services administration, group counselling, health education, group advocacy, cross-cultural and multilingual communication, and applicable laws and policies.

Illustrative example(s)
- community health care
- community health education
- community health representative
- community health services

Exclusion(s)
- community health and preventive medicine (see 51.2208 Community health and preventive medicine)
- community health nursing (see 51.3811 Public health/community nurse/nursing)
- social work (see 44.0701 Social work, general)

51.1505 Marriage and family therapy/counselling

This instructional program class comprises any program that prepares individuals for the independent professional practice of marriage and family therapy, involving the diagnosis of cognitive, affective, and behavioural domain disorders, both mental and emotional, within the context of marriage and family systems and the application of short- and long-term therapeutic strategies in family group contexts. These programs include courses in psychotherapy, family systems and studies, small group intervention and therapy, marital problems, depression, identification of psychopathologies and behavioural disorders, holistic health care, practice management, applicable regulations, and professional standards and ethics.

Illustrative example(s)
- family counselling
- family therapy
- marriage and family counselling
- marriage and family therapy

Exclusion(s)
- family psychology (see 42.2811 Family psychology)
- family systems (see 19.0704 Family systems)

51.1506 Clinical pastoral counselling/patient counselling

This instructional program class comprises any program that prepares individuals, including but not limited to, ordained clergy and other counselling professionals to respond to the emotional and/or spiritual needs of patients and families in health care emergencies and other situations, and to consult with and counsel other health care professionals. These programs include courses in advanced interpersonal communication; individual and small group counselling; interdisciplinary teamwork; crisis management; extended care relationships; self-analysis; medical ethics; pastoral care art; spiritual dimensions of human growth and health; counselling psychology and therapy; and applications to grief, death, emotional collapse, injury, individual/family adjustment, and chronic illness situations.

Illustrative example(s)
- clinical pastoral counselling

Exclusion(s)
- counselling psychology (see 42.2803 Counselling psychology)
- pastoral counselling (see 39.0701 Pastoral studies/counselling)

51.1507 Psychoanalysis and psychotherapy

This instructional program class comprises any program that prepares individuals to practice the provision of psychoanalytic counselling to individuals and groups based on the psychodynamic principles evolved from authorities such as Freud, Adler, and Jung. These programs include courses in self-analysis, personality theory, dream analysis, free association and transference theory and techniques, psychodynamic theory, developmental processes, applications to specific clinical conditions, practice management, and professional standards and ethics.

Illustrative example(s)
- psychoanalysis
- psychotherapy

Exclusion(s)
- applied psychology (see 42.2813 Applied psychology)
- mental health care (see 51.1502 Psychiatric/mental health services technician)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- psychologist (see 42.0101 Psychology, general)
- psychometrics (see 42.2708 Psychometrics and quantitative psychology)

51.1508 Mental health counselling/counsellor

This instructional program class comprises any program that prepares individuals to provide evaluations, referrals, and short-term counselling services to help people prevent or remediate personal problems, conflicts, and emotional crises. These programs include courses in human development, psychopathology, individual and group counselling, personality theory, career assessment, patient screening and referral, observation and testing techniques, interviewing skills, professional standards and ethics, and applicable laws and regulations.

Illustrative example(s)
- suicide prevention

Exclusion(s)
- mental health care (see 51.1502 Psychiatric/mental health services technician)
- mental health nursing (see 51.3810 Psychiatric/mental health nurse/nursing)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)

51.1509 Genetic counselling/counsellor

This instructional program class comprises any program that prepares individuals to counsel patients and families concerning inherited genetic disorders and diseases, children with birth defects; assess risk factors and planning options associated with potential and actual inherited conditions; and serve as patient advocates and provide referral services in relation to private and public support services. These programs include courses in clinical/medical genetics, methods of genetic testing, interviewing and counselling skills, genetic and support services delivery, principles of public health, medical ethics, laws and regulations, patient advocacy, and professional standards.

Illustrative example(s)
- genetic counselling

Exclusion(s)
- gene therapy (see 51.0914 Gene/genetic therapy)
- genetics (see 26.0801 Genetics, general)
- molecular genetics (see 26.0802 Molecular genetics)

51.1599 Mental and social health services and allied professions, other

This instructional program class comprises any program not listed above that relates to Mental and social health services and allied professions.

Illustrative example(s)
- critical incident stress management
- residential counselling
- sexology

Exclusion(s)
- critical incident response/special police operations (see 43.0119 Critical incident response/special police operations)

51.17 Optometry (OD)

This subseries comprises instructional program class 51.1701.

51.1701 Optometry (OD)

This instructional program class comprises any program that prepares individuals for the independent professional practice of optometry and that focuses on the principles and techniques for examining, diagnosing and treating conditions of the visual system. These programs include courses in prescribing glasses and contact lenses, other optical aids, corrective therapies, patient counselling, physician referral, practice management, and ethics and professional standards.

Illustrative example(s)
- optometrist
- optometry

Exclusion(s)
- ophthalmology - residency (see 60.0421 Ophthalmology residency programs)
- optical science (see 40.0807 Optics/optical sciences)
- opticianry (see 51.1801 Opticianry/ophthalmic dispensing optician)
- orthoptics (see 51.1804 Orthoptics/orthoptist)
- pre-optometry studies (see 51.1108 Pre-optometry studies)
- vision science (see 26.0909 Vision science/physiological optics)

51.18 Ophthalmic and optometric support services and allied professions

This subseries comprises instructional program classes 51.1801 to 51.1899.

51.1801 Opticianry/ophthalmic dispensing optician

This instructional program class comprises any program that prepares individuals to adapt and fit corrective eyewear, including eyeglasses and contact lenses, as prescribed by ophthalmologists or optometrists; to assist patients in selecting appropriate frames; and to prepare work orders for ophthalmic laboratory technicians. These programs include courses in geometrical optics; ophthalmic optics; anatomy of the eye; optical instrumentation; use and maintenance of adjustment and cleaning tools; prescription interpretation; contact lens adaptation and fitting; prosthesis fitting; facial and eye measuring; pathology identification; record keeping; and patient and business administrative tasks.

Illustrative example(s)
- dispensing optician
- ophthalmic dispenser
- ophthalmic dispensing

- optician
- opticianry

Exclusion(s)
- ophthalmology - residency (see 60.0421 Ophthalmology residency programs)
- optical science (see 40.0807 Optics/optical sciences)
- optometric assistant (see 51.1802 Optometric technician/assistant)
- optometrist (see 51.1701 Optometry (OD))
- vision science (see 26.0909 Vision science/physiological optics)

51.1802 Optometric technician/assistant

This instructional program class comprises any program that prepares individuals to assist optometrists in providing patient care, administering examinations and treatments, and performing office administrative functions. These programs include courses in applied anatomy and physiology of the eye, visual testing, patient communication, patient preparation, medications and administration, dispensing and fitting of eyeglasses and contact lenses, record keeping, and office management skills.

Illustrative example(s)
- optometric assistant
- optometric technician

Exclusion(s)
- ophthalmic dispensing (see 51.1801 Opticianry/ophthalmic dispensing optician)
- optical science (see 40.0807 Optics/optical sciences)
- optical technician (see 15.0304 Laser and optical technology/technician)
- optometrist (see 51.1701 Optometry (OD))
- vision science (see 26.0909 Vision science/physiological optics)

51.1803 Ophthalmic technician/technologist

This instructional program class comprises any program that prepares individuals to assist ophthalmologists and optometrists in examining and treating patients with vision problems, vision disorders, and eye diseases. These programs include courses in taking patient histories; administering directed treatments and topical medications; diagnostic test procedures and equipment operation; anatomical and functional ocular measurements; patient care and instruction; ophthalmic and surgical equipment maintenance; safety and sterilization procedures; and office administrative procedures.

Illustrative example(s)
- ophthalmic technician

Exclusion(s)
- ophthalmic dispenser (see 51.1801 Opticianry/ophthalmic dispensing optician)

51.1804 Orthoptics/orthoptist

This instructional program class comprises any program that prepares individuals, under the supervision of ophthalmologists, to analyse, evaluate, and treat specific disorders of vision, eye movement, and eye alignment in children and adults. These programs include courses in eye anatomy, neuroanatomy, physiology, pharmacology, ophthalmic optics, diagnostic testing and measurement, orthoptic treatment therapy, systemic ocular diseases and disorders, principles of surgery, examination techniques, patient education, child psychology and development, learning disabilities, medical writing, and record keeping.

Illustrative example(s)
- orthoptics
- orthoptist

51.1899 Ophthalmic and optometric support services and allied professions, other

This instructional program class comprises any program not listed above that relates to Ophthalmic and optometric support services and allied professions.

51.19 Osteopathic medicine/osteopathy (DO)

This subseries comprises instructional program class 51.1901.

51.1901 Osteopathic medicine/osteopathy (DO)

This instructional program class comprises any program that prepares individuals for the independent professional practice of osteopathic medicine, involving a combination of medical principles and procedures and osteopathic principles of holistic medicine and the relationship of the musculoskeletal system to general health. These programs include courses in the basic medical sciences, preventive medicine, family and community medicine, medical informatics, disease systems, organ and physiologic systems, osteopathic principles and practice, osteopathic manipulative treatment, musculoskeletal and skin systems, clinical specialty rotations, medical ethics, and professional standards and practice management.

Illustrative example(s)
- osteopathic medicine
- osteopathy

Exclusion(s)
- homeopathic medicine (see 51.3304 Homeopathic medicine/homeopathy)

51.20 Pharmacy, pharmaceutical sciences and administration

This subseries comprises instructional program classes 51.2001 to 51.2099.

51.2001 Pharmacy (PharmD, BS, BSc, BPharm)

This instructional program class comprises any program that prepares individuals for the independent or employed practice of preparing and dispensing drugs and medications in consultation with prescribing physicians and other health care professionals, and for managing pharmacy practices and counselling patients. These programs include courses in mathematics, physics, chemistry, biochemistry, anatomy, physiology, pharmacology, pharmaceutical chemistry, pharmacognosy, pharmacy practice, pharmacy administration, applicable regulations, and professional standards and ethics.

Illustrative example(s)
- pharmacist
- pharmacy

Exclusion(s)
- clinical pharmacy (see 51.2008 Clinical, hospital and managed care pharmacy (MS, MSc, PhD))
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)
- pharmacy administration (see 51.2002 Pharmacy administration and pharmacy policy and regulatory affairs (MS, MSc, PhD))
- pharmacy assistant (see 51.0805 Pharmacy technician/assistant)

51.2002 Pharmacy administration and pharmacy policy and regulatory affairs (MS, MSc, PhD)

This instructional program class comprises any program that prepares individuals to apply managerial, social, and economic sciences to the study and management of the distribution and use of pharmaceutical products and the provision of pharmacy services. These programs include courses in research design and methods, statistics, social

and organizational behaviour, pharmacoeconomics, management of pharmacy services, outcomes research, product planning and reimbursement, cost-benefit analysis, drug marketing, pharmacy and pharmaceutics laws and regulations, risk assessment, and organization of the health care system.

Illustrative example(s)
- pharmacy administration
- pharmacy quality assurance and regulatory affairs

Exclusion(s)
- health services administration (see 51.2211 Health services administration)

51.2003 Pharmaceutics and drug design (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the formulation of medicinal substances into product vehicles capable of being stored, transported, and then introduced into the patient and behaving in ways optimal to therapeutic interaction. These programs include courses in statistics, biopharmaceutics, drug metabolism, pharmacokinetics, pharmacodynamics, physical pharmacy, pharmacological analysis, drug design and development, pharmacological biotechnology, chemical separations, spectroscopy, drug-host interactions, immunology, quantitative drug measurement, enzymatic transformations, and metabolic excretion.

Illustrative example(s)
- pharmaceutics and drug design

Exclusion(s)
- biomedical toxicology (see 26.1004 Toxicology)
- pharmaceutical engineering (see 14.0799 Chemical engineering, other)
- pharmacology (see 26.1001 Pharmacology)

51.2004 Medicinal and pharmaceutical chemistry (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the application of chemistry to the study of biologically and clinically active substances, biological and pharmacological interactions, and the development of associated research methods, techniques, and clinical trial procedures. These programs include courses in organic chemistry, biochemistry, molecular graphics, rational drug design, toxicology, molecular biology, pharmacology, enzyme mechanisms, receptor theory, neurochemistry, drug metabolism, drug synthesis, biological mechanisms of drug action, research tools and techniques, and laboratory safety.

Illustrative example(s)
- medicinal and pharmaceutical chemistry
- medicinal chemistry
- pharmaceutical chemistry

Exclusion(s)
- biochemical engineering (see 14.4301 Biochemical engineering)
- pharmaceutical engineering (see 14.0799 Chemical engineering, other)
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)
- pharmaceutics and drug design (see 51.2003 Pharmaceutics and drug design (MS, MSc, PhD))
- pharmacology (see 26.1001 Pharmacology)

51.2005 Natural products chemistry and pharmacognosy (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of biologically active compounds found in naturally occurring sources such as plants, animals, and microbes and their use and/or modification as medicinal substances. These programs include courses in medicinal chemistry, organic medicinals,

pharmacological therapeutics, pharmacokinetics, molecular biology, structural chemistry, enzymes, nucleic acids, economic botany, ethnobotany, bioprospecting, bioassay, compound identification and isolation, mass spectrometry, and analytical instrumentation and techniques.

Illustrative example(s)
- natural products chemistry and pharmacognosy

51.2006 Clinical and industrial drug development (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific application of pharmacology, pharmaceutics, and industrial management to the development, production, marketing, and distribution of pharmaceutical products. These programs include courses in industrial microbiology, plasmids, expression vectors, protein chemistry, assay and evaluation, drug synthesis and purification, quality control, industrial management, production security, patent procedures, intellectual property regulations and issues, patent enforcement and defence, and research design and testing.

Illustrative example(s)
- clinical and industrial drug development

Exclusion(s)
- pharmaceutics and drug design (see 51.2003 Pharmaceutics and drug design (MS, MSc, PhD))

51.2007 Pharmacoeconomics/pharmaceutical economics (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the application of economics and policy analysis to the study of the relationship of pharmacy services and pharmaceutical processes and products to the health care system and their impact on health care organizations. These programs include courses in health economics, pharmacoeconomics, health care systems, health care organization and management, statistics and biostatistics, outcomes research, health care policy, pharmacy services, and pharmaceutical industry operations.

Illustrative example(s)
- pharmaceutical economics
- pharmacoeconomics

Exclusion(s)
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)

51.2008 Clinical, hospital and managed care pharmacy (MS, MSc, PhD)

This instructional program class comprises any program that prepares individuals to deliver specialized pharmacy services and produce pharmaceutical products in clinical settings in conjunction with other health care professionals. These programs include courses in biostatistics; clinical pharmacokinetics; biopharmaceutics; neuropharmacology; pharmacodynamics; drug metabolism; clinical sampling and research design; drug delivery systems; chemotherapy; pharmacotherapy; clinical pharmacy management; medical and research ethics; and applications to nuclear, nutrition support, oncology, psychiatric, and therapeutic pharmacy.

Illustrative example(s)
- clinical pharmacy
- clinical, hospital, and managed care pharmacy
- hospital pharmacy

51.2009 Industrial and physical pharmacy and cosmetic sciences (MS, MSc, PhD)

This instructional program class comprises any program that focuses on the application of pharmaceutical sciences and pharmacy to the study of pharmaceuticals production and distribution, and prepares individuals to manage pharmaceutical industry operations. These programs include courses in pharmacoeconomics, industrial

management, operations management, preformulation evaluation, product formulation/reformulation, drug product development, stability testing, dosage design, pilot scale-up, drug marketing, quality control, drug information, and legal and regulatory affairs.

Illustrative example(s)
- industrial and physical pharmacy and cosmetics sciences
- industrial pharmacy

Exclusion(s)
- clinical and industrial drug development (see 51.2006 Clinical and industrial drug development (MS, MSc, PhD))
- cosmetologist (see 12.0401 Cosmetology/cosmetologist, general)
- pharmaceutics and drug design (see 51.2003 Pharmaceutics and drug design (MS, MSc, PhD))

51.2010 Pharmaceutical sciences

This instructional program class comprises any program that focuses on the basic sciences that underlie drugs and drug therapy and that prepares individuals for further study and/or careers in pharmaceutical science and research, pharmaceutical administration and sales, biotechnology, drug manufacturing, regulatory affairs, and related fields. These programs include courses in mathematics, biology, chemistry, physics, statistics, pharmaceutics, pharmacology and toxicology, dosage formulation, manufacturing, quality assurance, and regulations.

Illustrative example(s)
- pharmaceutical sciences

Exclusion(s)
- pharmaceutical chemistry (see 51.2004 Medicinal and pharmaceutical chemistry (MS, MSc, PhD))
- pharmaceutical economics (see 51.2007 Pharmacoeconomics/pharmaceutical economics (MS, MSc, PhD))
- pharmaceutical engineering (see 14.0799 Chemical engineering, other)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)
- pharmaceutical technology (see 51.1099 Clinical/medical laboratory science and allied professions, other)
- pharmacy (see 51.2001 Pharmacy (PharmD, BS, BSc, BPharm))

51.2011 Pharmaceutical marketing and management

This instructional program class comprises any program that combines the study of basic and pharmaceutical sciences with marketing and management studies; and that prepares individuals for careers in pharmaceutical sales, marketing, management, and related fields within the health care industry. These programs include courses in biology, chemistry, pharmaceutics, pharmacology, health care systems, issues and structure of pharmaceutical industry, management, pharmaceutical marketing, pharmaceutical and medical product management, and legal issues.

Illustrative example(s)
- pharmaceutical marketing
- pharmaceutical marketing and management

Exclusion(s)
- health management (see 51.0701 Health/health care administration/management)
- health services management (see 51.2211 Health services administration)
- management (see 52.0201 Business administration and management, general)
- marketing (see 52.1401 Marketing/marketing management, general)
- pharmaceutical sciences (see 51.2010 Pharmaceutical sciences)
- retail management (see 52.0212 Retail management)
- sales management (see 52.1804 Selling skills and sales operations)

51.2099 Pharmacy, pharmaceutical sciences and administration, other

This instructional program class comprises any program not listed above that relates to Pharmacy, pharmaceutical sciences and administration.

51.21 Podiatric medicine/podiatry (DPM)

This subseries comprises instructional program class 51.2101.

51.2101 Podiatric medicine/podiatry (DPM)

This instructional program class comprises any program that prepares individuals for the independent professional practice of podiatric medicine, involving the prevention, diagnosis, and treatment of diseases, disorders, and injuries to the foot and lower extremities. These programs include courses in the basic medical sciences; anatomy of the lower extremity; functional orthopedics; foot biomechanics; podiatric radiology; dermatology; podiatric surgery; podopediatrics; sports medicine; physical diagnosis; emergency medicine and traumatology; practice management; and professional standards and ethics.

Illustrative example(s)
- chiropodist
- chiropody
- podiatric medicine
- podiatrist
- podiatry

Exclusion(s)
- general podiatric medicine and surgery - residency (see 60.0601 Podiatric medicine and surgery residency programs - 24)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- podiatric medicine and surgery specialty in rearfoot and ankle surgery - residency (see 60.0602 Podiatric medicine and surgery residency programs - 36)

51.22 Public health

This subseries comprises instructional program classes 51.2201 to 51.2299.

51.2201 Public health, general (MPH, DPH)

This instructional program class comprises any program that generally prepares individuals to plan, manage, and evaluate public health care services; to function as public health professionals in public agencies, the private sector, and other settings; and to provide leadership in the field of public health. These programs include courses in epidemiology, biostatistics, public health principles, preventive medicine, health policy and regulations, health care services and related administrative functions, public health law enforcement, health economics and budgeting, public communications, and professional standards and ethics.

Illustrative example(s)
- public health (MPH, DPH)

Exclusion(s)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH) (see 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH))
- health behaviour (see 51.2212 Behavioural aspects of health)
- health communication (see 09.0905 Health communication)
- international public health/international health (see 51.2210 International public health/international health)
- public health education (see 51.2207 Public health education and promotion)

- public health medicine - residency (see 60.0429 Public health and general preventive medicine residency programs)
- public health nursing (see 51.3811 Public health/community nurse/nursing)

51.2202 Environmental health

This instructional program class comprises any program that focuses on the application of environmental sciences, public health, the biomedical sciences, and environmental toxicology to the study of environmental factors affecting human health, safety, and related ecological issues, and prepares individuals to function as professional environmental health specialists. These programs include courses in epidemiology, biostatistics, toxicology, public policy analysis, public management, risk assessment, communications, environmental law, occupational health and safety emergency response, and applications such as air quality, food protection, radiation protection, solid and hazardous waste management, water quality, soil quality, noise abatement, housing quality, and environmental control of recreational areas.

Illustrative example(s)
- environmental health

Exclusion(s)
- environmental health engineering (see 14.1401 Environmental/environmental health engineering)
- occupational health and safety technician (see 15.0701 Occupational safety and health technology/technician)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))

51.2205 Health/medical physics

This instructional program class comprises any program that focuses on the application of physics, nuclear science, and engineering physics to diagnostic, treatment, and therapeutic processes and public health protection. These programs include courses in radiation biophysics, biophysics, health effects of natural and artificially induced radiation, hazard evaluation, environmental radioactivity, nuclear physics, engineering physics, radiobiology, medical radiology, calibration and dosage theory, computer applications and medical informatics, and specific research problems.

Illustrative example(s)
- biomedical physics
- health physics
- medical physics

51.2206 Occupational health and industrial hygiene

This instructional program class comprises any program that prepares public health specialists to monitor and evaluate health and related safety standards in industrial, commercial, and government workplaces and facilities. These programs include courses in occupational health and safety standards and regulations; health-related aspects of various occupations and work environments; health hazard testing and evaluation; test equipment operation and maintenance; industrial toxicology; worker health and safety education; and the analysis and testing of job-related equipment, behaviour practices, and protective devices and procedures.

Illustrative example(s)
- industrial hygiene
- occupational health and industrial hygiene

Exclusion(s)
- environmental health (see 51.2202 Environmental health)
- occupational health and safety technician (see 15.0701 Occupational safety and health technology/technician)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))

51.2207 Public health education and promotion

This instructional program class comprises any program that focuses on the application of educational and communications principles and methods to the promotion of preventive health measures and the education of targeted populations on health issues, and prepares individuals to function as public health educators and health promotion specialists. These programs include courses in human development; health issues across the lifespan; population-specific health issues; principles and methods of public health education; administration of health education campaigns and programs; evaluation methods; public communications; and applications to specific public health subjects and issues.

Illustrative example(s)
- public health education
- public health education and promotion

Exclusion(s)
- community health science (see 51.2208 Community health and preventive medicine)
- environmental health (see 51.2202 Environmental health)
- health behaviour (see 51.2212 Behavioural aspects of health)
- health communication (see 09.0905 Health communication)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))

51.2208 Community health and preventive medicine

This instructional program class comprises any program that prepares public health specialists to plan and manage health services in local community settings, including the coordination of related support services, government agencies, and private resources. These programs include courses in public health, community health services and delivery, health behaviour and cultural factors, local government operations, human services, health communication and promotion, health services administration in local settings, environmental health, preventive and comparative medicine, epidemiology, biostatistics, family and community health, and applicable laws and regulations.

Illustrative example(s)
- community health and preventive medicine

Exclusion(s)
- community health nursing (see 51.3811 Public health/community nurse/nursing)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health education and promotion (see 51.2207 Public health education and promotion)

51.2209 Maternal and child health

This instructional program class comprises any program that focuses on the application of public health specializations, public policy studies, and the social and behavioural sciences to issues of health affecting women, children, and families; and prepares individuals to function as maternal and child health specialists. These programs include courses in research design and testing, program evaluation, public policy analysis, public finance, economics of health care, community health, family development and dynamics, women's studies, social psychology, fetal and child development, biostatistics, health education and promotion, nutrition, neonatal development, psychology, and social services delivery.

Illustrative example(s)
- maternal and child health

51.2210 International public health/international health

This instructional program class comprises any program that focuses on the application of public health specializations, the social and behavioural sciences, and policy and communications methods to the study of health problems in low- and middle-income countries and regions, and prepares individuals to function as professional

international health specialists. These programs include courses in health education and promotion, research design and evaluation, infectious disease epidemiology, international health policy and management, public nutrition and food security, information systems, program evaluation, medical anthropology, international communication, behavioural sciences, maternal and child health, demography and population policy, and health care finance and economics.

Illustrative example(s)
- international public health/international health

Exclusion(s)
- health policy (see 44.0503 Health policy analysis)
- international public policy (see 44.0504 International public policy analysis)

51.2211 Health services administration

This instructional program class comprises any program that focuses on the application of policy analysis, public administration, business management, and communications to the planning and management of health services delivery systems in the public and private sectors, and prepares individuals to function as health services administrators and managers. These programs include courses in health systems planning, public health organization and management, public health policy formulation and analysis, finance, business and operations management, economics of health care, organizational and health communications, marketing, human resources management, and public health laws and regulations.

Illustrative example(s)
- health services administration
- health services management

Exclusion(s)
- health care administration (see 51.0701 Health/health care administration/management)
- hospital administration (see 51.0702 Hospital and health care facilities administration/management)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)

51.2212 Behavioural aspects of health

This instructional program class comprises any program that focuses on the biological, behavioural, and socio-cultural determinants of health and health behaviour, and the interventions and policies aimed at improving community and population health. These programs include courses in behavioural sciences, public health practice and policy, human services, and research methods.

Illustrative example(s)
- health and social behaviour
- health behaviour

Exclusion(s)
- applied behaviour analysis (see 42.2814 Applied behaviour analysis)
- behavioural science (see 30.1701 Behavioural sciences)
- neurobiology and behaviour (see 26.1504 Neurobiology and behaviour)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health education and promotion (see 51.2207 Public health education and promotion)

51.2299 Public health, other

This instructional program class comprises any program not listed above that relates to Public health.

51.23 Rehabilitation and therapeutic professions

This subseries comprises instructional program classes 51.2301 to 51.2399.

51.2301 Art therapy/therapist

This instructional program class comprises any program that prepares individuals, in consultation with other rehabilitation team members or in private practice, to use drawing and other art media forms to assess, treat, and rehabilitate individuals with mental, emotional, developmental, or physical disorders. These programs include courses in art, history and theory of art therapy, art therapeutic techniques, psychopathology, patient assessment and diagnosis, cultural diversity issues, legal and ethical practice issues, and professional standards and regulations.

Illustrative example(s)
- art therapy

51.2302 Dance therapy/therapist

This instructional program class comprises any program that prepares individuals, in consultation with other rehabilitation team members or in private practice, to use the therapeutic application of creative dance movement to assist in promoting client rehabilitation and physical, emotional, and mental health. These programs include courses in neuroanatomy, personality development, movement and motor behaviour, psychology, dance, creative expression modalities, improvisation, group psychology and leadership, client evaluation and supervision, dance therapy practice, and professional standards and ethics.

Illustrative example(s)
- dance therapist
- dance therapy

Exclusion(s)
- movement therapy (see 51.3601 Movement therapy)

51.2305 Music therapy/therapist

This instructional program class comprises any program that prepares individuals, in association with a rehabilitation team or in private practice, to use music in therapeutic relationships to address patients' physical, psychological, cognitive, emotional, and social needs. These programs include courses in music theory and performance, human growth and development, biomedical sciences, abnormal psychology, disabling conditions, patient assessment and diagnosis, treatment plan development and implementation, clinical evaluation, record keeping, and professional standards and ethics.

Illustrative example(s)
- music therapist
- music therapy

51.2306 Occupational therapy/therapist

This instructional program class comprises any program that prepares individuals to assist patients limited by physical, cognitive, psychosocial, mental, developmental, and learning disabilities, as well as adverse environmental conditions, to maximize their independence and maintain optimum health through a planned mix of acquired skills, performance motivation, environmental adaptations, assistive technologies, and physical agents. These programs include courses in the basic medical sciences, psychology, sociology, patient assessment and evaluation, standardized and non-standardized tests and measurements, assistive and rehabilitative technologies, ergonomics, environmental health, special education, vocational counselling, health education and promotion, and professional standards and ethics.

Illustrative example(s)
- occupational therapist
- occupational therapy

Exclusion(s)
- ergonomics engineering (see 14.3501 Industrial engineering)
- occupational therapist assistant (see 51.0803 Occupational therapist assistant)
- pre-occupational therapy studies (see 51.1107 Pre-occupational therapy studies)

51.2307 Orthotist/prosthetist

This instructional program class comprises any program that prepares individuals, in consultation with physicians and other therapists, to design and fit orthoses for patients with disabling conditions of the limbs and/or spine, and prostheses for patients who have partial or total absence of a limb or significant superficial deformity. These programs include courses in biomechanics, gait analysis, pathomechanics, kinesiology, pathology, neuroanatomy, materials science, diagnostic imaging, patient analysis and measurement, impression taking, model rectification, assistive/restorative technology and engineering applications, product finishing, diagnostic and definitive fitting and alignment, power devices, postoperative management, and patient counselling and follow-up.

Illustrative example(s)
- orthotist
- prosthetist

Exclusion(s)
- orthoptist (see 51.1804 Orthoptics/orthoptist)

51.2308 Physical therapy/therapist

This instructional program class comprises any program that prepares individuals to alleviate physical and functional impairments and limitations caused by injury or disease through the design and implementation of therapeutic interventions to promote fitness and health. These programs include courses in functional anatomy and physiology, kinesiology, neuroscience, pathological physiology, analysis of dysfunction, movement dynamics, physical growth process, management of musculoskeletal disorders, clinical evaluation and measurement, client assessment and supervision, care plan development and documentation, physical therapy modalities, rehabilitation psychology, physical therapy administration, and professional standards and ethics.

Illustrative example(s)
- physical rehabilitation therapist (PRT)
- physical therapy
- physiotherapist
- physiotherapy

Exclusion(s)
- kinesiology (see 31.0505 Kinesiology and exercise science)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- physical and rehabilitation medicine - residency (see 60.0426 Physical medicine and rehabilitation residency programs)
- physical therapy assistant (see 51.0806 Physical therapy technician/assistant)
- pre-physical therapy studies (see 51.1109 Pre-physical therapy studies)
- rehabilitation aide (see 51.2604 Rehabilitation aide)
- rehabilitation science (see 51.2314 Rehabilitation science)
- therapeutic recreation (see 51.2309 Therapeutic recreation/recreational therapy)

51.2309 Therapeutic recreation/recreational therapy

This instructional program class comprises any program that prepares individuals to plan, organize, and direct recreational activities designed to promote health and well-being for patients who are physically, mentally, or emotionally disabled. These programs include courses in the foundations of therapeutic recreation, leisure education and counselling, program planning, therapeutic recreational modalities, basic anatomy and physiology, psychology, medical terminology, human growth and development, patient observation and evaluation, special needs populations, and professional standards and ethics.

Illustrative example(s)
- recreational therapy
- therapeutic recreation

Exclusion(s)
- physiotherapy (see 51.2308 Physical therapy/therapist)

51.2310 Vocational rehabilitation counselling/counsellor

This instructional program class comprises any program that prepares individuals to counsel and assist disabled individuals and recovering patients in order to achieve their greatest physical, mental, social, educational, and vocational potential. These programs include courses in patient evaluation and testing, rehabilitation program planning, patient support services and referral, job analysis, adjustment psychology, rehabilitation services provision, patient counselling and education, applicable law and regulations, and professional standards and ethics.

Illustrative example(s)
- rehabilitation counseling
- vocational rehabilitation counselling
- vocational rehabilitation counsellor

Exclusion(s)
- counselling psychology (see 42.2803 Counselling psychology)
- health psychology (see 42.2810 Health/medical psychology)
- rehabilitation science (see 51.2314 Rehabilitation science)

51.2311 Kinesiotherapy/kinesiotherapist

This instructional program class comprises any program that prepares individuals, under the direction of physicians, to treat the effects of disease, injury, and congenital disorders through therapeutic exercise and education. These programs include courses in human anatomy, human physiology, kinesiology, biomechanics, therapeutic exercise and adapted physical education, human growth and development, motor learning and performance, testing and measurement, first aid and cardiopulmonary resuscitation, psychology, rehabilitation procedures, patient assessment and management, and professional standards and ethics.

Illustrative example(s)
- kinesiotherapist
- kinesiotherapy

Exclusion(s)
- kinesiology (see 31.0505 Kinesiology and exercise science)
- physiotherapy (see 51.2308 Physical therapy/therapist)

51.2312 Assistive/augmentative technology and rehabilitation engineering

This instructional program class comprises any program that prepares individuals to apply the principles of psychology, engineering, and occupational therapy to the design and implementation of technological interventions and systems to promote patient rehabilitation and function. These programs include courses in ergonomics, seating

and mobility design, universal and near environment systems design, rehabilitation research, rehabilitation biomechanics, access and communications design, microprocessor-based technologies, neurological trauma, standards and testing, and service delivery management.

Illustrative example(s)
- assistive/augmentative technology and rehabilitation engineering

Exclusion(s)
- physical and rehabilitation medicine - residency (see 60.0426 Physical medicine and rehabilitation residency programs)

51.2313 Animal-assisted therapy

This instructional program class comprises any program that prepares health and human service professionals to integrate the use of animals into their treatment practices in order to facilitate change in people with mental and physical disabilities. These programs include courses in psychology, psychology of disabilities, animal behaviour, animal training, the human-animal bond, integration of animals into therapeutic settings, and ethical and cultural issues.

Illustrative example(s)
- equine-assisted therapy

Exclusion(s)
- animal training (see 01.0505 Animal training)
- equine care (see 01.0507 Equestrian/equine studies)

51.2314 Rehabilitation science

This instructional program class comprises any program that focuses on human function, disability, and rehabilitation from the perspectives of the health sciences, social sciences, psychology, engineering, and related fields. These programs include courses in psychological, social, and cultural aspects of disability and rehabilitation; sensory and motor function and dysfunction; biomechanics and kinesiology; assistive technology; rehabilitation instrumentation and methodology; statistics; and health and rehabilitation policy.

Illustrative example(s)
- rehabilitation science

Exclusion(s)
- pediatric rehabilitation medicine - residency (see 60.0563 Pediatric rehabilitation medicine residency programs)
- physical rehabilitation therapist (PRT) (see 51.2308 Physical therapy/therapist)
- rehabilitation aide (see 51.2604 Rehabilitation aide)
- rehabilitation assistant (RA) (see 51.0817 Rehabilitation assistant)
- vocational rehabilitation counselling (see 51.2310 Vocational rehabilitation counselling/counsellor)

51.2399 Rehabilitation and therapeutic professions, other

This instructional program class comprises any program not listed above that relates to Rehabilitation and therapeutic professions.

Illustrative example(s)
- adventure based counselling

51.24 Veterinary medicine (DVM)

This subseries comprises instructional program class 51.2401.

51.2401 Veterinary medicine (DVM)

This instructional program class comprises any program that prepares individuals for the independent professional practice of veterinary medicine, involving the diagnosis, treatment, and health care management of animals and animal populations and the prevention and management of zoonosis. These programs include courses in the veterinary basic sciences, infectious and non-infectious disease, diagnostic procedures, veterinary clinical medicine, obstetrics, radiology, anesthesiology, surgery, toxicology, animal health and preventive medicine, clinical nutrition, practice management, and professional standards and ethics.

Illustrative example(s)
- veterinary medicine (DVM)

Exclusion(s)
- animal health (see 01.0903 Animal health)
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)
- veterinary sciences (Cert., MS, MSc, PhD) (see 51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD))
- veterinary technician (see 51.0808 Veterinary/animal health technology/technician and veterinary assistant)

51.25 Veterinary biomedical and clinical sciences (Cert., MS, MSc, PhD)

This subseries comprises instructional program classes 51.2501 to 51.2599.

51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD)

This instructional program class comprises any integrated program of study in one or more of the veterinary medical or clinical sciences or a program undifferentiated as to title.

Illustrative example(s)
- veterinary clinical science (Cert., MS, MSc, PhD)
- veterinary medical science (Cert., MS, MSc, PhD)
- veterinary sciences (Cert., MS, MSc, PhD)

Exclusion(s)
- animal biology (see 26.0701 Zoology/animal biology, general)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)

51.2502 Veterinary anatomy (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the structure of small and large animal cellular, organ, tissue, and body systems and their relation to physiologic function, disease, and therapeutic treatment. These programs include courses in histology, ultrastructure, molecular biology, biochemistry, developmental biology, neuroscience, electrophysiology, electron microscopy, computer imaging, and applications to specific species.

Illustrative example(s)
- veterinary anatomy

Exclusion(s)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))

51.2503 Veterinary physiology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the functional dynamics of animal biological systems and their relationship to the diagnosis and treatment of disease and injury. These programs include courses in mammalian and non-mammalian physiology, laboratory physiology, physiological responses to the environment, endocrinology, animal biotechnology, mechanisms of hormone action, organ systems, metabolism, and pathophysiology.

Illustrative example(s)
- veterinary physiology (Cert., MS, MSc., PhD)

Exclusion(s)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))

51.2504 Veterinary microbiology and immunobiology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the microbial causation and immunologic processes related to animal disease, prevention, and treatment. These programs include courses in bacteriology, mycology, virology, immune response mechanisms, humoral and cell function, cancer defences, immune system dysfunction, immunologic diseases, parasitology, pathogenesis, and disease vectors.

Illustrative example(s)
- veterinary microbiology and immunobiology (Cert., MS, MSc, PhD)

Exclusion(s)
- microbiology and immunology (see 26.0508 Microbiology and immunology)
- veterinary microbiology - residency (see 60.0307 Veterinary microbiology residency programs)

51.2505 Veterinary pathology and pathobiology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the development and process of disease in domestic and wild animals and applications to diagnosis, prevention, and treatment. These programs include courses in pathogenesis, immunoparasitology, viral therapy, inherited metabolic diseases, environmental toxicology, anatomical and clinical pathology, necropsy and biopsy techniques, clinical laboratory analysis, pathological interpretation, and disease diagnosis.

Illustrative example(s)
- veterinary pathology and pathobiology (Cert., MS, MSc, PhD)

Exclusion(s)
- biomedical toxicology (see 26.1004 Toxicology)
- veterinary pathology - residency (see 60.0310 Veterinary pathology residency programs)

51.2506 Veterinary toxicology and pharmacology (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of specific environmental and food hazards affecting domestic and wild animals and the development and action of chemical antidotes and treatments. These programs include courses in small and large animal toxicology and pharmacology, neurotoxicology, pharmacodynamics, pharmacokinetics, neuropharmacology, xenobiotics, drug resistance, pesticides, toxicological pathology, genetic and molecular toxicology, environmental toxicology, drug and toxicant analysis and evaluation, and environmental radiology.

Illustrative example(s)
- veterinary toxicology and pharmacology (Cert., MS, MSc, PhD)

Exclusion(s)
- veterinary clinical pharmacology - residency (see 60.0320 Veterinary clinical pharmacology residency programs)
- veterinary toxicology - residency (see 60.0316 Veterinary toxicology residency programs)

51.2507 Large animal/food animal and equine surgery and medicine (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the internal medicine and invasive and non-invasive treatment of herd, work, sport, and food animals. These programs include courses in equine medicine, swine and dairy medicine, food animal medicine, pathophysiology, large animal diseases, large animal anesthesiology and surgical procedures, pre-operative and postoperative care, and specific medical specialties such as dentistry, ophthalmology, oncology, obstetrics/theriogenology, and orthopedics.

Illustrative example(s)
- herd medicine and theriogenology (Cert., MS, MSc, PhD)
- large animal/food animal and equine surgery and medicine (Cert., MS, Msc, PhD)

Exclusion(s)
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)
- veterinary surgery - residency (see 60.0314 Veterinary surgery residency programs)

51.2508 Small/companion animal surgery and medicine (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of the internal medicine and invasive and non-invasive treatment of companion and household animals. These programs include courses in avian medicine, pet care, companion animal medicine, pathophysiology, small animal diseases, small animal anesthesiology and surgical procedures, pre-operative and postoperative care, and specific medical specialties such as dentistry, ophthalmology, oncology, obstetrics/theriogenology, and orthopedics.

Illustrative example(s)
- small/companion animal surgery and medicine (Cert., MS, MSc, PhD)

Exclusion(s)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary practice - residency (see 60.0311 Veterinary practice residency programs)
- veterinary surgery - residency (see 60.0314 Veterinary surgery residency programs)

51.2509 Comparative and laboratory animal medicine (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of animal models of human disease and related experimental procedures, and prepares veterinarians and animal health specialists to manage the laboratory use and care of experimental animals. These programs include courses in laboratory animal husbandry, laboratory animal disease, biohazard control, gnotobiology, breeding, comparative anatomy and physiology, comparative gene mapping, protein function, physical and mathematical modelling, computer modelling, stem cell technology, colony and genetic stock management, cryopreservation, applicable regulations, and bioethics.

Illustrative example(s)
- comparative and laboratory animal medicine (Cert., MS, MSc, PhD)

Exclusion(s)
- laboratory animal medicine - residency (see 60.0306 Laboratory animal medicine residency programs)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))

51.2510 Veterinary preventive medicine, epidemiology and public health (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the study of the prevention and control of communicable animal diseases, diseases affecting humans, and prepares veterinarians to function as public health specialists. These programs include courses in animal epidemiology, biostatistics, food safety and quality assurance, food toxicology, zoonotic and infectious diseases, disease vectors and transference, production medicine, animal health, veterinary public health practice, and inspection and evaluation methods.

Illustrative example(s)
- veterinary epidemiology
- veterinary preventive medecine, epidemiology and public health (Cert., MS, MSc, PhD)

Exclusion(s)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary preventive medicine - residency (see 60.0312 Veterinary preventive medicine residency programs)

51.2511 Veterinary infectious diseases (Cert., MS, MSc, PhD)

This instructional program class comprises any program that focuses on the scientific study of zoonotic infectious diseases, disease mechanisms, and prevention and treatment strategies. These programs include courses in disease pathogenesis, vector biology, mycobacterial infection, blood parasites, retroviruses, food-borne diseases, new infectious agents, ecotoxicology, mechanisms of disease transfer, antibody resistance, comparative pathology, communicable diseases, and disease prevention and eradication.

Illustrative example(s)
- veterinary infectious diseases (Cert., MS, MSc, PhD)
- veterinary parasitology (Cert., MS, MSc, PhD)

Exclusion(s)
- pediatric infectious diseases - residency (see 60.0556 Pediatric infectious diseases residency programs)
- veterinary epidemiology (see 51.2510 Veterinary preventive medicine, epidemiology and public health (Cert., MS, MSc, PhD))
- veterinary pathology - residency (see 60.0310 Veterinary pathology residency programs)
- veterinary toxicology - residency (see 60.0316 Veterinary toxicology residency programs)

51.2599 Veterinary biomedical and clinical sciences (Cert., MS, MSc, PhD), other

This instructional program class comprises any program not listed above that relates to Veterinary biomedical and clinical sciences (Cert., MS, MSc, PhD).

51.26 Health aides/attendants/orderlies

This subseries comprises instructional program classes 51.2601 to 51.2699.

51.2601 Health aide

This instructional program class comprises any program that prepares individuals to provide routine care and assistance to patients under the direct supervision of other health care professionals, and/or to perform routine maintenance and general assistance in health care facilities and laboratories.

Illustrative example(s)
- health aide
- health care aide
- health care attendant
- orderly

Exclusion(s)
- human services worker (see 44.0000 Human services, general)
- nursing aide (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- personal support worker (PSW) (see 51.2602 Home health aide/home attendant)

51.2602 Home health aide/home attendant

This instructional program class comprises any program that prepares individuals to provide routine care and support services for homebound disabled, recovering, or elderly people. These programs include courses in basic nutrition, home sanitation, infection control, first aid, taking vital signs, personal hygiene, interpersonal communication skills, supervised home management, emergency recognition and referral, geriatric care, and legal and ethical responsibilities.

Illustrative example(s)
- home care aide
- home care attendant
- home health aide
- home support aide
- home support attendant
- personal support worker (PSW)
- resident care aide
- resident care attendant
- special care aide

Exclusion(s)
- health aide (see 51.2601 Health aide)
- human services worker (see 44.0000 Human services, general)
- nurse aide (see 51.3902 Nursing assistant/aide and patient care assistant/aide)

51.2603 Medication aide

This instructional program class comprises any program that prepares individuals to administer prescribed medications; observe and report patient reactions and side effects; and perform related emergency and recording duties under the supervision of nurses and/or physicians. These programs include courses in basic anatomy and physiology, common medications and their effects, taking vital signs, oxygen administration, medication administration and application, record keeping, and patient observation.

Illustrative example(s)
- medication aide

51.2604 Rehabilitation aide

This instructional program class comprises any program that prepares individuals to assist in rehabilitation services under the supervision of physical therapists, occupational therapists, speech-language pathologists, and other therapeutic professionals, and to perform routine functions in support of rehabilitation. These programs include courses in roles and responsibilities of rehabilitation providers, basic function of the human body, disabling conditions, therapeutic skills, client management, and communication skills.

Illustrative example(s)
- rehabilitation aide

Exclusion(s)
- pediatric rehabilitation medicine - residency (see 60.0563 Pediatric rehabilitation medicine residency programs)
- physical rehabilitation therapist (PRT) (see 51.2308 Physical therapy/therapist)
- rehabilitation assistant (RA) (see 51.0817 Rehabilitation assistant)

- rehabilitation science (see 51.2314 Rehabilitation science)

51.2699 Health aides/attendants/orderlies, other

This instructional program class comprises any program not listed above that relates to Health aides/attendants/orderlies.

51.27 Medical illustration and informatics

This subseries comprises instructional program classes 51.2703 to 51.2799.

51.2703 Medical illustration/medical illustrator

This instructional program class comprises any program that prepares individuals to apply the principles and techniques of art and computer-assisted imaging, graphics, and animation to create visual materials to facilitate the recording and dissemination of biomedical knowledge for educational, research, and clinical purposes. These programs include courses in anatomy, physiology, pathology, histology, embryology, neuroanatomy, medical terminology, artistic media and techniques, illustration techniques, three-dimensional modelling, prosthetics, data display design, exhibit design and production, medical photography, multimedia, computer graphics and animation, digital imaging, business management, production technology, and instructional design.

Illustrative example(s)
- biomedical animation
- medical illustration
- medical illustrator

Exclusion(s)
- digital animation (see 10.0304 Animation, interactive technology, video graphics and special effects)
- illustration (see 50.0410 Illustration)
- instructional media (see 13.0501 Educational/instructional technology)
- medical informatics (see 51.2706 Medical informatics)
- X-ray technician (see 51.0911 Radiologic technology/science – radiographer)

51.2706 Medical informatics

This instructional program class comprises any program that focuses on the application of computer science and software engineering to medical research and clinical information technology support, and the development of advanced imaging, database, and decision systems. These programs include courses in computer science, health information systems architecture, medical knowledge structures, medical language and image processing, quantitative medical decision modelling, imaging techniques, electronic medical records, medical research systems, clinical decision support, and informatics aspects of specific research and practice problems.

Illustrative example(s)
- biomedical informatics
- health informatics
- medical informatics

Exclusion(s)
- bioinformatics (see 26.1103 Bioinformatics)
- biomedical animation (see 51.2703 Medical illustration/medical illustrator)
- computational biology (see 26.1104 Computational biology)

51.2799 Medical illustration and informatics, other

This instructional program class comprises any program not listed above that relates to Medical illustration and informatics.

51.31 Dietetics and clinical nutrition services

This subseries comprises instructional program classes 51.3101 to 51.3199.

51.3101 Dietetics/dietitian (RD)

This instructional program class comprises any program that prepares individuals to integrate and apply the principles of the food and nutrition sciences, human behaviour, and the biomedical sciences to design and manage effective nutrition programs in a variety of settings. These programs include courses in human nutrition; nutrient metabolism; the role of foods and nutrition in health promotion and disease prevention; planning and directing food service activities; diet and nutrition analysis and planning; supervision of food storage and preparation; client education; and professional standards and regulations.

Illustrative example(s)
- dietetics
- dietitian
- registered dietitian (RD)

Exclusion(s)
- food and nutrition (see 19.0501 Foods, nutrition and wellness studies, general)
- food science (see 01.1001 Food science)
- human nutrition (see 19.0504 Human nutrition)
- nutrition science (see 30.1901 Nutrition sciences)
- nutritionist (see 51.3102 Clinical nutrition/nutritionist)

51.3102 Clinical nutrition/nutritionist

This instructional program class comprises any program that prepares individuals to apply the principles of dietetics and the biomedical and nutrition sciences to design and manage effective nutrition programs as part of clinical treatment and therapy programs, and to manage health care facility food services. These programs include courses in human nutrition, nutrient metabolism, the role of foods and nutrition in health promotion and disease prevention, nutrition as a treatment regime, planning and directing hospital food service programs, diet and nutrition analysis and planning, supervision of food storage and preparation, special diets, client education, and professional standards and regulations.

Illustrative example(s)
- clinical nutrition
- nutritionist

Exclusion(s)
- dietitian (see 51.3101 Dietetics/dietitian (RD))
- food science (see 01.1001 Food science)
- human nutrition (see 19.0504 Human nutrition)
- nutrition science (see 30.1901 Nutrition sciences)

51.3103 Dietetic technician (DTR)

This instructional program class comprises any program that prepares individuals, under the supervision of registered dietitians and nutritionists, to implement nutritional and dietetic plans and provide direct client and patient services. These programs include courses in human nutrition, client interviewing and record keeping, dietary planning, food preparation and safety, food worker supervision, food service establishment monitoring and inspection, and applicable procedures and regulations.

Illustrative example(s)
- dietetic technician
- dietetic technician, registered (DTR)

Exclusion(s)
- dietary aide (see 51.3104 Dietitian assistant)
- dietitian (see 51.3101 Dietetics/dietitian (RD))
- human nutrition (see 19.0504 Human nutrition)
- nutrition science (see 30.1901 Nutrition sciences)

51.3104 Dietitian assistant

This instructional program class comprises any program that prepares individuals to assist registered dietitians in planning, preparing and serving meals to individuals with specific dietary needs. These programs include courses in equipment use, food preparation, diet regulations, food handling, safety and sanitary standards and administrative techniques and procedures.

Illustrative example(s)
- dietary aide
- dietary assistant

Exclusion(s)
- dietetic technician (see 51.3103 Dietetic technician (DTR))
- dietitian (see 51.3101 Dietetics/dietitian (RD))
- human nutrition (see 19.0504 Human nutrition)
- nutrition science (see 30.1901 Nutrition sciences)

51.3199 Dietetics and clinical nutrition services, other

This instructional program class comprises any program not listed above that relates to Dietetics and clinical nutrition services.

Illustrative example(s)
- holistic nutrition

51.32 Bioethics/medical ethics

This subseries comprises instructional program class 51.3201.

51.3201 Bioethics/medical ethics

This instructional program class comprises any program that focuses on the application of ethics, religion, jurisprudence, and the social sciences to the analysis of health care issues, clinical decision making, and research procedures. These programs include courses in philosophical ethics, moral value, medical sociology, theology, spirituality and health, policy analysis, decision theory, and applications to problems such as death and dying, therapeutic relationships, organ transplantation, human and animal subjects, reproduction and fertility, health care justice, cultural sensitivity, needs assessment, professionalism, conflict of interest, chaplaincy, and clinical or emergency procedures.

Illustrative example(s)
- bioethics

Exclusion(s)
- applied ethics (see 38.0104 Applied and professional ethics)
- ethics (see 38.0103 Ethics)

51.33 Alternative and complementary medicine and medical systems

This subseries comprises instructional program classes 51.3300 to 51.3399.

51.3300 Alternative and complementary medicine and medical systems, general

This instructional program class comprises any general program that focuses on the theories, science, and practice of alternative and complementary medicine and medical systems. These programs include courses in understanding acupuncture, herbal medicine, naturopathy, homeopathy, and other alternative and complementary medicine modalities; mind-body therapies; nutrition; comparison of conventional and alternative medicine; and medical ethics; and may include training in specific alternative and complementary medicine modalities.

Illustrative example(s)
- alternative medicine

Exclusion(s)
- acupuncture and oriental medicine (see 51.3301 Acupuncture and oriental medicine)
- Ayurvedic medicine (see 51.3305 Ayurvedic medicine/Ayurveda)
- Chinese traditional medicine (see 51.3302 Traditional Chinese medicine and Chinese herbology)
- holistic health (see 51.3306 Holistic health)
- homeopathic medicine (see 51.3304 Homeopathic medicine/homeopathy)
- naturopathic medicine (see 51.3303 Naturopathic medicine/naturopathy (ND))

51.3301 Acupuncture and oriental medicine

This instructional program class comprises any program that prepares individuals for the independent professional practice of acupuncture, a Chinese system of health care and healing based on the use of pulse diagnosis, acupuncture point selection, and needle insertion, as well as herbs and other Asian treatment modalities. These programs include courses in basic Western medical sciences, Asian philosophy, Chinese medical anatomy and physiology, Chinese herbs, diagnostic techniques, patient observation and communication, acupuncture points and point selection, acupuncture techniques, acupuncture treatment of disease, pain management, practice management, and professional standards and ethics.

Illustrative example(s)
- acupuncture
- acupuncture and oriental medicine
- acupuncturist
- Oriental medicine

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- Chinese traditional medicine (see 51.3302 Traditional Chinese medicine and Chinese herbology)

51.3302 Traditional Chinese medicine and Chinese herbology

This instructional program class comprises any program that prepares individuals for the independent professional practice of Chinese herbal medicine, a system based on the use of nutrition, natural products, and prescribed medical formulae to treat imbalances in the state of bodily health as defined in the Nei Ching Su Wen and other authorities. These programs include courses in the basic Western medical sciences, history and theory of Chinese medicine, Chinese medical anatomy and physiology, Chinese herbology, herbal prescription preparation, herbal patent medicine, herbal pharmacology, Chinese internal medicine and gynecology, febrile diseases, food therapy, practice management, and professional standards and ethics.

Illustrative example(s)
- Chinese herbal medicine
- Chinese medecine
- Chinese traditional medicine
- traditional Chinese medicine

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- oriental medicine (see 51.3301 Acupuncture and oriental medicine)
- phytotherapy (see 51.3702 Herbalism/herbalist)

51.3303 Naturopathic medicine/naturopathy (ND)

This instructional program class comprises any program that prepares individuals for the independent professional practice of naturopathic medicine, a holistic therapeutic approach combining medical knowledge with non-invasive natural, homeopathic, and non-Western therapies and emphasizing disease prevention, wellness, and self-healing. These programs include courses in the basic medical sciences, epidemiology, neuroscience, biostatistics, public and community health, laboratory and clinical diagnosis, pharmacognosy, botanical medicine, homeopathy, principles of Oriental medicine and Ayurveda, manipulative therapy, naturopathic therapeutics, therapeutic nutrition, case analysis and management, philosophy of naturopathy, patient counselling, practice management, and professional standards and ethics.

Illustrative example(s)
- natureopath
- naturopathic medicine
- naturopathy

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- holistic medicine (see 51.3306 Holistic health)

51.3304 Homeopathic medicine/homeopathy

This instructional program class comprises any program that prepares individuals for the independent professional practice of homeopathic medicine, a holistic therapeutic system using naturally occurring substances in highly diluted forms to mimic symptoms of illness and trigger autoimmune responses, based on the law of similars and other principles derived from the work of Samuel Hahnemann and others. These programs include courses in anatomy, physiology, pathology, toxicology, philosophy and theory of homeopathy, casetaking and case analysis, repertory, materia medica, constitutional typing, proving, practice management, and professional standards and ethics.

Illustrative example(s)
- homeopathic medicine
- homeopathy

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- holistic medicine (see 51.3306 Holistic health)
- naturopathic medicine (see 51.3303 Naturopathic medicine/naturopathy (ND))

51.3305 Ayurvedic medicine/Ayurveda

This instructional program class comprises any program that prepares individuals for the independent professional practice of Ayurveda, a holistic health care system based on the use of dietary, lifestyle, spiritual, pharmacological and physical therapies to remove imbalances and restore health as defined in Vedic and other classical Sanskrit authorities in the Indian tradition. These programs include courses in Sanskrit; history, philosophy, and principles of Ayurveda; Ayurvedic pharmacology; anatomy and physiology; internal medicine; herbology; diagnostic techniques; patient examination and communication; therapeutic modalities; detoxification theory and practice; mind and body behaviour modification; Yoga; clinical pediatrics and gynecology; diet therapies; treatment of specific diseases; and professional standards and ethics.

Illustrative example(s)
- Ayurveda
- Ayurvedic medicine

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- holistic medicine (see 51.3306 Holistic health)
- yoga instructor (see 51.3602 Yoga teacher training/yoga therapy)

51.3306 Holistic health

This instructional program class comprises any program that focuses on the interconnectedness of physical, psychological, social, spiritual, and environmental well-being, and that integrates aspects of Eastern and Western medicine to promote, maintain, and optimize wellness. These programs include courses in anatomy and physiology, alternative diagnostic and healing methods, traditional Chinese and Ayurvedic medicine, homeopathic and naturopathic medicine, Western herbal medicine, biofeedback, stress management, nutrition, toxicity and detoxification, environmental medicine, and mind-body medicine.

Illustrative example(s)
- holistic health
- holistic medicine

Exclusion(s)
- alternative medicine (see 51.3300 Alternative and complementary medicine and medical systems, general)
- Ayurvedic medicine (see 51.3305 Ayurvedic medicine/Ayurveda)
- homeopathic medicine (see 51.3304 Homeopathic medicine/homeopathy)
- naturopathic medicine (see 51.3303 Naturopathic medicine/naturopathy (ND))

51.3399 Alternative and complementary medicine and medical systems, other

This instructional program class comprises any program not listed above that relates to Alternative and complementary medicine and medical systems.

51.34 Alternative and complementary medical support services

This subseries comprises instructional program classes 51.3401 and 51.3499.

51.3401 Direct entry midwifery (LM, CPM)

This instructional program class comprises any program that prepares individuals to provide prenatal, natural birth, and immediate postpartum care to pregnant women in jurisdictions licensing direct (non-nursing) training for midwives. These programs include courses in basic obstetrics, women's health, fetal development, childbirth education, maternal nutrition and health, labour support, natural childbirth, postpartum support, prebirth counselling and risk screening, management of obstetric emergencies, patient referral, applicable regulations, and professional standards and ethics.

Illustrative example(s)
- midwife
- midwifery

Exclusion(s)
- birthing and parenting knowledge and skills (see 34.0102 Birthing and parenting knowledge and skills (not for credit))
- maternity nursing (see 51.3806 Maternal/child health and neonatal nurse/nursing)
- nursing midwifery (see 51.3807 Nurse midwife/nursing midwifery)

51.3499 Alternative and complementary medical support services, other

This instructional program class comprises any program not listed above that relates to Alternative and complementary medical support services.

51.35 Somatic bodywork and related therapeutic services

This subseries comprises instructional program classes 51.3501 to 51.3599.

51.3501 Massage therapy/therapeutic massage

This instructional program class comprises any program that prepares individuals to provide relief and improved health and well-being to clients through the application of manual techniques for manipulating skin, muscles, and connective tissues. These programs include courses in Western (Swedish) massage; sports massage; myotherapy/trigger point massage; myofascial release; deep tissue massage; cranio-sacral therapy; reflexology; massage safety and emergency management; client counselling; practice management; applicable regulations; and professional standards and ethics.

Illustrative example(s)
- massage therapist
- massage therapy
- reflexology
- registered massage therapist (RMT)
- therapeutic massage

Exclusion(s)
- acupressure (see 51.3502 Asian bodywork therapy)
- kinesiology (see 31.0505 Kinesiology and exercise science)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- master esthetician (see 12.0414 Master aesthetician/esthetician)
- somatic bodywork (see 51.3503 Somatic bodywork)

51.3502 Asian bodywork therapy

This instructional program class comprises any program that prepares individuals to provide relief and improved health and well-being based on Chinese medical principles through one or more of the traditional bodywork therapies of Asia. These programs include courses in acupressure, AMMA Therapy©, Chi Nei Tsang, Five Element Shiatsu, Integrative Eclectic Shiatsu, Japanese Shiatsu, Jin Shin Do© Body-mind Acupressure™, Macrobiotic Shiatsu, Anma Therapy, Thai massage, Tui na, Zen Shiatsu, Qigong, Okazaki© Restorative Massage, principles of Western and Chinese medicine, patient counselling and observation, practice management, applicable regulations, and professional standards and ethics.

Illustrative example(s)
- acupressure
- acupressurist
- shiatsu

Exclusion(s)
- massage therapy (see 51.3501 Massage therapy/therapeutic massage)

51.3503 Somatic bodywork

This instructional program class comprises any program that prepares individuals to promote physical and emotional balance and well-being through the application of skilled touch principles and techniques. These programs include courses in therapeutic massage and other hands-on touch methods; anatomy and physiology;

structural/functional integration and various holistic health systems (Rolfing/Structural Integration, colon hydrotherapy, Breema, Hellerwork, lymphatic drainage, Rosen Method, hydrotherapy, and others); client counselling, practice management, and applicable regulations and professional standards.

Illustrative example(s)
- somatic bodywork

Exclusion(s)
- psychosomatic medicine - residency (see 60.0570 Psychosomatic medicine residency programs)

51.3599 Somatic bodywork and related therapeutic services, other

This instructional program class comprises any program not listed above that relates to Somatic bodywork and related therapeutic services.

51.36 Movement and mind-body therapies

This subseries comprises instructional program classes 51.3601 to 51.3699.

51.3601 Movement therapy

This instructional program class comprises any program that prepares individuals to use functional and expressive integration strategies to help promote somatic awareness and optimal psychophysical functioning. These programs include courses in skilled touch techniques, kinesthetic awareness processes, movement observation, patterning, client assessment and guidance, verbal and non-verbal communication, practice management, professional standards and ethics, and specific therapeutic and educational modalities (Alexander Technique, Aston Patterning, Body-Mind Centering, Feldenkrais Method©, Laban Movement Analysis, Trager Approach, and others).

Illustrative example(s)
- movement therapy

Exclusion(s)
- dance therapy (see 51.2302 Dance therapy/therapist)
- kinesiology (see 31.0505 Kinesiology and exercise science)
- physiotherapy (see 51.2308 Physical therapy/therapist)

51.3602 Yoga teacher training/yoga therapy

This instructional program class comprises any program that prepares individuals to function as professional instructors in the spiritual and physical therapy of Yoga in private, institutional, and clinical settings, These programs include courses in the principles of Ayurveda, philosophy of Yoga, warm-up and progressive exercises, breathing exercises, meditation, Yamas and Niyamas, instructional techniques, posture adjustment, student/client counselling and assessment, advanced Yoga disciplines and styles, business practices, and professional standards and ethics.

Illustrative example(s)
- yoga instructor
- yoga teacher

Exclusion(s)
- Ayurvedic medicine (see 51.3305 Ayurvedic medicine/Ayurveda)
- polarity therapist (see 51.3703 Polarity therapy)

51.3603 Hypnotherapy/hypnotherapist

This instructional program class comprises any program that prepares individuals to employ the controlled inducement of altered states of consciousness, or trance, to reduce pain, resolve emotional conflicts, and enhance communications as part of diagnostic and treatment programs. These programs include courses in the principles of hypnosis and suggestion, induction and deepening, post-hypnotic suggestion, awakening techniques, regression, pacing and leading, resistance transformation, client testing and management, practice management and regulation, and professional standards and ethics.

Illustrative example(s)
- clinical hypnosis
- clinical hypnotherapy
- hypnotherapist
- hypnotherapy

51.3699 Movement and mind-body therapies, other

This instructional program class comprises any program not listed above that relates to Movement and mind-body therapies.

51.37 Energy-based and biologically-based therapies

This subseries comprises instructional program classes 51.3701 to 51.3799.

51.3701 Aromatherapy

This instructional program class comprises any program that prepares individuals to provide therapeutic care through the preparation and application of extracted essential oils from plants, including flowers (botanicals), roots, berries, and bark. These programs include courses in aromatherapy history and theory, basic physiology of absorption, aromachemistry, organic chemistry, botanical taxonomy, carrier oils, essential oils, extraction methods, blending techniques, application methods, safety, client consultation and treatment planning, business management, professional standards and ethics, and applicable regulations.

Illustrative example(s)
- aromatherapist
- aromatherapy

Exclusion(s)
- recreational therapy (see 51.2309 Therapeutic recreation/recreational therapy)

51.3702 Herbalism/herbalist

This instructional program class comprises any program that prepares individuals to utilize the materia medica and clinical practices of Western, Native American, African, Australasian, and other herbal medicine traditions to prevent and cure illness and temporary physical disorders. These programs include courses in basic anatomy, physiology, pathology, and toxicology; nutrition; terminology and materia medica; therapeutic herbalism; herbal pharmacy; botanicals and ethnobotany; wildcrafting and harvesting; labelling and dispensing phytotherapy; counterindications; practice management; consultation skills; and professional standards and ethics.

Illustrative example(s)
- herbal medicine
- herbalism
- herbalist
- herbology
- phytotherapy

Exclusion(s)
- recreational therapy (see 51.2309 Therapeutic recreation/recreational therapy)
- traditional Chinese medicine (see 51.3302 Traditional Chinese medicine and Chinese herbology)

51.3703 Polarity therapy

This instructional program class comprises any program that prepares individuals to promote health and well-being through application of the integrative therapeutic system based on the Human Energy Field theory developed by Randolph Stone. These programs include courses in polarity theory and principles, energy-based and orthodox anatomy and physiology, polarity processing, polarity bodywork, polarity yoga, energetic nutrition, energetic evaluation and assessment, client communication, practice management, and professional standards and ethics.

Illustrative example(s)
- polarity therapist
- polarity therapy

Exclusion(s)
- kinesiotherapy (see 51.2311 Kinesiotherapy/kinesiotherapist)
- recreational therapy (see 51.2309 Therapeutic recreation/recreational therapy)

51.3704 Reiki

This instructional program class comprises any program that prepares individuals to promote physical, emotional, and spiritual balance and healing through the manipulation of the body's energy field to increase healing energy. These programs include courses in the history and philosophy of Usui Reiki, attunement, empowerment, self-treatment, direct and distance healing techniques, healing symbols, aura clearing, Reiki meditation, practice management, and related Reiki systems such as Lightarian, Urevia, and Magnified Healing.

Illustrative example(s)
- Reiki

Exclusion(s)
- acupressure (see 51.3502 Asian bodywork therapy)

51.3799 Energy-based and biologically-based therapies, other

This instructional program class comprises any program not listed above that relates to Energy-based and biologically-based therapies.

51.38 Registered nursing, nursing administration, nursing research and clinical nursing

This subseries comprises instructional program classes 51.3801 to 51.3899.

51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN)

This instructional program class comprises any program that generally prepares individuals in the knowledge, techniques and procedures for promoting health, providing care for sick, disabled, infirm, or other individuals or groups. These programs include courses in the administration of medication and treatments, assisting a physician during treatments and examinations, referring patients to physicians and other health care specialists, and planning education for health maintenance.

Illustrative example(s)
- registered nurse
- registered nursing

Exclusion(s)
- Doctorate of Nursing Practice (DNP) (see 51.3818 Nursing practice)
- emergency room nursing (see 51.3816 Emergency room/trauma nurse/nursing)
- licensed nursing assistant (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- nursing assistant (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- nursing sciences (MSc, PhD) (see 51.3808 Nursing science (MS, MSc, PhD))
- palliative care nursing (see 51.3819 Palliative care nurse/nursing)
- registered psychiatric nurse (see 51.3823 Registered psychiatric nurse/nursing)
- women's health nurse (see 51.3822 Women's health nurse/nursing)

51.3802 Nursing administration (MSN, MS, MScN, MSc, PhD)

This instructional program class comprises any program that prepares registered nurses to manage nursing personnel and services in hospitals and other health care delivery agencies. These programs include courses in principles of health care administration, resource and financial management, health care law and policy, medical personnel management, and managed care operations.

Illustrative example(s)
- nurse management
- nursing administration
- nursing management

Exclusion(s)
- health care administration (see 51.0701 Health/health care administration/management)
- health services administration (see 51.2211 Health services administration)
- registered nursing (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3803 Adult health nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide general care for adult patients. These programs include courses in adult primary care, adult pathophysiology, clinical management of medication and treatments, patient assessment and education, patient referral, and planning adult health maintenance programs.

Illustrative example(s)
- adult health nursing
- adult nurse practitioner

Exclusion(s)
- licensed nursing assistant (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- nursing assistant (see 51.3902 Nursing assistant/aide and patient care assistant/aide)

51.3804 Nurse anesthetist

This instructional program class comprises any program that prepares registered nurses to administer anesthetics and provide care for patients before, during and after anesthesia. These programs include courses in the biochemistry and physics of anesthesia; advanced anatomy and physiology; clinical pharmacology of anesthetics and adjunctive drugs; pain management; acute care and operating room practice; clinical technology and procedures; emergency intervention; patient assessment and education; and legal issues.

Illustrative example(s)
- anaesthesia nurse practitioner
- anesthesia nurse practitioner

- nurse anesthetist

Exclusion(s)
- anesthesiologist assistant (see 51.0809 Anesthesiologist assistant)
- registered practical nurse (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))

51.3805 Primary health care nurse/nursing and family practice nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide independent general care for family groups and individuals in the context of family living. These programs include courses in family theory and intervention, role synthesis, family primary care, nursing practice and health care policy, holistic practice, pediatric practice, gerontological practice, health assessment, clinical pharmacotherapeutics, clinical techniques, and pathopsychology.

Illustrative example(s)
- family nurse practitioner
- nurse practitioner
- PHCNP
- primary care nurse
- primary care nurse practitioner
- primary health care nurse practitioner

Exclusion(s)
- certified nursing assistant (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- Doctorate of Nursing Practice (DNP) (see 51.3818 Nursing practice)
- nursing assistant (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3806 Maternal/child health and neonatal nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide prenatal care to pregnant women and to mothers and their newborn infants. These programs include courses in perinatal and newborn health assessment, stabilization, and care; pathophysiology of pregnancy, fetuses, and the newborn; clinical management of high-risk pregnancies and newborns; perinatal and neonatal technology and clinical procedures; and patient education.

Illustrative example(s)
- maternity nursing
- neonatal nurse practitioner
- neonatal nursing

Exclusion(s)
- birthing and parenting knowledge and skills (see 34.0102 Birthing and parenting knowledge and skills (not for credit))
- midwifery (see 51.3401 Direct entry midwifery (LM, CPM))
- nursing midwifery (see 51.3807 Nurse midwife/nursing midwifery)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3807 Nurse midwife/nursing midwifery

This instructional program class comprises any program that prepares registered nurses to independently deliver babies and treat mothers in the prenatal, delivery, and post-delivery periods. These programs include courses in pre-delivery screening, physician referral, and the care of infants during the delivery and immediate post-delivery phases.

Illustrative example(s)
- nurse midwife
- nursing midwifery

Exclusion(s)
- birthing and parenting knowledge and skills (see 34.0102 Birthing and parenting knowledge and skills (not for credit))
- maternity nursing (see 51.3806 Maternal/child health and neonatal nurse/nursing)
- midwifery (see 51.3401 Direct entry midwifery (LM, CPM))
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3808 Nursing science (MS, MSc, PhD)

This instructional program class comprises any research program that focuses on the study of advanced clinical practices, research methodologies, the administration of complex nursing services, and that prepares nurses to further the progress of nursing research through experimentation and clinical applications.

Illustrative example(s)
- nursing science
- nursing sciences (MSc, PhD)

Exclusion(s)
- Doctorate of Nursing Practice (DNP) (see 51.3818 Nursing practice)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3809 Pediatric nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide care for children from infancy through adolescence. These programs include courses in the administration of medication and treatments, assisting physicians, patient examination and referral, and planning and delivering health maintenance and health education programs.

Illustrative example(s)
- children's nurse
- pediatric nursing
- pediatric nursing practitioner

Exclusion(s)
- licensed practical nurse (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- maternity nursing (see 51.3806 Maternal/child health and neonatal nurse/nursing)
- mental health care (see 51.1502 Psychiatric/mental health services technician)
- nursing assistant (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3810 Psychiatric/mental health nurse/nursing

This instructional program class comprises any program that prepares registered nurses to promote mental health and provide nursing care to patients with mental, emotional or behavioural disorders, in mental institutions or other settings. These programs include courses in psychopathology, behavioural health, counselling and intervention strategies, psychoeducation, mental health assessment and dual diagnosis, stabilization and management of psychotic illness, psychiatric care and rehabilitation, substance abuse, and crisis intervention.

Illustrative example(s)
- mental health nurse practitioner

- mental health nursing
- psychiatric nurse
- psychiatric nurse practitioner
- psychiatric nursing

Exclusion(s)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))
- registered psychiatric nurse (see 51.3823 Registered psychiatric nurse/nursing)

51.3811 Public health/community nurse/nursing

This instructional program class comprises any program that prepares registered nurses to promote health and provide preventive and curative nursing services for groups or communities under the supervision of a public health agency. These programs include courses in community and rural health, family therapy and intervention, disease prevention, health education, and community health assessment.

Illustrative example(s)
- community health nursing
- public health nursing

Exclusion(s)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health education and promotion (see 51.2207 Public health education and promotion)
- public health medicine - residency (see 60.0429 Public health and general preventive medicine residency programs)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3812 Perioperative/operating room and surgical nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide care to patients before and during surgery, and provide tableside assistance to surgeons. These programs include courses in operating room safety and preparation, aseptic technique, anesthesia, patient preparation, surgical instruments and procedures, sterilization and disinfecting, surgical drugs and solutions, hemostasis, emergency procedures, and patient/family education.

Illustrative example(s)
- operating room nurse
- operating room nursing
- OR nurse
- surgical nursing

Exclusion(s)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3813 Clinical nurse specialist

This instructional program class comprises any program that prepares registered nurses to deliver direct patient and client care in clinical settings. These programs include courses in clinical pharmacotherapeutics, advanced clinical practice, holistic nursing, nursing practice and health care policy, administration and consultation services, health assessment, patient stabilization and care, and patient education.

Illustrative example(s)
- clinical nursing

Exclusion(s)
- clinical nurse leader (see 51.3820 Clinical nurse leader)
- licensed practical nurse (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- nursing aide (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- nursing sciences (MSc, PhD) (see 51.3808 Nursing science (MS, MSc, PhD))
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3814 Critical care nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide specialized care to patients with life-threatening problems, including those in intensive care facilities and on life support. These programs include courses in adult, neonatal, and pediatric critical care; technical skills; patient monitoring and assessment; normal and abnormal readings; and troubleshooting.

Illustrative example(s)
- acute care nurse practitioner
- acute care nursing
- critical care nursing
- intensive care nurse practitioner
- intensive care nursing

Exclusion(s)
- palliative care nursing (see 51.3819 Palliative care nurse/nursing)
- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))
- trauma nursing (see 51.3816 Emergency room/trauma nurse/nursing)

51.3815 Occupational and environmental health nurse/nursing

This instructional program class comprises any program that prepares registered nurses to deliver nursing health care services to workers and worker populations in clinical settings and at job sites. These programs include courses in public and community health; occupational safety and health; occupational health surveillance; case management; fitness for duty testing; medication; allergies and immunization; emergency and ambulatory care; and applicable laws and regulations.

Illustrative example(s)
- occupational health and safety nursing
- occupational health nurse practitioner
- occupational health nursing

Exclusion(s)
- public health nursing (see 51.3811 Public health/community nurse/nursing)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3816 Emergency room/trauma nurse/nursing

This instructional program class comprises any program that prepares registered nurses to deliver advanced, direct patient care in emergency and trauma settings. These programs include courses in advanced health assessment, pharmacology, physiology, emergency management, trauma conditions, trauma assessments and acute care.

Illustrative example(s)
- emergency nurse practioner
- emergency nursing

Exclusion(s)
- critical care nursing (see 51.3814 Critical care nurse/nursing)
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)
- registered nursing (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3817 Nursing education

This instructional program class comprises any program that prepares registered nurses to teach in academic and clinical settings, including staff development. These programs include courses in advanced nursing practice, nursing role development, curriculum and instruction, program and course design, clinical instruction, and evaluation of learning.

Illustrative example(s)
- nursing education
- nursing teaching
- teaching nursing

Exclusion(s)
- health occupations teacher education (see 13.1327 Health occupations teacher education)

51.3818 Nursing practice

This instructional program class comprises any practice-focused program that prepares registered nurses for increasingly complex evidence-based nursing practice, including translating research into practice, evaluating evidence, applying research in decision-making, and implementing viable clinical innovations to change practice. These programs include courses in healthcare delivery systems, health economics and finance, health policy, research methods, translating evidence into practice, concepts in population health, and nursing leadership.

Illustrative example(s)
- Doctorate of Advanced Nursing Practice
- Doctorate of Nursing Practice (DNP)

Exclusion(s)
- nurse practitioner (see 51.3805 Primary health care nurse/nursing and family practice nurse/nursing)
- nursing sciences (MSc, PhD) (see 51.3808 Nursing science (MS, MSc, PhD))
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3819 Palliative care nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide a combination of active and compassionate therapies intended to comfort and support patients and their families who are living with life-threatening illness. These programs include courses in pathophysiology, palliative care processes, pain management, pharmacology, loss, grief, death, and bereavement.

Illustrative example(s)
- palliative care nurse practitioner
- palliative care nursing

Exclusion(s)
- critical care nursing (see 51.3814 Critical care nurse/nursing)
- palliative medicine - residency (see 60.0525 Hospice and palliative medicine residency programs)
- registered nursing (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3820 Clinical nurse leader

This instructional program class comprises any program that prepares registered nurses for careers as clinical nurse leaders in which they work as part of an interdisciplinary team that provides direct medical care for patients based on evidence-based practice and research. These programs include courses in pharmacology, pathophysiology, epidemiology, research in nursing methods, advanced health assessment, statistics, and clinical practice management.

Illustrative example(s)
- clinical nurse leader

Exclusion(s)
- clinical nursing (see 51.3813 Clinical nurse specialist)

51.3821 Geriatric nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide health care to aging and elderly patients. These programs include courses in geriatric primary care, geriatric diagnosis, mental health and aging, primary care management, geriatric acute and chronic illness, advanced nursing practices for geriatric patients, evidence-based nursing practice, advanced physiology, pathophysiology, pharmacology, and pharmacotherapeutics.

Illustrative example(s)
- geriatric nurse
- geriatric nurse practitioner
- geriatric nursing
- gerontological nurse
- gerontological nurse practitioner
- gerontological nursing

Exclusion(s)
- geriatric medicine - residency (see 60.0520 Geriatric medicine residency programs)

51.3822 Women's health nurse/nursing

This instructional program class comprises any program that prepares registered nurses to provide health care specific to women. These programs include courses in the wellness and care of women, gynecology, obstetrics, advanced nursing practices for women, evidence-based nursing practice, advanced physiology and pathophysiology, advanced pharmacology, and pharmacotherapeutics.

Illustrative example(s)
- women's health nurse
- women's health nurse practitioner
- women's health nursing

Exclusion(s)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3823 Registered psychiatric nurse/nursing CAN

This instructional program class comprises any program that prepares individuals to become registered psychiatric nurses; to promote mental health and provide nursing care to patients with mental, emotional or behavioural disorders, in clinical and treatment environments or other settings. These programs include courses in psychopathology, pharmacology, behavioural health, counselling and intervention strategies, psychoeducation, mental health assessment and dual diagnosis, stabilization and management of psychotic illness, psychiatric care and rehabilitation, substance abuse, and crisis intervention.

Illustrative example(s)
- registered psychiatric nurse
- registered psychiatric nursing

Exclusion(s)
- mental health care (see 51.1502 Psychiatric/mental health services technician)
- psychiatric nurse (see 51.3810 Psychiatric/mental health nurse/nursing)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3899 Registered nursing, nursing administration, nursing research and clinical nursing, other

This instructional program class comprises any program not listed above that relates to Registered nursing, nursing administration, nursing research, and clinical nursing.

Illustrative example(s)
- cardiology nurse practitioner
- coronary care nursing
- nephrology nurse practitioner
- nephrology nursing
- neuroscience nursing
- oncology nurse practitioner
- oncology nursing

Exclusion(s)
- dental nursing (see 51.0601 Dental assisting/assistant)

51.39 Practical nursing, vocational nursing and nursing assistants

This subseries comprises instructional program classes 51.3901 to 51.3999.

51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS)

This instructional program class comprises any program that prepares individuals to assist in providing general nursing care under the direction of a registered nurse, physician or dentist. These programs include courses in taking patient vital signs, applying sterile dressings, patient health education and assistance with examinations and treatment.

Illustrative example(s)
- certified nursing assistant
- licensed nursing assistant
- licensed practical nurse
- licensed vocational nurse
- LPN
- LVN
- registered nursing assistant
- registered practical nurse
- RPN

Exclusion(s)
- certified nursing aide (see 51.3902 Nursing assistant/aide and patient care assistant/aide)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3902 Nursing assistant/aide and patient care assistant/aide

This instructional program class comprises any program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities, under the training and supervision of a registered nurse or licensed practical nurse.

Illustrative example(s)
- certified nurse aide
- certified nursing aide
- nurse aide
- nursing aide
- nursing assistant
- nursing assistant (non-registered)

Exclusion(s)
- certified nursing assistant (see 51.3901 Licensed practical/vocational nurse training (LPN, LVN, RPN, Cert., Dipl., AAS))
- health aide (see 51.2601 Health aide)
- registered nurse (see 51.3801 Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN))

51.3999 Practical nursing, vocational nursing and nursing assistants, other

This instructional program class comprises any program not listed above that relates to Practical nursing, vocational nursing, and nursing assistants.

51.99 Health professions and related clinical sciences, other

This subseries comprises instructional program class 51.9999.

51.9999 Health professions and related clinical sciences, other

This instructional program class comprises any program not listed above that relates to Health professions and related clinical sciences.

Illustrative example(s)
- medical triage

52. Business, management, marketing and related support services

This series comprises instructional programs that prepare individuals to perform managerial, technical support, and applied research functions related to the operation of commercial and non-profit enterprises and the buying and selling of goods and services.

52.01 Business/commerce, general

This subseries comprises instructional program class 52.0101.

52.0101 Business/commerce, general

This instructional program class comprises any program that focuses on the general study of business, including the processes of interchanging goods and services (buying, selling and producing), business organization, and accounting as used in profit-making and non-profit public and private institutions and agencies. The program prepares individuals to apply business principles and techniques in various occupational settings.

Illustrative example(s)
- business
- business studies
- commerce
- general business
- general business studies

Exclusion(s)
- business administration (see 52.0201 Business administration and management, general)
- business education (see 13.1303 Business teacher education)
- e-business (see 52.0208 E-commerce/electronic commerce)
- entrepreneurial studies (see 52.0701 Entrepreneurship/entrepreneurial studies)
- international business (see 52.1101 International business/trade/commerce)

52.02 Business administration, management and operations

This subseries comprises instructional program classes 52.0201 to 52.0299.

52.0201 Business administration and management, general

This instructional program class comprises any program that generally prepares individuals to plan, organize, direct, and control the functions and processes of a firm or organization. These programs include courses in management theory, human resources management and behaviour, accounting and other quantitative methods, purchasing and logistics, organization and production, marketing, and business decision-making.

Illustrative example(s)
- administration
- administrative management
- administrative studies
- business administration
- business management
- general management
- management
- management studies

Exclusion(s)
- agricultural business management (see 01.0101 Agricultural business and management, general)
- arts administration (see 50.1001 Arts, entertainment, and media management, general)
- health care administration (see 51.0701 Health/health care administration/management)
- hospital administration (see 51.0702 Hospital and health care facilities administration/management)
- human resources management (see 52.1001 Human resources management/personnel administration, general)
- organizational leadership (see 52.0213 Organizational leadership)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)
- project management (see 52.0211 Project management)
- research and development management (see 52.0210 Research and development management)
- retail management (see 52.0212 Retail management)
- teaching administration (see 13.1303 Business teacher education)
- telecommunications management (see 52.2101 Telecommunications management)
- theatre arts management (see 50.1004 Theatre/theatre arts management)

52.0202 Purchasing, procurement/acquisitions and contracts management

This instructional program class comprises any program that prepares individuals to manage and/or administer the processes by which a firm or organization contracts for goods and services to support its operations, as well as contracts it to sell to other firms or organizations. These programs include courses in contract law, negotiations,

buying procedures, government contracting, cost and price analysis, vendor relations, contract administration, auditing and inspection, relations with other firm departments, and applications to special areas such as high-technology systems, international purchasing, and construction.

Illustrative example(s)
- acquisition/procurement management
- contracts management
- procurement
- procurement management
- purchasing
- purchasing administration
- purchasing management
- supply management

Exclusion(s)
- logistics and material management (see 52.0203 Logistics, materials, and supply chain management)
- retail buyer (see 52.1802 Merchandising and buying operations)

52.0203 Logistics, materials, and supply chain management

This instructional program class comprises any program that prepares individuals to manage and coordinate all logistical functions in an enterprise, ranging from acquisitions to receiving and handling, through internal allocation of resources to operations units, to the handling and delivery of output. These programs include courses in acquisitions and purchasing, inventory control, storage and handling, just-in-time manufacturing, logistics planning, shipping and delivery management, transportation, quality control, resource estimation and allocation, and budgeting.

Illustrative example(s)
- acquisition logistics
- logistics administration
- logistics and materiel management
- logistics and supply management
- logistics management
- logistics planning
- materiel management
- supply chain management

Exclusion(s)
- inventory management (see 52.0409 Parts, warehousing and inventory management operations)
- meeting and event planning (see 52.0907 Meeting and event planning)
- procurement management (see 52.0202 Purchasing, procurement/acquisitions and contracts management)
- transportation management (see 52.0209 Transportation/mobility management)

52.0204 Office management and supervision

This instructional program class comprises any program that prepares individuals to supervise and manage the operations and personnel of business offices and management-level divisions. These programs include courses in employee supervision, management, and labour relations; budgeting; scheduling and coordination; office systems operation and maintenance; office records management, organization, and security; office facilities design and space management; preparation and evaluation of business management data; and public relations.

Illustrative example(s)
- office management

Exclusion(s)
- executive assistant (see 52.0402 Executive assistant/executive secretary)
- human resources management (see 52.1001 Human resources management/personnel administration, general)
- medical office administration (see 51.0705 Medical office management/administration)
- office clerk (see 52.0408 General office occupations and clerical services)
- operations management (see 52.0205 Operations management and supervision)
- secretarial science (see 52.0401 Administrative assistant and secretarial science, general)

52.0205 Operations management and supervision

This instructional program class comprises any program that prepares individuals to manage and direct the physical and/or technical functions of a firm or organization, particularly those relating to development, production, and manufacturing. These programs include courses in principles of general management, manufacturing and production systems, plant management, equipment maintenance management, production control, industrial labour relations and skilled trades supervision, strategic manufacturing policy, systems analysis, productivity analysis and cost control, and materials planning.

Illustrative example(s)
- industrial supervision
- maintenance management
- operations management
- production management
- production supervision

Exclusion(s)
- agricultural production management (see 01.0301 Agricultural production operations, general)
- industrial management (see 15.1501 Engineering/industrial management)
- logistics and material management (see 52.0203 Logistics, materials, and supply chain management)
- operations research (see 14.3701 Operations research)

52.0206 Non-profit/public/organizational management

This instructional program class comprises any program that prepares individuals to manage the business affairs of non-profit corporations, including foundations, educational institutions, associations, and other such organizations, and public agencies and governmental operations. These programs include courses in business management, principles of public administration, principles of accounting and financial management, human resources management, taxation of non-profit organizations, and business law as applied to non-profit organizations.

Illustrative example(s)
- administration of cooperatives
- association management
- fundraising management
- management of cooperatives
- non-profit management
- non-profit sector management
- voluntary sector management

Exclusion(s)
- health care administration (see 51.0701 Health/health care administration/management)
- hospital administration (see 51.0702 Hospital and health care facilities administration/management)
- public administration (see 44.0401 Public administration)
- school administration (see 13.0401 Educational leadership and administration, general)

52.0207 Customer service management

This instructional program class comprises any program that prepares individuals to supervise and monitor customer service performance and manage frontline customer support services, call centres/help desks, and customer relations. These programs include courses in customer behaviour; specialized information technology and systems management; developing and using customer service databases; user surveys and other feedback mechanisms; strategic and performance planning and analysis; operations management; personnel supervision; and communications and marketing skills.

Illustrative example(s)
- call centre administration
- call centre management
- customer service management

Exclusion(s)
- customer service (see 52.0411 Customer service support/call centre/teleservice operation)
- public relations (see 09.0902 Public relations/image management)

52.0208 E-commerce/electronic commerce

This instructional program class comprises any program that prepares individuals to plan, manage, supervise, and market electronic business operations, products, and services provided online via the Internet. These programs include courses in business administration, information technology, information resources management, web design, computer and Internet law and policy, computer privacy and security, e-trading, insurance, electronic marketing, investment capital planning, enterprise operations, personnel supervision, contracting, and product and service networking.

Illustrative example(s)
- e-business
- e-business management
- e-commerce
- e-commerce management
- electronic commerce

Exclusion(s)
- business (see 52.0101 Business/commerce, general)
- e-marketing (see 52.1499 Marketing, other)
- multimedia and web (see 11.0801 Web page, digital/multimedia and information resources design)
- telecommunications management (see 52.2101 Telecommunications management)

52.0209 Transportation/mobility management

This instructional program class comprises any program that prepares individuals to plan, administer, and coordinate physical transportation operations, networks, and systems. These programs include courses in transportation systems and technologies; traffic logistics and engineering; multimodal and intermodal transportation systems; regional integration; facilities design and construction; transportation planning and finance; demand analysis and forecasting; carrier management; behavioural issues; transportation policy and law; intelligent systems; and applications to aviation, maritime, rail, and highway facilities and systems.

Illustrative example(s)
- air mobility
- customs broker
- freight forwarding
- sea mobility
- transportation administration
- transportation logistics

- transportation management
- transportation/mobility management

Exclusion(s)
- logistics and material management (see 52.0203 Logistics, materials, and supply chain management)
- maritime studies (see 30.2901 Maritime studies)
- transportation clerk (see 52.0410 Traffic, customs and transportation clerk/technician)
- transportation engineering (see 14.0804 Transportation and highway engineering)
- urban transportation planning (see 04.0301 City/urban, community and regional planning)

52.0210 Research and development management

This instructional program class comprises any program that prepares individuals to manage projects, programs and organizations involving basic and applied research, or specialized technology applications, in the public or private sectors. These programs include courses in all aspects of business management applied to the leadership and control of scientific, clinical, engineering and social scientific enterprises; the management of related operational, security and logistical issues; and technical competence in one or more research disciplines.

Illustrative example(s)
- research and development management

Exclusion(s)
- clinical trials management (see 51.0719 Clinical research coordinator)
- management (see 52.0201 Business administration and management, general)
- marketing research (see 52.1402 Marketing research)
- operations research (see 14.3701 Operations research)

52.0211 Project management

This instructional program class comprises any program that prepares individuals to apply quantitative and qualitative knowledge, skills, tools, and techniques to manage projects in a wide range of fields and occupations. These programs include courses in project planning, risk management, cost and time management, contracts and procurement, accounting, statistics, decision making, and human resources.

Illustrative example(s)
- project management

Exclusion(s)
- construction project management (see 52.2001 Construction management)
- information technology project management (see 11.1005 Information technology project management)
- management (see 52.0201 Business administration and management, general)

52.0212 Retail management

This instructional program class comprises any program that prepares individuals to manage the operations of a wide variety of retail businesses, including department stores; independent and chain stores; fashion, food and beverage, and pharmaceutical establishments; and online retail businesses. These programs include courses in retail management, merchandise management, customer service management, marketing, organizational behaviour, accounting, finance, business law, and personnel management.

Illustrative example(s)
- retail management

Exclusion(s)
- management (see 52.0201 Business administration and management, general)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)

- retail operations (see 52.1803 Retailing and retail operations)

52.0213 Organizational leadership

This instructional program class comprises any program that focuses on leadership skills that can be applied to a business, government, non-profit, or educational setting. These programs include courses in organizational planning, dynamics of leadership, finance, team building, conflict resolution and mediation, communication and other management skills.

Illustrative example(s)
- leadership studies
- organizational leadership

Exclusion(s)
- educational leadership (see 13.0401 Educational leadership and administration, general)
- lay leadership (see 39.0705 Lay ministry)
- management (see 52.0201 Business administration and management, general)
- military psychology and leadership (see 28.0801 Military science, leadership and operational art)
- organizational behaviour studies (see 52.1003 Organizational behaviour studies)
- outdoor recreation leadership (see 31.0601 Outdoor education)
- pastoral leadership (see 39.0701 Pastoral studies/counselling)
- recreation leadership (see 31.0101 Parks, recreation and leisure studies)

52.0299 Business administration, management and operations, other

This instructional program class comprises any program not listed above that relates to Business administration, management and operations.

Illustrative example(s)
- institutional administration
- institutional management

Exclusion(s)
- business (see 52.0101 Business/commerce, general)
- business administration (see 52.0201 Business administration and management, general)
- construction management (see 52.2001 Construction management)
- non-profit management (see 52.0206 Non-profit/public/organizational management)

52.03 Accounting and related services

This subseries comprises instructional program classes 52.0301 to 52.0399.

52.0301 Accounting

This instructional program class comprises any program that prepares individuals to practice the profession of accounting and to perform related business functions. These programs include courses in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.

Illustrative example(s)
- accountancy
- accounting
- certified general accountant (CGA)
- chartered accountant (CA)

- public accounting

Exclusion(s)
- accounting and computer science (see 30.1601 Accounting and computer science)
- accounting clerk (see 52.0302 Accounting technology/technician and bookkeeping)
- accounting teaching (see 13.1303 Business teacher education)
- auditing (see 52.0303 Auditing)
- certified management accountant (CMA) (see 52.0305 Accounting and business/management)

52.0302 Accounting technology/technician and bookkeeping

This instructional program class comprises any program that prepares individuals to provide technical administrative support to professional accountants and other financial management personnel. These programs include courses in posting transactions to accounts, record keeping systems, accounting software operation, and general accounting principles and practices.

Illustrative example(s)
- accounting assistant
- accounting clerk
- accounting technician
- automated accounting
- bookkeeper
- bookkeeping
- computer accounting
- computerized accounting
- computerized bookkeeping
- financial accounting

Exclusion(s)
- accounting (see 52.0301 Accounting)
- accounting and computer science (see 30.1601 Accounting and computer science)
- accounting and finance (see 52.0304 Accounting and finance)
- accounting teaching (see 13.1303 Business teacher education)

52.0303 Auditing

This instructional program class comprises any program that prepares individuals, including certified accountants, to perform independent internal and external appraisals to evaluate organizational financial and operational activities, ensure compliance with laws and policies, safeguard assets, and promote effective planning and resource allocation. These programs include courses in advanced accounting, audit tools and techniques, sampling, risk and control, audit planning, audit function management, laws and regulations, environmental auditing, information technology applications, professional standards and ethics, and specific industry and service sector problems.

Illustrative example(s)
- auditing
- financial audit
- internal audit

Exclusion(s)
- accounting (see 52.0301 Accounting)
- accounting and computer science (see 30.1601 Accounting and computer science)
- investigative and forensic accounting (see 43.0117 Financial forensics and fraud investigation)
- security and loss prevention services (see 43.0109 Security and loss prevention services)
- security management (see 43.0112 Securities services administration/management)

52.0304 Accounting and finance

This instructional program class comprises any integrated or combined program in accounting and finance that prepares individuals to function as accountants and financial managers or analysts.

Illustrative example(s)
- accounting and finance

Exclusion(s)
- accounting (see 52.0301 Accounting)
- finance (see 52.0801 Finance, general)
- financial accounting (see 52.0302 Accounting technology/technician and bookkeeping)
- financial planning (see 52.0804 Financial planning and services)
- public finance (see 52.0808 Public finance)

52.0305 Accounting and business/management

This instructional program class comprises any integrated or combined program in accounting and business administration/management that prepares individuals to function as accountants and business managers.

Illustrative example(s)
- accounting and administration
- accounting and business
- accounting and business administration
- accounting and business management
- accounting and management
- certified management accountant (CMA)
- management accounting

Exclusion(s)
- accounting (see 52.0301 Accounting)
- accounting and finance (see 52.0304 Accounting and finance)
- business management (see 52.0201 Business administration and management, general)

52.0399 Accounting and related services, other

This instructional program class comprises any program not listed above that relates to Accounting and related services.

Illustrative example(s)
- controllership

Exclusion(s)
- accounting and administration (see 52.0305 Accounting and business/management)
- accounting and finance (see 52.0304 Accounting and finance)
- business economics (see 52.0601 Business/managerial economics)
- payroll administration (see 52.1099 Human resources management and services, other)

52.04 Business operations support and assistant services

This subseries comprises instructional program classes 52.0401 to 52.0499.

52.0401 Administrative assistant and secretarial science, general

This instructional program class comprises any program that generally prepares individuals to perform the duties of administrative assistants and/or secretaries and stenographers. These programs include courses in business communications, principles of business law, word processing and data entry, office machines operation and maintenance, office procedures, public relations, secretarial accounting, filing systems and records management, and report preparation.

Illustrative example(s)
- administrative assistant
- bilingual secretary
- general secretarial
- secretarial arts
- secretarial science
- secretarial studies
- secretary
- secretary-receptionist

Exclusion(s)
- administrative clerk (see 52.0408 General office occupations and clerical services)
- executive secretary (see 52.0402 Executive assistant/executive secretary)
- legal administrative assistant (see 22.0301 Legal administrative assistant/secretary)
- medical administrative assistant (see 51.0716 Medical administrative/executive assistant and medical secretary)
- office management (see 52.0204 Office management and supervision)
- receptionist (see 52.0406 Receptionist)
- word processing (see 11.0602 Word processing)

52.0402 Executive assistant/executive secretary

This instructional program class comprises any program that prepares individuals to perform the duties of special assistants and/or personal secretaries for business executives and top management. These programs include courses in business communications, principles of business law, public relations, scheduling and travel management, secretarial accounting, filing systems and records management, conference and meeting recording, report preparation, office equipment and procedures, office supervisory skills, and professional standards and legal requirements.

Illustrative example(s)
- executive assistant
- executive secretary

Exclusion(s)
- legal secretary (see 22.0301 Legal administrative assistant/secretary)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)
- secretary (see 52.0401 Administrative assistant and secretarial science, general)

52.0406 Receptionist

This instructional program class comprises any program that prepares individuals to perform frontline public relations duties for a business, organization, or answering service. These programs include courses in telephone answering techniques, responding to information requests, keeping caller and/or visitor records, placing business calls, operating telephone switchboards and/or other communications equipment, relaying incoming and interoffice calls, schedule maintenance, and public relations skills.

Illustrative example(s)
- operator-receptionist

- receptionist
- telephone operator

Exclusion(s)
- customer service (see 52.0411 Customer service support/call centre/teleservice operation)
- dental receptionist (see 51.0712 Medical reception/receptionist)
- secretary-receptionist (see 52.0401 Administrative assistant and secretarial science, general)

52.0407 Business/office automation/technology/data entry

This instructional program class comprises any program that prepares individuals to support business information operations by using computer equipment to enter, process, and retrieve data for a wide variety of administrative purposes. These programs include courses in using basic business software and hardware; business computer networking; principles of desktop publishing; preparing mass mailings; compiling and editing spreadsheets; list maintenance; preparing tables and graphs; receipt control; and preparing business performance reports.

Illustrative example(s)
- applied business technology
- business information processing
- information processing, business
- office automation

Exclusion(s)
- business information technology (see 11.0103 Information technology)
- data entry operator (see 11.0601 Data entry/microcomputer applications, general)
- data processing (see 11.0301 Data processing and data processing technology/technician)
- desktop publishing (see 10.0303 Prepress/desktop publishing and digital imaging design)
- word processing (see 11.0602 Word processing)

52.0408 General office occupations and clerical services

This instructional program class comprises any program that prepares individuals to provide basic administrative support under the supervision of office managers, administrative assistants, secretaries, and other office personnel. These programs include courses in typing, keyboarding, filing, general business correspondence, office equipment operation, and communications skills.

Illustrative example(s)
- administrative clerk
- clerk typist
- office clerk
- office skills
- typing

Exclusion(s)
- legal assistant (see 22.0302 Legal assistant/paralegal)
- medical clerk (see 51.0710 Medical office assistant/specialist)
- receptionist (see 52.0406 Receptionist)
- sales clerk (see 52.1804 Selling skills and sales operations)
- secretary (see 52.0401 Administrative assistant and secretarial science, general)
- transportation clerk (see 52.0410 Traffic, customs and transportation clerk/technician)
- word processing (see 11.0602 Word processing)

52.0409 Parts, warehousing and inventory management operations

This instructional program class comprises any program that prepares individuals to provide administrative, technical, and managerial support in the operation of warehouses, control of inventory, parts identification, and the performance of counter services for customers. These programs include courses in record keeping, equipment operation, database entry, supply logistics, shop operations and math, and customer and supplier relations.

Illustrative example(s)
- inventory control
- inventory management
- parts management
- warehouse management

Exclusion(s)
- auto parts sales (see 52.1907 Vehicle and vehicle parts and accessories marketing operations)
- logistics and material management (see 52.0203 Logistics, materials, and supply chain management)
- procurement (see 52.0202 Purchasing, procurement/acquisitions and contracts management)
- warehouse technician (see 47.0409 Parts and warehousing operations and maintenance technology/technician)

52.0410 Traffic, customs and transportation clerk/technician

This instructional program class comprises any program that prepares individuals to perform duties associated with managing revenue-based customs, traffic, or transportation services, such as control of domestic and international traffic, toll roads and waterways, and to assist in the dispatch and control of fleet-based traffic for businesses and public services. These programs include courses in record keeping; preparation of customs and transportation documentation; operation of communications equipment; basic transportation operations management; tariffs, rates and fares; revenue collection and change-making; and interpretation of customs or transportation regulations and related legislation, policies, and procedures.

Illustrative example(s)
- traffic technician
- transportation clerk

Exclusion(s)
- air traffic controller (see 49.0105 Air traffic controller)
- traffic control - flagging (see 49.0207 Flagging and traffic control)
- train dispatcher (see 49.0208 Railroad and railway transportation)
- transportation engineering (see 14.0804 Transportation and highway engineering)
- transportation management (see 52.0209 Transportation/mobility management)
- urban transportation planning (see 04.0301 City/urban, community and regional planning)

52.0411 Customer service support/call centre/teleservice operation

This instructional program class comprises any program that prepares individuals to assist customers with inquiries and problems in frontline call centres, help desks, teleservice centres, and online. These programs include courses in user interfaces and user behaviour; principles of hardware and software systems operation; customer interaction skills; telephone and e-mailing skills; data entry; and database and Internet searching and retrieval.

Illustrative example(s)
- call centre service representative
- customer service
- customer service by telephone
- customer service representative
- teleservice
- teleservice customer representative

Exclusion(s)
- computer support specialist (see 11.1006 Computer support specialist)
- customer service management (see 52.0207 Customer service management)
- receptionist (see 52.0406 Receptionist)
- salesperson (see 52.1804 Selling skills and sales operations)

52.0499 Business operations support and assistant services, other

This instructional program class comprises any program not listed above that relates to Business operations support and assistant services.

Illustrative example(s)
- comptometer operator

Exclusion(s)
- computerized accounting (see 52.0302 Accounting technology/technician and bookkeeping)
- legal assistant (see 22.0302 Legal assistant/paralegal)
- medical clerk (see 51.0710 Medical office assistant/specialist)
- medical secretary (see 51.0716 Medical administrative/executive assistant and medical secretary)
- secretary (see 52.0401 Administrative assistant and secretarial science, general)
- word processing (see 11.0602 Word processing)

52.05 Business/corporate communications

This subseries comprises instructional program class 52.0501.

52.0501 Business/corporate communications

This instructional program class comprises any program that prepares individuals to function in an organization as a composer, editor and proofreader of business or business-related communications.

Illustrative example(s)
- business communications
- corporate communications

Exclusion(s)
- communication science (see 09.0100 Communication, general)
- English business writing (see 23.1303 English professional, technical, business, and scientific writing)
- French business writing (see 55.1303 French professional, technical, business, and scientific writing)
- mass communication (see 09.0102 Mass communication/media studies)
- organizational communication (see 09.0901 Organizational communication, general)
- public relations (see 09.0902 Public relations/image management)
- speech communication (see 09.0101 Speech communication and rhetoric)

52.06 Business/managerial economics

This subseries comprises instructional program class 52.0601.

52.0601 Business/managerial economics

This instructional program class comprises any program that focuses on the application of economic principles to the analysis of the organization and operation of business enterprises. These programs include courses in monetary theory, banking and financial systems, theory of competition, pricing theory, wage and salary/incentive theory, analysis of markets, and applications of econometrics and quantitative methods to the study of particular businesses and business problems.

Illustrative example(s)
- business economics
- financial economics
- management economics

Exclusion(s)
- applied economics (see 45.0602 Applied economics)
- consumer economics (see 19.0402 Consumer economics)
- econometrics (see 45.0603 Econometrics and quantitative economics)
- economics (see 45.0601 Economics, general)

52.07 Entrepreneurial and small business operations

This subseries comprises instructional program classes 52.0701 to 52.0799.

52.0701 Entrepreneurship/entrepreneurial studies

This instructional program class comprises any program that generally prepares individuals to perform development, marketing and management functions associated with owning and operating a business.

Illustrative example(s)
- business entrepreneurship
- business start-up
- entrepreneurial studies
- entrepreneurship

Exclusion(s)
- business (see 52.0101 Business/commerce, general)
- business administration (see 52.0201 Business administration and management, general)
- franchise operations (see 52.0702 Franchising and franchise operations)
- small business (see 52.0703 Small business administration/management)

52.0702 Franchising and franchise operations

This instructional program class comprises any program that prepares individuals to manage and operate franchises. These programs include courses in legal requirements, set-up costs and capitalization requirements, financing, and applications to specific franchise opportunities.

Illustrative example(s)
- franchise operations
- franchising

Exclusion(s)
- entrepreneurship (see 52.0701 Entrepreneurship/entrepreneurial studies)
- hospitality management (see 52.0901 Hospitality administration/management, general)
- restaurant manager (see 52.0905 Restaurant/food services management)
- small business administration (see 52.0703 Small business administration/management)

52.0703 Small business administration/management

This instructional program class comprises any program that prepares individuals to develop and manage independent small businesses. These programs include courses in business administration; enterprise planning and entrepreneurship; start-up; small business operations and problems; personnel supervision; capitalization and investment; taxation; business laws and regulations; e-commerce; home business operations; and applications to specific sectors, products, and services.

Illustrative example(s)
- small and medium enterprise management
- small business administration
- small business management
- small business management and ownership

Exclusion(s)
- business administration (see 52.0201 Business administration and management, general)
- entrepreneurship (see 52.0701 Entrepreneurship/entrepreneurial studies)

52.0799 Entrepreneurial and small business operations, other

This instructional program class comprises any program not listed above that relates to Entrepreneurial and small business operations.

52.08 Finance and financial management services

This subseries comprises instructional program classes 52.0801 to 52.0899.

52.0801 Finance, general

This instructional program class comprises any program that generally prepares individuals to plan, manage, and analyse the financial and monetary aspects and performance of business enterprises, banking institutions, or other organizations. These programs include courses in principles of accounting; financial instruments; capital planning; funds acquisition; asset and debt management; budgeting; financial analysis; and investments and portfolio management.

Illustrative example(s)
- business finance
- finance
- financial management

Exclusion(s)
- accounting and finance (see 52.0304 Accounting and finance)
- banking and financial support services (see 52.0803 Banking and financial support services)
- financial services (see 52.0804 Financial planning and services)
- financial services marketing (see 52.1908 Business and personal/financial services marketing operations)
- public finance (see 52.0808 Public finance)

52.0803 Banking and financial support services

This instructional program class comprises any program that prepares individuals to perform a wide variety of customer services in banks, insurance agencies, savings and loan companies, and related enterprises. These programs include courses in communications and public relations skills, business equipment operation, and technical skills applicable to the methods and operations of specific financial or insurance services.

Illustrative example(s)
- banking and financial support services

Exclusion(s)
- credit management (see 52.0809 Credit management)
- e-commerce (see 52.0208 E-commerce/electronic commerce)
- finance (see 52.0801 Finance, general)
- financial investments (see 52.0807 Investments and securities)

52.0804 Financial planning and services

This instructional program class comprises any program that prepares individuals to plan and manage the financial interests and growth of individuals and institutions. These programs include courses in portfolio management, investment management, estate planning, insurance, tax planning, strategic investing and planning, financial consulting services, and client relations.

Illustrative example(s)
- certified financial planner
- financial advisor
- financial planner
- financial planning
- financial services
- financial services management
- investment advisor
- personal financial planning

Exclusion(s)
- credit management (see 52.0809 Credit management)
- finance (see 52.0801 Finance, general)
- financial investments (see 52.0807 Investments and securities)
- life insurance (see 52.1701 Insurance)
- urban planning (see 04.0301 City/urban, community and regional planning)

52.0806 International finance

This instructional program class comprises any program that prepares individuals to manage international financial operations and related currency transactions. These programs include courses in international banking, international monetary and financial policy, money and capital markets, foreign exchange, risk analysis, and international cash flow operations.

Illustrative example(s)
- international finance

Exclusion(s)
- finance (see 52.0801 Finance, general)
- international commerce (see 52.1101 International business/trade/commerce)
- international development (see 45.0604 Development economics and international development)
- international economics (see 45.0605 International economics)
- international public policy (see 44.0504 International public policy analysis)

52.0807 Investments and securities

This instructional program class comprises any program that prepares individuals to manage assets placed in capital markets, and related technical operations. These programs include courses in security analysis, debt and equity analysis, investment strategies, securities markets, computer-assisted research, portfolio management, portfolio performance analysis, and applications to specific investment problems and business situations.

Illustrative example(s)
- asset and wealth management
- Canadian securities
- financial investments
- financial securities
- investment management
- investments and securities
- securities

- stockbroker

Exclusion(s)
- finance (see 52.0801 Finance, general)
- investment advisor (see 52.0804 Financial planning and services)
- real estate (see 52.1501 Real estate)
- security services administration (see 43.0112 Securities services administration/management)

52.0808 Public finance

This instructional program class comprises any program that prepares individuals to manage the financial assets and budgets of public sector organizations. These programs include courses in public trusts and investments; the laws and procedures used to plan, prepare and administer public agency budgets; and the preparation and analysis of public budget projections and policies.

Illustrative example(s)
- public finance
- public sector financial management

Exclusion(s)
- finance (see 52.0801 Finance, general)
- public administration (see 44.0401 Public administration)

52.0809 Credit management

This instructional program class comprises any program that prepares individuals to perform and/or manage operations concerning personal and corporate credit, collateral, loan processing, and related financial agency communications. These programs include courses in general finance and banking principles, insurance, real estate, taxation, business laws and regulations, quantitative methods, financial computer systems applications, database management, communications skills, business and office management, and professional standards and ethics.

Illustrative example(s)
- commercial credit
- credit management
- mortgage broker

Exclusion(s)
- banking and financial support services (see 52.0803 Banking and financial support services)
- finance (see 52.0801 Finance, general)

52.0899 Finance and financial management services, other

This instructional program class comprises any program not listed above that relates to Finance and financial management services.

52.09 Hospitality administration/management

This subseries comprises instructional program classes 52.0901 to 52.0999.

52.0901 Hospitality administration/management, general

This instructional program class comprises any program that prepares individuals to serve as general managers and directors of hospitality operations on a system-wide basis, including both travel arrangements and promotion and the provision of traveller facilities. These programs include courses in principles of operations in the travel and tourism, hotel and lodging facilities, food services, and recreation facilities industries; hospitality marketing

strategies; hospitality planning; management and coordination of franchise and unit operations; business management; accounting and financial management; hospitality transportation and logistics; and hospitality industry policies and regulations.

Illustrative example(s)
- hospitality administration
- hospitality and tourism administration
- hospitality and tourism management
- hospitality management

Exclusion(s)
- facilities management (see 19.0604 Facilities planning and management)
- hospitality marketing (see 52.1910 Hospitality and recreation marketing operations)
- hotel administration (see 52.0904 Hotel/motel administration/management)
- leisure and recreation services management (see 31.0504 Sport and fitness administration/management)
- recreation facilities management (see 31.0301 Parks, recreation and leisure facilities management, general)
- resort management (see 52.0906 Resort management)
- tourism and hotel management (see 52.0999 Hospitality administration/management, other)
- tourism and travel services management (see 52.0903 Tourism and travel services management)

52.0903 Tourism and travel services management

This instructional program class comprises any program that prepares individuals to manage travel-related enterprises and related convention and/or tour services. These programs include courses in travel agency management, tour arranging and planning, convention and event planning, travel industry operations and procedures, tourism marketing and promotion strategies, travel counselling, travel industry law, international and domestic operations, and travel and tourism policy.

Illustrative example(s)
- tourism and travel management
- tourism and travel services management
- travel industry management

Exclusion(s)
- events and convention management (see 52.0907 Meeting and event planning)
- hospitality and tourism management (see 52.0901 Hospitality administration/management, general)
- leisure studies (see 31.0101 Parks, recreation and leisure studies)
- recreation facilities management (see 31.0301 Parks, recreation and leisure facilities management, general)
- recreation management (see 31.0504 Sport and fitness administration/management)
- tourism development (see 52.1906 Tourism promotion operations)
- tourism marketing management (see 52.1905 Tourism and travel services marketing operations)
- travel and exploration (see 36.0109 Travel and exploration (not for credit))
- wildland recreation (see 03.0207 Natural resource recreation and tourism)

52.0904 Hotel/motel administration/management

This instructional program class comprises any program that prepares individuals to manage operations and facilities that provide lodging services to the travelling public. These programs include courses in hospitality industry principles; supplies purchasing, storage and control; hotel facilities design and planning; hospitality industry law; personnel management and labour relations; financial management; marketing and sales promotion; convention and event management; front desk operations; and applications to specific types of hotel and motel operations.

Illustrative example(s)
- hotel administration

- hotel management
- inn management
- motel management

Exclusion(s)
- casino management (see 52.0908 Casino management)
- facilities management (see 19.0604 Facilities planning and management)
- hotel, motel, and restaurant management (see 52.0909 Hotel, motel, and restaurant management)
- resort management (see 52.0906 Resort management)
- restaurant culinary management (see 12.0504 Restaurant, culinary and catering management/manager)
- restaurant manager (see 52.0905 Restaurant/food services management)

52.0905 Restaurant/food services management

This instructional program class comprises any program that prepares individuals to plan, manage, and market restaurants, food services in hospitality establishments, food service chains and franchise networks, and restaurant supply operations. These programs include courses in hospitality administration, food services management, wholesale logistics and distribution, franchise operations, business networking, personnel management, culinary arts, business planning and capitalization, food industry operations, marketing and retailing, business laws and regulations, finance, and professional standards and ethics.

Illustrative example(s)
- restaurant management
- restaurant manager

Exclusion(s)
- dietary and food service management (see 19.0505 Foodservice systems administration/management)
- facilities management (see 19.0604 Facilities planning and management)
- hotel management (see 52.0904 Hotel/motel administration/management)
- hotel, motel, and restaurant management (see 52.0909 Hotel, motel, and restaurant management)
- restaurant culinary management (see 12.0504 Restaurant, culinary and catering management/manager)

52.0906 Resort management

This instructional program class comprises any program that prepares individuals to plan, manage, and market comprehensive vacation facilities and services and related products. These programs include courses in hospitality administration, hotel/motel management, restaurant and food services management, facilities planning, leisure studies, recreation administration, marketing, recreation equipment and grounds operations and maintenance, business finance, insurance and taxation, event management and guest services, personnel management, travel and logistics management, safety and health services, professional standards and ethics, and applications to specific vacation types and locations.

Illustrative example(s)
- resort management
- ski resort management
- ski resort operations and management
- spa management

Exclusion(s)
- casino management (see 52.0908 Casino management)
- hotel management (see 52.0904 Hotel/motel administration/management)
- leisure and recreation services management (see 31.0504 Sport and fitness administration/management)
- recreation club management (see 31.0301 Parks, recreation and leisure facilities management, general)
- restaurant manager (see 52.0905 Restaurant/food services management)

52.0907 Meeting and event planning

This instructional program class comprises any program that prepares individuals to plan, budget, and implement conferences, meetings, and other special events in the public or private sectors. These programs include courses in principles of meeting and event planning; special event management; budgets and finance; site selection; contracts, vendors, and negotiations; marketing and promotions; food and beverage management; audio-visual basics and meeting technology; and hospitality law.

Illustrative example(s)
- conference management
- conference planning
- conventions and meetings management
- events and convention coordination
- events and convention management
- exposition, convention and trade show management
- festivals/community events management
- meeting and event planning
- special event management
- wedding planning

Exclusion(s)
- facility planning (see 19.0604 Facilities planning and management)
- logistics planning (see 52.0203 Logistics, materials, and supply chain management)
- sport and event marketing (see 52.1910 Hospitality and recreation marketing operations)
- tourism and travel services management (see 52.0903 Tourism and travel services management)

52.0908 Casino management

This instructional program class comprises any program that prepares individuals to manage casinos and gaming establishments. These programs include courses in casino operations, casino security and surveillance, principles of the gaming industry, ethics, and gaming law.

Illustrative example(s)
- casino management
- gaming and casino management
- hospitality and casino management

Exclusion(s)
- casino dealer (see 31.9999 Parks, recreation, leisure and fitness studies, other)
- hotel management (see 52.0904 Hotel/motel administration/management)
- resort management (see 52.0906 Resort management)

52.0909 Hotel, motel, and restaurant management

This instructional program class comprises any instructional program that prepares individuals to manage operations and facilities that provide food and/or lodging services to the traveling public. These programs include courses in hospitality industry principles; supplies purchasing, storage, and control; hotel and restaurant facilities design and planning; hospitality industry law; personnel management and labour relations; financial management; facilities management; marketing and sale promotion strategies; convention and event management; front desk operations; and applications to specific types of hotel, motel, and/or restaurant operations.

Illustrative example(s)
- hotel, motel, and restaurant management

Exclusion(s)
- hotel management (see 52.0904 Hotel/motel administration/management)

- restaurant management (see 52.0905 Restaurant/food services management)

52.0999 Hospitality administration/management, other

This instructional program class comprises any program not listed above that relates to Hospitality administration/management.

Illustrative example(s)
- tourism and hotel management

52.10 Human resources management and services

This subseries comprises instructional program classes 52.1001 to 52.1099.

52.1001 Human resources management/personnel administration, general

This instructional program class comprises any program that generally prepares individuals to manage the development of human capital in organizations, and to provide related services to individuals and groups. These programs include courses in personnel and organization policy, human resource dynamics and flows, labour relations, sex roles, civil rights, human resources laws and regulations, motivation and compensation systems, work systems, career management, employee testing and assessment, recruitment and selection, managing employee and job training programs, and the management of human resources programs and operations.

Illustrative example(s)
- human resources
- human resources administration
- human resources management
- personnel administration
- personnel management

Exclusion(s)
- human resources development (see 52.1005 Human resources development)
- labour-management relations (see 52.1002 Labour and industrial relations)
- office management (see 52.0204 Office management and supervision)
- operations management (see 52.0205 Operations management and supervision)

52.1002 Labour and industrial relations

This instructional program class comprises any program that focuses on employee-management interactions and the management of issues and disputes regarding working conditions and worker benefit packages, and that prepares individuals to function as labour or personnel relations specialists. These programs include courses in labour history, policies and strategies of the labour movement, union organization, labour-management negotiation, labour law and contract interpretation, labour economics, welfare and benefit packages, grievance procedures, and labour policy studies.

Illustrative example(s)
- industrial relations
- labour relations
- labour relations administration
- labour-management relations

Exclusion(s)
- dispute resolution (see 30.2801 Dispute resolution)
- human resources management (see 52.1001 Human resources management/personnel administration, general)

- labour law (graduate level) (see 22.0299 Legal research and advanced professional studies (post-LLB/JD), other)
- labour studies (see 52.1004 Labour studies)
- organizational psychology (see 42.2804 Industrial and organizational psychology)

52.1003 Organizational behaviour studies

This instructional program class comprises any program that focuses on the scientific study of the behaviour and motivations of individuals functioning in organized groups, and its application to business and industrial settings. These programs include courses in organization theory, industrial and organizational psychology, social psychology, sociology of organizations, reinforcement and incentive theory, employee relations strategies, organizational power and influence, organization stratification and hierarchy, leadership styles, and applications of operations research and other methodologies to organizational analysis.

Illustrative example(s)
- organizational behaviour
- organizational behaviour studies

Exclusion(s)
- behavioural science (see 30.1701 Behavioural sciences)
- human resources (see 52.1001 Human resources management/personnel administration, general)
- labour studies (see 52.1004 Labour studies)
- organizational communication (see 09.0901 Organizational communication, general)
- organizational leadership (see 52.0213 Organizational leadership)
- organizational psychology (see 42.2804 Industrial and organizational psychology)

52.1004 Labour studies

This instructional program class comprises any program that focuses on the study of various aspects of work, labour organization and policy, and labour movements from the perspective of the social sciences and history. These programs include courses in labour history; political and ideological issues; worker movements and social organizations; civil rights; labour law and policy studies; labour economics; international and comparative labour studies; and applications to specific industries, groups, locations, and time periods.

Illustrative example(s)
- labour and workplace studies
- labour studies

Exclusion(s)
- labour law (graduate level) (see 22.0299 Legal research and advanced professional studies (post-LLB/JD), other)
- labour relations (see 52.1002 Labour and industrial relations)
- organizational psychology (see 42.2804 Industrial and organizational psychology)

52.1005 Human resources development

This instructional program class comprises any program that prepares individuals to apply integrated training, organizational development, and career planning and counselling skills to the design, management, and evaluation of programs to improve individual productivity, employability, and job satisfaction and organizational effectiveness. These programs include courses in psychology; organizational behaviour; principles of adult education; occupational counselling; skill testing and evaluation; program design; consulting practice; organizational development; and applications to issues such as training, management development, customer service, and total quality management.

Illustrative example(s)
- human resources development

Exclusion(s)
- human resources administration (see 52.1001 Human resources management/personnel administration, general)

52.1099 Human resources management and services, other

This instructional program class comprises any program not listed above that relates to Human resources management and services.

Illustrative example(s)
- pay supervisor
- payroll administration
- payroll clerk
- payroll management

Exclusion(s)
- accounting clerk (see 52.0302 Accounting technology/technician and bookkeeping)
- public accounting (see 52.0301 Accounting)
- vocational rehabilitation counselling (see 51.2310 Vocational rehabilitation counselling/counsellor)

52.11 International business/trade/commerce

This subseries comprises instructional program class 52.1101.

52.1101 International business/trade/commerce

This instructional program class comprises any program that prepares individuals to manage international businesses and/or business operations. These programs include courses in the principles and processes of export sales, trade controls, foreign operations and related problems, monetary issues, international business policy, and applications to doing business in specific countries and markets.

Illustrative example(s)
- foreign trade
- global business
- global commerce
- global management
- international business
- international business management
- international commerce
- international import-export business
- international management
- international trade

Exclusion(s)
- international affairs (see 45.0901 International relations and affairs)
- international business law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- international development (see 45.0604 Development economics and international development)
- international economics (see 45.0605 International economics)
- international finance (see 52.0806 International finance)
- international marketing (see 52.1403 International marketing)
- international public policy (see 44.0504 International public policy analysis)
- international studies (see 30.2001 International/global studies)

52.12 Management information systems and services

This subseries comprises instructional program classes 52.1201 to 52.1299.

52.1201 Management information systems, general

This instructional program class comprises any program that generally prepares individuals to provide and manage data systems and related facilities for processing and retrieving internal business information; select systems and train personnel; and respond to external data requests. These programs include courses in cost and accounting information systems, management control systems, personnel information systems, data storage and security, business systems networking, report preparation, computer facilities and equipment operation and maintenance, operator supervision and training, and management information systems policy and planning.

Illustrative example(s)
- business information management
- business information systems
- information system administration
- information system management
- management information systems

Exclusion(s)
- business information technology (see 11.0103 Information technology)
- computer systems analyst (see 11.0501 Computer systems analysis/analyst)
- computing and information systems (see 11.0101 Computer and information sciences, general)
- information resources management (see 52.1206 Information resources management)
- information science (see 11.0401 Information science/studies)
- information systems security (see 11.1003 Computer and information systems security/information assurance)

52.1206 Information resources management

This instructional program class comprises any program that prepares individuals to apply principles of information technology, computer systems management, and business operations to the planning, management, and evaluation of information services in organizations. These programs include courses in telecommunications, systems planning and integration, information policy, information security, contracting and purchasing, budgeting, information technology, operations management, human resources, communications skills, and applicable laws and regulations.

Illustrative example(s)
- chief information officer training
- information management
- information resources management

Exclusion(s)
- computing and information systems (see 11.0101 Computer and information sciences, general)
- information science (see 11.0401 Information science/studies)
- information systems security (see 11.1003 Computer and information systems security/information assurance)
- management information systems (see 52.1201 Management information systems, general)

52.1207 Knowledge management

This instructional program class comprises any program that focuses on the study of knowledge management in government agencies and corporations for the purpose of supporting stated organizational goals and objectives, and prepares individuals to function as information resource managers. These programs include courses in information technology, principles of computer and information systems, management information systems, applicable policy and regulations, and operations and personnel management.

Illustrative example(s)
- knowledge management

Exclusion(s)
- information resources management (see 52.1206 Information resources management)
- management information systems (see 52.1201 Management information systems, general)

52.1299 Management information systems and services, other

This instructional program class comprises any program not listed above that relates to Management information systems and services.

52.13 Management sciences and quantitative methods

This subseries comprises instructional program classes 52.1301 to 52.1399.

52.1301 Management science

This instructional program class comprises any general program that focuses on the application of statistical modeling, data warehousing, data mining, programming, forecasting and operations research techniques to the analysis of problems of business organization and performance. These programs include courses in optimization theory and mathematical techniques, data mining, data warehousing, stochastic and dynamic modeling, operations analysis, and the design and testing of prototype systems and evaluation models.

Illustrative example(s)
- business intelligence
- competitive intelligence
- management science

Exclusion(s)
- business statistics (see 52.1302 Business statistics)
- law enforcement intelligence analysis (see 43.0118 Law enforcement intelligence analysis)
- management studies (see 52.0201 Business administration and management, general)
- operations research (see 14.3701 Operations research)

52.1302 Business statistics

This instructional program class comprises any program that focuses on the application of mathematical statistics to the description, analysis, and forecasting of business data. These programs include courses in statistical theory and methods, computer applications, data analysis and display, long- and short-term forecasting methods, and market performance analysis.

Illustrative example(s)
- business statistics

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)
- mathematical statistics (see 27.0502 Mathematical statistics and probability)

- statistics (see 27.0501 Statistics, general)

52.1304 Actuarial science

This instructional program class comprises any program that focuses on the mathematical and statistical analysis of risk, and their application to insurance and other business management problems. These programs include courses in forecasting theory, quantitative and non-quantitative risk measurement methodologies, development of risk tables, secondary data analysis, and computer-assisted research methods.

Illustrative example(s)
- actuarial mathematics
- actuarial science

Exclusion(s)
- business finance (see 52.0801 Finance, general)
- business statistics (see 52.1302 Business statistics)
- investments and securities (see 52.0807 Investments and securities)

52.1399 Management sciences and quantitative methods, other

This instructional program class comprises any program not listed above that relates to Management sciences and quantitative methods.

52.14 Marketing

This subseries comprises instructional program classes 52.1401 to 52.1499.

52.1401 Marketing/marketing management, general

This instructional program class comprises any program that generally prepares individuals to undertake and manage the process of developing consumer audiences and moving products from producers to consumers. These programs include courses in buyer behaviour and dynamics, principles of marketing research, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.

Illustrative example(s)
- business administration - marketing
- marketing
- marketing administration
- marketing management
- marketing studies

Exclusion(s)
- marketing communications (see 09.0903 Advertising)
- marketing research (see 52.1402 Marketing research)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)
- sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)
- teaching marketing (see 13.1310 Sales and marketing operations/marketing and distribution teacher education)

52.1402 Marketing research

This instructional program class comprises any program that prepares individuals to provide analytical descriptions of consumer behaviour patterns and market environments to marketing managers and other business decision makers. These programs include courses in survey research methods, research design, new product test marketing, exploratory marketing, consumer needs and preferences analysis, geographic analysis, and applications to specific products and markets.

Illustrative example(s)
- marketing research

Exclusion(s)
- marketing (see 52.1401 Marketing/marketing management, general)
- research and development management (see 52.0210 Research and development management)
- social research methods (see 45.0102 Research methodology and quantitative methods)

52.1403 International marketing

This instructional program class comprises any program that prepares individuals to perform marketing activities in enterprises primarily engaged in exporting or importing goods and services in world markets. These programs include courses in international trade controls, foreign trade operations, locating markets, negotiation practices, monetary issues, and international public relations.

Illustrative example(s)
- international marketing

Exclusion(s)
- international trade (see 52.1101 International business/trade/commerce)
- marketing (see 52.1401 Marketing/marketing management, general)

52.1499 Marketing, other

This instructional program class comprises any program not listed above that relates to Marketing.

Illustrative example(s)
- e-marketing

Exclusion(s)
- merchandising (see 52.1802 Merchandising and buying operations)
- sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)

52.15 Real estate

This subseries comprises instructional program class 52.1501.

52.1501 Real estate

This instructional program class comprises any program that prepares individuals to develop, buy, sell, appraise, and manage real estate. These programs include courses in land use development policy, real estate law, real estate marketing procedures, agency management, brokerage, property inspection and appraisal, real estate investing, leased and rental properties, commercial real estate, and property management.

Illustrative example(s)
- condominium management
- property evaluation
- property management

- real estate
- real estate agent
- real estate appraisal
- real estate broker
- real estate brokerage
- real estate sales
- real property assessment

Exclusion(s)
- building maintenance (see 46.0401 Building/property maintenance)
- housing and human environments (see 19.0601 Housing and human environments, general)
- land management (see 03.0206 Land use planning and management/development)
- real property development (see 04.1001 Real estate development)
- securities (see 52.0807 Investments and securities)

52.16 Taxation

This subseries comprises instructional program class 52.1601.

52.1601 Taxation

This instructional program class comprises any program that prepares individuals to provide tax advice and management services to individuals and corporations. These programs include courses in tax laws and regulations, tax record systems, individual and corporate income taxation, tax planning, partnerships and fiduciary relationships, estates and trusts, property depreciation, capital gains and losses, dispositions, transfers, liquidity, valuation, and applications to specific tax problems.

Illustrative example(s)
- tax planning
- taxation

Exclusion(s)
- accounting (see 52.0301 Accounting)
- international tax law (graduate level) (see 22.0210 International business, trade and tax law (LLM, LLD, JSD/SJD))
- tax law (graduate level) (see 22.0211 Tax law/taxation (LLM, LLD, JSD/SJD))

52.17 Insurance

This subseries comprises instructional program class 52.1701.

52.1701 Insurance

This instructional program class comprises any program that prepares individuals to manage risk in organizational settings and provide insurance and risk-aversion services to businesses, individuals, and other organizations. These programs include courses in casualty insurance and general liability, property insurance, employee benefits, social and health insurance, loss adjustment, underwriting, risk theory, and pension planning.

Illustrative example(s)
- business insurance
- Canadian Accredited Insurance Broker (CAIB)
- Fellow of the Insurance Institute of Canada (FIIC)
- insurance
- insurance agent
- insurance broker
- insurance claims adjuster

- insurance management
- insurance underwriting
- life insurance

Exclusion(s)
- actuarial mathematics (see 52.1304 Actuarial science)
- health/medical claims examiner (see 51.0715 Health/medical claims examiner)
- medical insurance billing (see 51.0714 Medical insurance specialist/medical biller)
- medical insurance coding (see 51.0713 Medical insurance coding specialist/coder)

52.18 General sales, merchandising and related marketing operations

This subseries comprises instructional program classes 52.1801 to 52.1899.

52.1801 Sales, distribution and marketing operations, general

This instructional program class comprises any program that focuses on the general process and techniques of direct wholesale and retail buying and selling operations and introduces individuals to related careers. These programs include courses in the principles of entrepreneurial economics, basic sales skills, the distribution channels for goods and services, and supervised practical application experiences.

Illustrative example(s)
- retail marketing
- retail sales and marketing
- sales and marketing

Exclusion(s)
- marketing (see 52.1401 Marketing/marketing management, general)
- teaching marketing (see 13.1310 Sales and marketing operations/marketing and distribution teacher education)
- travel marketing (see 52.1905 Tourism and travel services marketing operations)

52.1802 Merchandising and buying operations

This instructional program class comprises any program that prepares individuals to function as professional buyers of resale products and product lines for stores, chains, and other retail enterprises. These programs include courses in product evaluation, merchandising, applicable aspects of brand and consumer research, principles of purchasing, and negotiation skills.

Illustrative example(s)
- buyer
- merchandising
- retail buyer
- retail merchandising

Exclusion(s)
- fashion merchandising (see 52.1902 Fashion merchandising)
- music merchandising (see 50.1003 Music management)
- purchasing management (see 52.0202 Purchasing, procurement/acquisitions and contracts management)

52.1803 Retailing and retail operations

This instructional program class comprises any program that prepares individuals to perform operations associated with retail sales in a variety of settings. These programs include courses in over-the-counter and other direct sales operations in business settings, basic bookkeeping principles, customer service, team/staff leadership and supervision, floor management, and applicable technical skills.

Illustrative example(s)
- retail clerk
- retail operations
- retail sales
- retailing

Exclusion(s)
- retail floristry (see 01.0608 Floriculture/floristry operations and management)
- retail management (see 52.0212 Retail management)
- retail sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)
- salesperson (see 52.1804 Selling skills and sales operations)

52.1804 Selling skills and sales operations

This instructional program class comprises any program that prepares individuals to possess the skills associated with direct promotion of products and services to potential customers and to function as independent sales representatives and managers. These programs include courses in consumer psychology, image projection, public speaking and interpersonal communications, sales organization and operations, customer relations, professional standards and ethics, and applicable technical skills.

Illustrative example(s)
- sales clerk
- sales management
- sales representative
- sales techniques
- salesperson
- telemarketing

Exclusion(s)
- car sales (see 52.1907 Vehicle and vehicle parts and accessories marketing operations)
- pharmaceutical marketing and management (see 51.2011 Pharmaceutical marketing and management)
- retail clerk (see 52.1803 Retailing and retail operations)
- retail sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)
- sport and event marketing (see 52.1910 Hospitality and recreation marketing operations)

52.1899 General sales, merchandising and related marketing operations, other

This instructional program class comprises any program not listed above that relates to General sales, merchandising and related marketing operations.

52.19 Specialized sales, merchandising and marketing operations

This subseries comprises instructional program classes 52.1901 to 52.1999.

52.1901 Auctioneering

This instructional program class comprises any program that prepares individuals for professional careers as auctioneers and auction managers, and for meeting applicable licensing requirements. These programs include courses in bid calling, public speaking, ringworking, auction techniques, salesmanship skills, auction clerking and cashiering, auction advertising, working independently or with auction houses, contracts and agencies, applicable sales law, and managing both general auctions and auctions specializing in commodities such as antiques, consignments, farm equipment, industrial equipment, real estate, livestock, and automobiles.

Illustrative example(s)
- auctioneering

Exclusion(s)
- agricultural supplies retailing and wholesaling (see 01.0105 Agricultural/farm supplies retailing and wholesaling)
- sales and marketing (see 52.1801 Sales, distribution and marketing operations, general)
- salesperson (see 52.1804 Selling skills and sales operations)

52.1902 Fashion merchandising

This instructional program class comprises any program that prepares individuals to promote product lines/brands, and organize promotional campaigns, at the wholesale level to attract retailer interest, wholesale purchasing, and supply contracts. These programs include courses in wholesaling, wholesale advertising, selling, and customer relations.

Illustrative example(s)
- fashion marketing
- fashion merchandising

Exclusion(s)
- apparel marketing management (see 19.0905 Apparel and textile marketing management)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- fashion design (see 50.0407 Fashion/apparel design)
- fashion retail (see 52.1904 Apparel and accessories marketing operations)

52.1903 Fashion modelling

This instructional program class comprises any program that prepares individuals to present and display fashion, apparel, and accessories products in wholesale and retail settings, either on the person or via props and natural or artificial settings. These programs include courses in modelling skills, health and cosmetic principles, fashion show management, display design and production, and applicable aspects of advertising and fashion photography.

Illustrative example(s)
- fashion modelling

Exclusion(s)
- fashion design (see 50.0407 Fashion/apparel design)
- fashion management and design (see 19.0905 Apparel and textile marketing management)
- fashion marketing (see 52.1902 Fashion merchandising)
- fashion sales representative (see 52.1904 Apparel and accessories marketing operations)

52.1904 Apparel and accessories marketing operations

This instructional program class comprises any program that prepares individuals to perform operations connected with the distribution and sale of apparel and accessories. These programs include courses in wholesaling and retailing; apparel technologies; distribution; customer sales and service skills; and principles of consumer research and sales forecasting.

Illustrative example(s)
- fashion retail
- fashion sales representative

Exclusion(s)
- apparel marketing management (see 19.0905 Apparel and textile marketing management)
- clothing and textiles (see 19.0901 Apparel and textiles, general)
- fashion merchandising (see 52.1902 Fashion merchandising)

52.1905 Tourism and travel services marketing operations

This instructional program class comprises any program that prepares individuals to provide direct retail services to hotel and motel clients and customers in a variety of settings. These programs include courses in the principles of hotel/motel operations, customer sales and assistance operations and techniques, telephone operations, and basic office management.

Illustrative example(s)
- tourism and travel
- tourism marketing
- tourism marketing management
- travel agent
- travel consultant
- travel counsellor
- travel marketing
- travel merchandising

Exclusion(s)
- hospitality and tourism management (see 52.0901 Hospitality administration/management, general)
- hospitality marketing (see 52.1910 Hospitality and recreation marketing operations)
- marketing (see 52.1401 Marketing/marketing management, general)
- tourism and hotel management (see 52.0999 Hospitality administration/management, other)
- tourism and travel management (see 52.0903 Tourism and travel services management)
- tourism development (see 52.1906 Tourism promotion operations)
- travel and exploration (see 36.0109 Travel and exploration (not for credit))

52.1906 Tourism promotion operations

This instructional program class comprises any program that prepares individuals to perform marketing and sales operations connected with the promotion of tourism in public and private sector settings. These programs include courses in principles of marketing research and advertising, promotional campaign organization, media relations, and applicable technical and administrative skills.

Illustrative example(s)
- development and promotion of travel products
- tourism development
- tourism products promotion
- tourist product development

Exclusion(s)
- hospitality and tourism management (see 52.0901 Hospitality administration/management, general)
- hospitality marketing (see 52.1910 Hospitality and recreation marketing operations)
- hotel management (see 52.0904 Hotel/motel administration/management)
- tourism and travel management (see 52.0903 Tourism and travel services management)
- tourism marketing (see 52.1905 Tourism and travel services marketing operations)
- travel and exploration (see 36.0109 Travel and exploration (not for credit))

52.1907 Vehicle and vehicle parts and accessories marketing operations

This instructional program class comprises any program that prepares individuals to perform operations connected with the distribution and sale of replacement parts and other end-use supplies in the automotive, marine, and aviation industries. These programs include courses in wholesaling and retailing; principles of vehicular technologies; storage and distribution; customer sales and service skills; and principles of consumer research and sales forecasting.

Illustrative example(s)
- auto parts sales
- automobile sales
- automotive marketing
- automotive sales
- car sales
- sales of vehicle parts and accessories

Exclusion(s)
- automotive parts and light warehousing (see 47.0409 Parts and warehousing operations and maintenance technology/technician)
- parts management (see 52.0409 Parts, warehousing and inventory management operations)
- retail operations (see 52.1803 Retailing and retail operations)

52.1908 Business and personal/financial services marketing operations

This instructional program class comprises any program that prepares individuals to perform marketing and operational tasks associated with the provision of personal and financial services. These programs include courses in banking, marketing research, advertising, promotional campaign organization, insurance, media relations, and applicable technical and administrative skills.

Illustrative example(s)
- financial services marketing

Exclusion(s)
- banking and financial support services (see 52.0803 Banking and financial support services)
- financial services management (see 52.0804 Financial planning and services)
- marketing (see 52.1401 Marketing/marketing management, general)

52.1909 Special products marketing operations

This instructional program class comprises any program that prepares individuals to perform marketing and sales operations connected with the promotion of special products, including floristry, food, and home and office products. These programs include courses in principles of marketing research and advertising, promotional campaign organization, media relations, and applicable technical and administrative skills.

Illustrative example(s)
- advertising sales
- special products marketing operations

Exclusion(s)
- advertising (see 09.0903 Advertising)
- agricultural supplies retailing and wholesaling (see 01.0105 Agricultural/farm supplies retailing and wholesaling)
- floristry (see 01.0608 Floriculture/floristry operations and management)
- marketing (see 52.1401 Marketing/marketing management, general)

52.1910 Hospitality and recreation marketing operations

This instructional program class comprises any program that prepares individuals to provide marketing services in the hospitality and leisure fields. These programs include courses in hospitality operations, customer sales and assistance operations and techniques, telephone operations, basic office management, retail sports, recreation equipment, food and beverage.

Illustrative example(s)
- hospitality and recreation marketing

- hospitality marketing
- sport and event marketing
- sports marketing

Exclusion(s)
- development and promotion of travel products (see 52.1906 Tourism promotion operations)
- events and convention management (see 52.0907 Meeting and event planning)
- hospitality administration (see 52.0901 Hospitality administration/management, general)
- recreation and sports administration (see 31.0504 Sport and fitness administration/management)
- sports studies (see 31.0508 Sports studies)
- tourism and travel services management (see 52.0903 Tourism and travel services management)
- travel marketing (see 52.1905 Tourism and travel services marketing operations)

52.1999 Specialized sales, merchandising and marketing operations, other

This instructional program class comprises any program not listed above that relates to Specialized sales, merchandising and marketing operations.

Illustrative example(s)
- industrial marketing
- scientific and medical marketing

52.20 Construction management

This subseries comprises instructional program class 52.2001.

52.2001 Construction management

This instructional program class comprises any program that prepares individuals to manage, coordinate, and supervise the construction process from concept development through project completion on timely and economic bases. These programs include courses in commercial, residential, mechanical, highway/heavy civil, electrical, environmental, industrial, and specialty construction; facilities management; project planning; budgeting and cost control; logistics and materials management; personnel management and labour relations; site safety; construction contracting; construction processes and techniques; organization and scheduling; and applicable codes and regulations.

Illustrative example(s)
- construction management
- construction project management
- general construction estimating

Exclusion(s)
- building inspection (see 46.0403 Building/home/construction inspection/inspector)
- construction engineering (see 14.3301 Construction engineering)
- construction site management (see 46.0412 Building/construction site management/manager)
- project management (see 52.0211 Project management)

52.21 Telecommunications management

This subseries comprises instructional program class 52.2101.

52.2101 Telecommunications management

This instructional program class comprises any program that prepares individuals to apply business skills to design, implement, and manage the voice, video, and data networking systems of organizations. These programs include courses in telecommunications concepts and technologies, network operations and management, wireless communications and mobile computing, cybersecurity, regulation and public policy, business practices and management, and written and oral communications.

Illustrative example(s)
- telecommunications management

Exclusion(s)
- e-commerce management (see 52.0208 E-commerce/electronic commerce)
- management (see 52.0201 Business administration and management, general)
- network management (see 11.1002 System, networking and LAN/WAN management/manager)
- telecommunication engineering (see 14.1004 Telecommunications engineering)

52.99 Business, management, marketing and related support services, other

This subseries comprises instructional program class 52.9999.

52.9999 Business, management, marketing and related support services, other

This instructional program class comprises any program not listed above that relates to Business, management, marketing and related support services.

Illustrative example(s)
- change management
- land agent

Exclusion(s)
- construction management (see 52.2001 Construction management)
- payroll administration (see 52.1099 Human resources management and services, other)
- real estate broker (see 52.1501 Real estate)
- real property development (see 04.1001 Real estate development)

53. High school/secondary diploma and certificate programs

This series comprises instructional programs that define the prescribed requirements for high school/secondary school graduation. It also includes college/university preparatory programs.

53.01 High school/secondary diploma programs

This subseries comprises instructional program classes 53.0101 to 53.0199.

53.0101 Regular/general high school/secondary diploma programs

This instructional program class comprises any program that defines the prescribed minimum requirements, specified by the appropriate jurisdiction, for completion of and graduation from an undifferentiated regular secondary school program representing 12 academic years of schooling intended for school-age students.

Illustrative example(s)
- regular high school diploma
- regular secondary school diploma

53.0102 College/university preparatory programs

This instructional program class comprises any program that defines the prescribed requirements, specified by the appropriate jurisdiction, for academic subject matter designed to meet typical college and university entrance requirements. These programs can be taught at various educational levels. It also includes college/university preparatory programs that do not lead to a diploma or certificate.

Illustrative example(s)
- college preparatory program
- university preparatory program

53.0103 Vocational high school and secondary business/vocational-industrial/occupational diploma programs

This instructional program class comprises any program that defines the prescribed requirements, specified by the appropriate jurisdiction, for high school/secondary school graduation in a vocational program - together with other required subject matter, and that prepares individuals for specific occupations or direct labour market entry.

Illustrative example(s)
- vocational high school diploma
- vocational secondary school diploma

53.0104 Honours/regents high school/secondary diploma programs

This instructional program class comprises any program that defines the prescribed requirements, specified by the appropriate jurisdiction, for high school/secondary school graduation in an academic or vocational program at a prescribed level of outstanding scholastic performance, or via meeting special requirements beyond the minimum.

Illustrative example(s)
- regents high school diploma
- regents secondary school diploma

53.0105 Adult high school/secondary diploma programs

This instructional program class comprises any program that defines the prescribed requirements, specified by the appropriate jurisdiction, for the completion of and graduation from a secondary school program of academic subject matter offered for adult learners outside of the regular secondary school program. This does not include adult compensatory education programs resulting in completion of a high school equivalency certificate or diploma.

Illustrative example(s)
- adult high school diploma
- adult secondary school diploma

53.0199 High school/secondary diploma programs, other

This instructional program class comprises any program not listed above that relates to High school/secondary diploma programs.

53.02 High school/secondary certificate programs

This subseries comprises instructional program classes 53.0201 to 53.0299.

53.0201 High school equivalence certificate programs

This instructional program class comprises any program that defines the requirements for meeting the minimum high school/secondary completion requirements, specified by the appropriate jurisdiction, for adult learners who did not complete secondary school. Includes undertaking a specified program of studies and obtaining a prescribed passing score on the General Educational Development test (GED) or provincial examinations. These certificates represent the legally recognized equivalent of secondary school graduation.

Illustrative example(s)
- adult basic education (high school equivalency)
- high school equivalence certificate

Exclusion(s)
- adult basic education (except high school equivalency) (see 32.0101 Basic skills, general (not for credit))

53.0202 High school certificate of competence programs

This instructional program class comprises any program that defines the content requirements for meeting specified performance standards in various secondary school studies that does not represent completion of and graduation from secondary school, as prescribed by the appropriate jurisdiction. Includes such requirements as passing a mandated academic achievement test and completing other specified requirements for subject-matter competence. These awards may be given for partial completion of secondary school or for achieving a specified high level of concentration and/or performance in certain subjects, and may be awarded independently or in conjunction with a high school/secondary diploma.

Illustrative example(s)
- high school certificate of competence

53.0203 Certificate of IEP completion programs

This instructional program class comprises any program that defines the requirements for meeting specified goals pertaining to an Individual Educational Program established by a local school system under the authority of the appropriate jurisdiction. These programs include courses for which the specific content varies by student and may or may not equal a regular high school/secondary school program.

Illustrative example(s)
- high school individual educational program certificate

Exclusion(s)
- individualized studies (see 24.0101 Liberal arts and sciences/liberal studies)

53.0299 High school/secondary certificate programs, other

This instructional program class comprises any program not listed above that relates to High school/secondary certificate programs.

54. History

This series comprises instructional programs that focus on the study and interpretation of past events, institutions, issues, and cultures.

54.01 History

This subseries comprises instructional program classes 54.0101 to 54.0199.

54.0101 History, general

This instructional program class comprises any program that focuses on the general study and interpretation of the past, including the gathering, recording, synthesizing and criticizing of evidence and theories about past events. These programs include courses in historiography; historical research methods; studies of specific periods, issues and cultures; and applications to areas such as historic preservation, public policy, and records administration.

Illustrative example(s)
- general history
- historical research
- historical studies
- history
- modern history

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- art history (see 50.0703 Art history, criticism and conservation)
- historic preservation and conservation (see 30.1201 Historic preservation and conservation, general)
- history and theory of architecture (see 04.0801 Architectural history and criticism)
- history teacher (see 13.1328 History teacher education)
- medieval studies (see 30.1301 Medieval and renaissance studies)
- military history (see 54.0108 Military history)
- music history (see 50.0902 Music history, literature and theory)
- theatre history (see 50.0505 Theatre literature, history and criticism)

54.0102 American history (United States)

This instructional program class comprises any program that focuses on the development of American society, culture, and institutions from the pre-Columbian period to the present. These programs include courses in American historiography, American history sources and materials, historical research methods, and applications to the study of specific themes, issues, periods, and institutions.

Illustrative example(s)
- American history
- U.S. history

Exclusion(s)
- American studies (see 05.0102 American/United States studies/civilization)

54.0103 European history

This instructional program class comprises any program that focuses on the development of European society, culture, and institutions from their origins to the present. These programs include courses in European historiography, European history sources and materials, historical research methods, and applications to the study of specific themes, issues, periods, and institutions.

Illustrative example(s)
- British history
- European cultural history
- European history
- European social history
- French history
- German history
- Irish history
- Russian history

Exclusion(s)
- cultural anthropology (see 45.0204 Cultural anthropology)
- East European studies (see 05.0105 Russian, Central European, East European and Eurasian studies)
- European studies (see 05.0106 European studies/civilization)
- West European studies (see 05.0114 Western European studies)

54.0104 History and philosophy of science and technology

This instructional program class comprises any program that focuses on the historical evolution of scientific theories, science applications and technologies, and the scientific, medical, and technological disciplines, as well as the philosophy of science and its historical socio-economic context. These programs include courses in the concepts and methods of philosophical inquiry; historiography of science; history of science, medicine, and technology; and research methods in the history of the scientific and engineering disciplines, including mathematics.

Illustrative example(s)
- history and philosophy of science
- history of medicine
- history of science
- philosophy of science and technology
- science history

Exclusion(s)
- metaphysics (see 38.0199 Philosophy, logic and ethics, other)
- science, technology and society (see 30.1501 Science, technology and society)

54.0105 Public/applied history

This instructional program class comprises any program that focuses on the application of history and administrative skills to the recording of public events and the management of related historical resources. These programs include courses in historical research methods, the planning and administration of public history projects, and applications to specific problems in public organizations, government agencies, foundations, and other facilities.

Illustrative example(s)
- applied history
- public history

Exclusion(s)
- archival technician (see 25.0301 Library and archives assisting)
- health records administration (see 51.0706 Health information/medical records administration/administrator)
- health records technology (see 51.0707 Health information/medical records technology/technician)
- library and information science (see 25.0101 Library and information science)
- records management (see 25.0103 Archives/archival administration)

54.0106 Asian history

This instructional program class comprises any program that focuses on the development of the societies, cultures, and institutions of the Asian continent from their origins to the present. These programs include courses in the historiography of specific cultures and periods; sources and materials; historical research methods; and applications to the study of specific themes, issues, periods, and institutions.

Illustrative example(s)
- Asian history
- Chinese history

- Korean history

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- Asian studies (see 05.0103 Asian studies/civilization)

54.0107 Canadian history

This instructional program class comprises any program that focuses on the study of the society, culture, and institutions of Canada from its origins to the present. These programs include courses in Canadian historiography, sources and materials, historical research methods, and applications to the study of specific themes, issues, periods, and institutions.

Illustrative example(s)
- Canadian history
- history of Canada
- history of New France
- history of Quebec and Canada
- Inuit history

Exclusion(s)
- Canadian studies (see 05.0115 Canadian studies)
- military history (see 54.0108 Military history)

54.0108 Military history

This instructional program class comprises any program that focuses on the study of the history of warfare and military institutions in their operational, politico-economic and socio-cultural contexts; including airpower history, naval history, and military history. These programs include courses in military organization, military operations, the history of technology, leadership and biography, military psychology and behaviour, international relations and politics, economics, aspects of general and regional history, cultural history and anthropology, historiography, and applicable quantitative methods.

Illustrative example(s)
- air force history
- army history
- military history
- navy history

Exclusion(s)
- Canadian history (see 54.0107 Canadian history)
- history (see 54.0101 History, general)
- international relations and affairs - History (see 45.0901 International relations and affairs)
- military intelligence (see 29.0501 Military technologies and applied sciences)
- military studies (see 28.0801 Military science, leadership and operational art)
- world history (see 54.0199 History, other)

54.0199 History, other

This instructional program class comprises any program not listed above that relates to History.

Illustrative example(s)
- African history
- ancient history
- history of the Americas
- medieval history

- Middle East history
- political history
- world history

Exclusion(s)
- ancient studies (see 30.2201 Ancient studies/civilization)
- archaeology (see 45.0301 Archaeology)
- history of education (see 13.0901 Social and philosophical foundations of education)
- history of religion (see 38.0299 Religion/religious studies, other)
- military history (see 54.0108 Military history)
- music history (see 50.0902 Music history, literature and theory)

55. French language and literature/letters CAN

This series comprises instructional programs that focus on the structure and use of the French language and dialects, speech, writing, and various aspects of the literatures and cultures of the French-speaking peoples. Note: Series 55 is for Canadian use only. In the United States, programs that provide instruction in French as a foreign language should be reported under instructional program code 16.0901.

55.01 French language and literature, general CAN

This subseries comprises instructional program class 55.0101.

55.0101 French language and literature, general CAN

This instructional program class comprises any general program that focuses on the French language, including its history, structure and related communications skills; and the literature and culture of French-speaking peoples.

Illustrative example(s)
- French
- French language
- French language and literature
- French language, literature and linguistics
- letters, French

Exclusion(s)
- applied linguistics (see 16.0105 Applied linguistics)
- French as a second language (see 16.1702 French as a second language)
- French general literature (see 55.1401 French literature, general)
- French studies (see 05.0124 French studies)
- French teacher (see 13.1325 French language/French language arts teacher education)
- linguistics (see 16.0102 Linguistics)
- literature of France (see 55.1404 Literature of France and the French community, French)
- Quebec literature (in French) (see 55.1403 Canadian literature, French)
- second language learning (not for credit) (see 32.0109 Second language learning (not for credit))
- theatre history and analysis (see 50.0505 Theatre literature, history and criticism)

55.13 French rhetoric and composition/writing studies CAN

This subseries comprises instructional program classes 55.1301 to 55.1399.

55.1301 French writing, general CAN

This instructional program class comprises any program that focuses on writing in French for applied and liberal arts purposes. These programs include courses in writing and document design in multiple genres, modes, and media; writing technologies; research, evaluation, and use of information; editing and publishing; theories and processes of composing; rhetorical theories, traditions, and analysis; communication across audiences, contexts, and cultures; and practical applications for professional, technical, organizational, academic, and public settings.

Illustrative example(s)
- French composition
- French writing

Exclusion(s)
- advertising copywriting (see 09.0903 Advertising)
- developmental/remedial reading and writing (see 32.0108 Literacy and communication skills (not for credit))
- English composition (see 23.1301 English writing, general)
- English creative non-fiction (see 23.1302 English creative writing)
- English technical and professional writing (see 23.1303 English professional, technical, business, and scientific writing)
- French creative writing (see 55.1302 French creative writing)
- French rhetoric and writing (see 55.1304 French rhetoric and composition)
- French technical writing (see 55.1303 French professional, technical, business, and scientific writing)
- French writing and literature (see 55.9999 French language and literature/letters, other)
- journalism (see 09.0401 Journalism, general)
- script writing (see 50.0504 Playwriting and screenwriting)
- writing (see 36.0118 Writing (not for credit))

55.1302 French creative writing CAN

This instructional program class comprises any program in French language and literature that focuses on the process and techniques of original composition in various literary forms such as the short story, poetry, the novel, and others. These programs include courses in technical and editorial skills, criticism, and the marketing of finished manuscripts.

Illustrative example(s)
- French creative writing

Exclusion(s)
- English composition (see 23.1301 English writing, general)
- English creative writing (see 23.1302 English creative writing)
- French composition (see 55.1301 French writing, general)
- journalism (see 09.0401 Journalism, general)
- script writing (see 50.0504 Playwriting and screenwriting)
- writing (see 36.0118 Writing (not for credit))

55.1303 French professional, technical, business, and scientific writing CAN

This instructional program class comprises any program in French language and literature that focuses on professional, technical, business, and scientific writing; and that prepares individuals for academic positions or for professional careers as writers, editors, researchers, and related careers in business, government, non-profits, and the professions. These programs include courses in theories of rhetoric, writing, and digital literacy; document design, production, and management; visual rhetoric and multimedia composition; documentation development; usability testing; web writing; and publishing in print and electronic media.

Illustrative example(s)
- French business writing
- French technical and business writing
- French technical writing

Exclusion(s)
- business communications (see 52.0501 Business/corporate communications)
- English composition (see 23.1301 English writing, general)
- English creative writing (see 23.1302 English creative writing)
- English technical and professional writing (see 23.1303 English professional, technical, business, and scientific writing)
- French composition (see 55.1301 French writing, general)
- French creative writing (see 55.1302 French creative writing)
- sports communication (see 09.0906 Sports communication)
- technical communication (see 09.0908 Technical and scientific communication)

55.1304 French rhetoric and composition CAN

This instructional program class comprises any program in French language and literature that focuses on the humanistic and scientific study of rhetoric, composition, literacy, and language/linguistic theories and their practical and pedagogical applications. These programs include courses in historical and contemporary rhetoric/composition theories; composition and criticism of written, visual, and mixed-media texts; analysis of literacy practices in cultural and cross-cultural contexts; and writing program administration.

Illustrative example(s)
- French rhetoric
- French rhetoric and composition
- French rhetoric and writing
- French rhetoric and writing studies
- French speech and rhetoric studies

Exclusion(s)
- communication science (see 09.0100 Communication, general)
- English speech and rhetorical studies (see 23.1304 English rhetoric and composition)
- French composition (see 55.1301 French writing, general)
- speech communication (see 09.0101 Speech communication and rhetoric)
- speech pathology (see 51.0203 Speech-language pathology/pathologist)
- speech teacher education (see 13.1331 Speech teacher education)
- speech therapy and audiology (see 51.0204 Audiology/audiologist and speech-language pathology/pathologist)
- teaching of individuals with speech or language impairments (see 13.1012 Education/teaching of individuals with speech or language impairments)

55.1399 French rhetoric and composition/writing studies, other CAN

This instructional program class comprises any program in French language and literature not listed above that relates to French rhetoric and composition/writing studies.

Exclusion(s)
- advertising copywriting (see 09.0903 Advertising)
- developmental/remedial reading and writing (see 32.0108 Literacy and communication skills (not for credit))
- English writing (see 23.1301 English writing, general)
- French creative writing (see 55.1302 French creative writing)
- French speech and rhetoric studies (see 55.1304 French rhetoric and composition)
- French technical writing (see 55.1303 French professional, technical, business, and scientific writing)

- French writing (see 55.1301 French writing, general)
- script writing (see 50.0504 Playwriting and screenwriting)

55.14 French literature CAN

This subseries comprises instructional program classes 55.1401 to 55.1499.

55.1401 French literature, general CAN

This instructional program class comprises any program in French language and literature that focuses on literature from one or more genres, cultures or traditions. These programs include courses in period and genre studies, author studies, literary criticism, and studies of various types of literary text.

Illustrative example(s)
- French general literature
- French literary studies

Exclusion(s)
- classical literature (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- comparative literature (see 16.0104 Comparative literature)
- English literature (see 23.1401 English literature, general)
- foreign literature (see 16.0101 Aboriginal and foreign languages and literatures, general)
- French language and literature (see 55.0101 French language and literature, general)
- French literature education (see 13.1325 French language/French language arts teacher education)
- humanities, art and literature (see 24.0103 Humanities/humanistic studies)
- theatre literature (see 50.0505 Theatre literature, history and criticism)

55.1403 Canadian literature, French CAN

This instructional program class comprises any program in French language and literature that focuses on the literature and literary development, both formal and folkloric, of Canada from its origins to the present. These programs include courses in period and genre studies, author studies, literary criticism, and regional and oral traditions.

Illustrative example(s)
- Canadian literature (in French)
- Quebec literature (in French)

Exclusion(s)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- French language and literature (see 55.0101 French language and literature, general)
- literature of France (see 55.1404 Literature of France and the French community, French)

55.1404 Literature of France and the French community, French CAN

This instructional program class comprises any program that focuses on the literatures and literary developments of the French-speaking peoples of France and the French community, from the origins of the French language to the present. These programs include courses in period and genre studies, author studies, country and regional specializations, literary criticism, and the study of folkloric traditions.

Illustrative example(s)
- literature of France
- literature of France and the French community, French
- literature studies of the francophonie (in French)

Exclusion(s)
- Canadian literature (in English) (see 23.1403 Canadian literature, English)
- cannadian literature (in French) (see 55.1403 Canadian literature, French)
- comparative literature (see 16.0104 Comparative literature)
- English language and literature (see 23.0101 English language and literature, general)
- French language and literature (see 55.0101 French language and literature, general)

55.1405 Children's and adolescent literature, French CAN

This instructional program class comprises any program in French language and literature that focuses on the scholarly study of children's and adolescent literature and that may enhance the professional work of teachers, librarians, publishers, booksellers, and creative writers. These programs include courses in period and genre studies, author studies, literary criticism, studies of various types of literary text, book artists, and children's films.

Illustrative example(s)
- French children's literature
- French literature for children and young adults

Exclusion(s)
- youth library services (see 25.0102 Children and youth library services)

55.1499 French literature, other CAN

This instructional program class comprises any program in French language and literature not listed above that relates to French literature.

Exclusion(s)
- classical literature (see 16.1200 Classics and classical languages, literatures and linguistics, general)
- comparative literature (see 16.0104 Comparative literature)
- foreign literature (see 16.0101 Aboriginal and foreign languages and literatures, general)
- humanities, art and literature (see 24.0103 Humanities/humanistic studies)
- theatre literature (see 50.0505 Theatre literature, history and criticism)

55.99 French language and literature/letters, other CAN

This subseries comprises instructional program class 55.9999.

55.9999 French language and literature/letters, other CAN

This instructional program class comprises any program in French language and literature not listed above that relates to French language and literature/letters.

Illustrative example(s)
- French writing and literature

Exclusion(s)
- French writing (see 55.1301 French writing, general)

60. Dental, medical and veterinary residency programs

This series comprises residency programs in various dental, medical, and veterinary specializations offered in teaching hospitals and similar locations, that may lead to advanced professional certification. Residency programs that also result in an academic degree completion, such as an MSc or a PhD, should be reported in series 26. Biological and biomedical sciences or in series 51. Health professions and related programs.

60.01 Dental residency programs

This subseries comprises instructional program classes 60.0101 to 60.0199.

60.0101 Oral and maxillofacial surgery residency programs

This instructional program class comprises any residency training program that prepares dentists in the diagnosis, and surgical and related treatment, of diseases, injuries, and defects involving both the functional and esthetic aspects of the hard and soft tissues of the head, mouth, teeth, gums, jaws, and neck. Includes treatment of problem wisdom teeth, facial pain, misaligned jaws, and reconstructive and dental implant surgery. Note: this specialty was previously titled Dental/oral surgery.

Illustrative example(s)
- dental/oral surgery specialty - residency
- oral and maxillofacial surgery - residency

Exclusion(s)
- advanced education in general dentistry program (see 51.0502 Advanced general dentistry (Cert., MS, MSc, PhD))
- dentist (see 51.0401 Dentistry (DDS, DMD))
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)
- oral surgery (Cert., MS, MSc, PhD) (see 51.0507 Oral/maxillofacial surgery (Cert., MS, MSc, PhD))

60.0102 Dental public health residency programs

This instructional program class comprises any residency training program that prepares dentists in the formulation and delivery of public preventive and curative dental health services.

Illustrative example(s)
- dental public health - residency
- dental public health specialty - residency

Exclusion(s)
- dental public health and education (Cert., MS, MSc, MPH, PhD, DPH) (see 51.0504 Dental public health and education (Cert., MS, MSc, MPH, PhD, DPH))

60.0103 Endodontics residency programs

This instructional program class comprises any residency training program that prepares dentists in the etiology, diagnosis, prevention, and treatment of conditions that affect the dental and other periodontal tissues, including pulp canal therapy and root canal therapy.

Illustrative example(s)
- endodontics - residency
- endodontics specialty - residency

Exclusion(s)
- endodontics (Cert., MS, MSc, PhD) (see 51.0506 Endodontics/endodontology (Cert., MS, MSc, PhD))

60.0104 Oral and maxillofacial pathology residency programs

This instructional program class comprises any residency training program that prepares dentists in the diagnosis and management of diseases affecting the oral and maxillofacial regions, using clinical, radiographic, microscopic, biochemical, or other examinations.

Illustrative example(s)
- oral and maxillofacial pathology - residency
- oral pathology specialty - residency

Exclusion(s)
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)

60.0105 Orthodontics residency programs

This instructional program class comprises any residency training program that prepares dentists in the principles and techniques involved in the prevention and correction of dental malocclusions and oral cavity anomalies.

Illustrative example(s)
- orthodontics - residency
- orthodontics specialty - residency

Exclusion(s)
- orthodontics (Cert., MS, MSc, PhD) (see 51.0508 Orthodontics/orthodontology (Cert., MS, MSc, PhD))

60.0106 Pediatric dentistry residency programs

This instructional program class comprises any residency training program that prepares dentists to provide primary oral health care to infants, children, and adolescents, including patients with medical, physical or mental disabilities, and to treat a wide variety of dental problems for these patients. Note: this specialty was previously titled Pedodontics.

Illustrative example(s)
- pediatric dentistry - residency
- pedodontics specialty - residency

Exclusion(s)
- pedodontics (Cert., MS, MSc, PhD) (see 51.0509 Pediatric dentistry/pedodontics (Cert., MS, MSc, PhD))

60.0107 Periodontology residency programs

This instructional program class comprises any residency training program that prepares dentists in the prevention, diagnosis, and treatment of diseases affecting the gums and supporting structures of the teeth, and in the placement and maintenance of dental implants.

Illustrative example(s)
- periodontics specialty - residency
- periodontology - residency

Exclusion(s)
- periodontics (Cert., MS, MSc, PhD) (see 51.0510 Periodontics/periodontology (Cert., MS, MSc, PhD))

60.0108 Prosthodontics residency programs

This instructional program class comprises any residency training program that prepares dentists in the principles and techniques of constructing oral prostheses, and the restoration and maintenance of oral function by the replacement of missing teeth and other oral structures with such artificial devices.

Illustrative example(s)
- prosthodontics - residency
- prosthodontics specialty - residency

Exclusion(s)
- prosthodontics (Cert., MS, MSc, PhD) (see 51.0511 Prosthodontics/prosthodontology (Cert., MS, MSc, PhD))

60.0109 Oral and maxillofacial radiology residency programs

This instructional program class comprises any residency training program that prepares dentists to produce and interpret images of the jaws, teeth, bone, and other structures of the head and neck region; and to diagnose and manage diseases, disorders, and conditions that affect this area of the body.

Illustrative example(s)
- oral and maxillofacial radiology - residency

Exclusion(s)
- dental sciences (MS, MSc, PhD) (see 51.0501 Dental clinical sciences, general (MS, MSc, PhD))
- dentist (see 51.0401 Dentistry (DDS, DMD))
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- oral and maxillofacial pathology - residency (see 60.0104 Oral and maxillofacial pathology residency programs)
- oral and maxillofacial pathology (MS, MSc, PhD) (see 51.0503 Oral biology and oral and maxillofacial pathology (MS, MSc, PhD))
- oral and maxillofacial surgery - residency (see 60.0101 Oral and maxillofacial surgery residency programs)
- oral and maxillofacial surgery (Cert., MS, MSc, PhD) (see 51.0507 Oral/maxillofacial surgery (Cert., MS, MSc, PhD))

60.0199 Dental residency programs, other

This instructional program class comprises any program not listed above that relates to Dental residency programs.

Exclusion(s)
- advanced education in general dentistry program (see 51.0502 Advanced general dentistry (Cert., MS, MSc, PhD))

60.03 Veterinary residency programs

This subseries comprises instructional program classes 60.0301 to 60.0399.

60.0301 Veterinary anesthesiology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the application of anesthesia for general and specialized surgery and obstetrics, critical animal care and the care of pain problems. These programs include courses in surgical procedures, current monitoring procedures, fluid therapy, pain management, diagnostic and therapeutic procedures outside the operating room, and operating room safety.

Illustrative example(s)
- veterinary anesthesiology - residency

60.0302 Veterinary dentistry residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the application of dental care procedures to the teeth, eating surfaces, and oral cavities of animals. These programs include courses in the prevention, diagnosis, and treatment of diseases and abnormalities of animal teeth and gums and related parts of the oral cavity; and related anatomical and physiological principles.

Illustrative example(s)
- veterinary dentistry - residency

60.0303 Veterinary dermatology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the delivery of specialized care to animals with diseases of the skin, scales, feathers, hair, nails and mucous membranes. These programs include courses in dermatologic surgical procedures, cutaneous allergies, and diagnostic and therapeutic techniques.

Illustrative example(s)
- veterinary dermatology - residency

Exclusion(s)
- pediatric dermatology - residency (see 60.0551 Pediatric dermatology residency programs)

60.0304 Veterinary emergency and critical care medicine residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the emergency treatment and management of care for animals with acutely life-threatening conditions which may include multiple organ failure. These programs include courses in the management of critical care units, emergency procedures, and long-term care of critically diseased animals.

Illustrative example(s)
- veterinary emergency and critical care medicine - residency

Exclusion(s)
- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)

60.0305 Veterinary internal medicine residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the provision of general medical services to animals with a wide range of non-surgical clinical problems. These programs include courses in behavioural aspects of diseases, animal diagnosis, animal aging, and referral procedures.

Illustrative example(s)
- veterinary internal medicine - residency

60.0306 Laboratory animal medicine residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the principles and practices of applied veterinary research and related techniques, equipment, data systems and research design. These programs include courses in the management of veterinary and other animal research laboratories and health care facilities.

Illustrative example(s)
- laboratory animal medicine - residency

Exclusion(s)
- comparative and laboratory animal medicine (Cert., MS, MSc, PhD) (see 51.2509 Comparative and laboratory animal medicine (Cert., MS, MSc, PhD))

60.0307 Veterinary microbiology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in clinical applications of research on harmful microorganisms, including viruses, and of the disease processes they induce in animals.

Illustrative example(s)
- veterinary microbiology - residency

Exclusion(s)
- medical microbiology - residency (see 60.0532 Medical microbiology residency programs)
- veterinary microbiology and immunobiology (Cert., MS, MSc, PhD) (see 51.2504 Veterinary microbiology and immunobiology (Cert., MS, MSc, PhD))

60.0308 Veterinary nutrition residency programs

This instructional program class comprises any residency training program that prepares veterinarians to apply research on the chemical nature of food substances; the processes by which animals ingest, digest, absorb, transport, utilize and excrete food and nutrients; and their relation to animal behaviour and health.

Illustrative example(s)
- veterinary nutrition - residency

Exclusion(s)
- animal nutrition (see 01.0904 Animal nutrition)

60.0309 Veterinary ophthalmology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the diagnosis, prevention, and treatment of ophthalmic diseases and disorders in animals, and related ocular pathology procedures. These programs include courses in animal eye surgery.

Illustrative example(s)
- veterinary ophthalmology - residency

60.0310 Veterinary pathology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the clinical laboratory analysis and diagnosis of diseased animal tissues and anatomic abnormalities. These programs include courses in performing general autopsies, forensic medicine, laboratory management and quality control.

Illustrative example(s)
- veterinary pathology - residency

Exclusion(s)
- veterinary pathology and pathobiology (Cert., MS, MSc, PhD) (see 51.2505 Veterinary pathology and pathobiology (Cert., MS, MSc, PhD))

60.0311 Veterinary practice residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the provision of regular and long-term care to animals, health services to owners, and the management of independent veterinary practices. These programs include courses in comprehensive care and specialist referral, basic surgery, emergency medical procedures, and diagnostic imaging.

Illustrative example(s)
- veterinary practice - residency

Exclusion(s)
- veterinary medicine (DVM) (see 51.2401 Veterinary medicine (DVM))
- veterinary sciences (Cert., MS, MSc, PhD) (see 51.2501 Veterinary sciences/veterinary clinical sciences, general (Cert., MS, MSc, PhD))

60.0312 Veterinary preventive medicine residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the investigation of and intervention in health and disease problems of animal and related human communities; comparative medicine; and animal public health. These programs include courses in biostatistics, epidemiology, environmental control, toxicology and the planning and administration of animal health programs and services.

Illustrative example(s)
- veterinary preventive medicine - residency

Exclusion(s)
- veterinary epidemiology (see 51.2510 Veterinary preventive medicine, epidemiology and public health (Cert., MS, MSc, PhD))

60.0313 Veterinary radiology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the use of radiologic imaging and therapies to diagnose and treat animal diseases and health problems. These programs include courses in the use and handling of equipment for radionuclides detection and application.

Illustrative example(s)
- veterinary radiology - residency

Exclusion(s)
- pediatric radiology - residency (see 60.0562 Pediatric radiology residency programs)

60.0314 Veterinary surgery residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the care and treatment of animal diseases and disorders via invasive procedures and the etiology, pathogenesis, diagnosis and management of physical disorders. These programs include courses in clinical and operative skills, pre-operative and postoperative care, trauma management, endoscopic techniques, and applications to large and small animal medicine.

Illustrative example(s)
- veterinary surgery - residency

Exclusion(s)
- herd medicine and theriogenology (Cert., MS, MSc, PhD) (see 51.2507 Large animal/food animal and equine surgery and medicine (Cert., MS, MSc, PhD))
- small/companion animal surgery and medicine (Cert., MS, MSc, PhD) (see 51.2508 Small/companion animal surgery and medicine (Cert., MS, MSc, PhD))

60.0315 Theriogenology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the diagnosis, prevention and treatment of diseases and health problems affecting the reproductive systems of animals, and the comprehensive care and treatment of parent animals, animal fetuses and newborn or newly hatched animals throughout the gestation period.

Illustrative example(s)
- theriogenology - residency

60.0316 Veterinary toxicology residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the clinical application of research on the nature and extent of adverse effects of synthetic and naturally occurring chemical substances on animals. These programs include courses in chemical mechanisms and the specialties of reproductive, developmental, genetic, forensic, inhalation and neurobehavioural toxicology.

Illustrative example(s)
- veterinary toxicology - residency

Exclusion(s)
- medical toxicology - residency (see 60.0535 Medical toxicology residency programs)
- veterinary toxicology and pharmacology (Cert., MS, MSc, PhD) (see 51.2506 Veterinary toxicology and pharmacology (Cert., MS, MSc, PhD))

60.0317 Zoological medicine residency programs

This instructional program class comprises any residency training program that prepares veterinarians in the specialized treatment and care of zoo animals, performing animals, and animals living in the wild. These programs include courses in the principles and procedures used in the observation, diagnosis, care and treatment of illness, disease, injury, deformity, or other anomalies in non-domesticated animals.

Illustrative example(s)
- zoological medicine - residency

60.0318 Poultry veterinarian residency programs

This instructional program class comprises any residency training program that prepares veterinarians to work in the commercial poultry industry, providing services and technical support pertaining to prevention, diagnosis, and management of disease; epidemiology; genetics; and nutrition.

Illustrative example(s)
- poultry veterinarian - residency

Exclusion(s)
- poultry science (see 01.0907 Poultry science)

60.0319 Veterinary behaviourist residency programs

This instructional program class comprises any residency training program that prepares veterinarians to understand and treat the behavioural problems of animals, primarily through the application of behaviour modification techniques to companion animals; may also involve diagnosis of medical conditions that can affect a pet's behaviour, and the use of medication in conjunction with behaviour modification therapy.

Illustrative example(s)
- veterinary behaviourist - residency

Exclusion(s)
- animal behaviour (see 26.0708 Animal behaviour and ethology)
- behavioural science (see 30.1701 Behavioural sciences)

60.0320 Veterinary clinical pharmacology residency programs

This instructional program class comprises any residency training program that prepares veterinarians to apply advanced knowledge of the chemical properties and biological effects of drugs to rational drug therapy in animal patients. These programs include courses in the comparative pharmacology of principal drug groups, pharmacokinetics, basic mechanisms and features of diseases occurring in domesticated animals, the role of drugs in modifying the disease process, and specific skills critical to the practice of clinical pharmacology.

Illustrative example(s)
- veterinary clinical pharmacology - residency

Exclusion(s)
- pharmacology (see 26.1001 Pharmacology)
- veterinary toxicology and pharmacology (Cert., MS, MSc, PhD) (see 51.2506 Veterinary toxicology and pharmacology (Cert., MS, MSc, PhD))

60.0399 Veterinary residency programs, other

This instructional program class comprises any program not listed above that relates to Veterinary residency programs.

60.04 Medical residency programs - general certificates

This subseries comprises instructional program classes 60.0401 to 60.0499.

60.0401 Aerospace medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the health care of operating crews, support personnel, and passengers of air and space vehicles. These programs include courses in special conditions of physical and psychological stress, emergency medical procedures, adaptive systems and artificial environments. One of three general certificates in the area of preventive medicine.

Illustrative example(s)
- aerospace medicine - residency

Exclusion(s)
- aerospace physiology (see 26.0912 Aerospace physiology and medicine)

60.0402 Allergy and immunology residency programs

This instructional program class comprises any residency training program that prepares physicians in the delivery of skilled medical care to patients suffering from allergic, asthmatic and immunologic diseases. Requires completion of a prior program in internal medicine or pediatrics.

Illustrative example(s)
- allergies and immunology - residency
- allergy and immunology - residency

60.0403 Anesthesiology residency programs

This instructional program class comprises any residency training program that prepares physicians in the application of anesthesia for general and specialized surgery and obstetrics, critical patient care and the care of pain problems. These programs include courses in surgical procedures, current monitoring procedures, fluid therapy, pain management, diagnostic and therapeutic procedures outside the operating room and operating room safety.

Illustrative example(s)
- anesthesiology - residency

Exclusion(s)
- anesthesiologist assistant (see 51.0809 Anesthesiologist assistant)
- critical care anesthesiology - residency (see 60.0511 Critical care medicine residency programs)

60.0404 Child neurology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of neurologic disorders of the neonatal period, infancy, early childhood, and adolescence. Requires training in neurology with additional training in child neurology.

Illustrative example(s)
- child neurology - residency
- child/pediatric neurology - residency
- neurology with special qualifications in child neurology - residency
- pediatric neurology - residency

Exclusion(s)
- developmental-behavioural pediatrics - residency (see 60.0514 Developmental-behavioural pediatrics residency programs)
- neurodevelopmental disabilities - residency (see 60.0540 Neurodevelopmental disabilities residency programs)
- neurology - residency (see 60.0417 Neurology residency programs)
- neuromuscular medicine - residency (see 60.0541 Neuromuscular medicine residency programs)
- vascular neurology - residency (see 60.0584 Vascular neurology residency programs)

60.0405 Clinical biochemical genetics residency programs

This instructional program class comprises any residency training program that prepares physicians to perform and interpret biochemical analyses relevant to the diagnosis and management of human genetic diseases, and to serve as a consultant regarding laboratory diagnosis of a broad range of inherited disorders. One of four general certificates in the area of medical genetics.

Illustrative example(s)
- clinical biochemical genetics - residency

Exclusion(s)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- clinical cytogenetics - residency (see 60.0406 Clinical cytogenetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- genetics (see 26.0801 Genetics, general)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)
- medical genetics (see 26.0806 Human/medical genetics)

60.0406 Clinical cytogenetics residency programs

This instructional program class comprises any residency training program that prepares physicians to provide laboratory diagnostic and clinical interpretive services dealing with chromosomes associated with inherited disorders and cancer. One of four general certificates in the area of medical genetics.

Illustrative example(s)
- clinical cytogenetics - residency

Exclusion(s)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- cytogenetics (see 51.1010 Cytogenetics/genetics/clinical genetics technology/technologist)
- genetics (see 26.0801 Genetics, general)
- medical genetics (see 26.0806 Human/medical genetics)

60.0407 Clinical genetics residency programs

This instructional program class comprises any residency training program that prepares physicians to provide comprehensive diagnostic, management, and counselling services for individuals and families at risk for clinical disorders with a genetic basis. One of four general certificates in the area of medical genetics.

Illustrative example(s)
- clinical genetics - residency

Exclusion(s)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical cytogenetics - residency (see 60.0406 Clinical cytogenetics residency programs)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- genetics (see 26.0801 Genetics, general)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)
- medical genetics (see 26.0806 Human/medical genetics)

60.0408 Clinical molecular genetics residency programs

This instructional program class comprises any residency training program that prepares physicians to perform and interpret molecular analyses relevant to the diagnosis and management of human genetic diseases, and to serve as a consultant regarding laboratory diagnosis of a broad range of inherited disorders. One of four general certificates in the area of medical genetics.

Illustrative example(s)
- clinical molecular genetics - residency

Exclusion(s)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- genetics (see 26.0801 Genetics, general)
- medical biochemical genetics - residency (see 60.0531 Medical biochemical genetics residency programs)
- medical genetics (see 26.0806 Human/medical genetics)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- molecular genetics (see 26.0802 Molecular genetics)
- molecular medicine (see 26.1401 Molecular medicine)

60.0409 Colon and rectal surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the surgical care of patients with anorectal and colonic diseases. Also includes instruction in diagnostic and therapeutic colonoscopy. Requires prior completion of a program in general surgery.

Illustrative example(s)
- colon and rectal surgery - residency

60.0410 Dermatology residency programs

This instructional program class comprises any residency training program that prepares physicians in the delivery of specialized care to patients with diseases of the skin, hair, nails and mucous membranes. These programs include courses in dermatologic surgical procedures, cutaneous allergies, sexually transmitted diseases, and diagnostic and therapeutic techniques.

Illustrative example(s)
- dermatology - residency

Exclusion(s)
- pediatric dermatology - residency (see 60.0551 Pediatric dermatology residency programs)

60.0411 Diagnostic radiology residency programs

This instructional program class comprises any residency training program that prepares physicians to utilize x-ray, ionizing radiation, radionuclides, ultrasound, electromagnetic radiation, and image-guided intervention to diagnose and treat disease. One of two general certificates in the area of radiology.

Illustrative example(s)
- diagnostic radiology - residency

Exclusion(s)
- diagnostic radiologic physics - residency (see 60.0515 Diagnostic radiologic physics residency programs)
- neuroradiology - residency (see 60.0543 Neuroradiology residency programs)
- oral and maxillofacial radiology - residency (see 60.0109 Oral and maxillofacial radiology residency programs)
- pediatric radiology - residency (see 60.0562 Pediatric radiology residency programs)
- radiologic physics - residency (see 60.0431 Radiologic physics residency programs)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)

60.0412 Emergency medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the methods, procedures, and techniques of providing and managing immediate health care services. These programs include courses in the initial recognition, stabilization, evaluation and care of the acutely ill or injured patient; patient follow-up and referral; management of prehospital care; training and supervision of emergency medical personnel; emergency department management; medicolegal and ethical issues; and disaster planning.

Illustrative example(s)
- emergency medicine - residency

Exclusion(s)
- emergency medical technician (paramedic) (see 51.0904 Emergency medical technology/technician (EMT paramedic))

- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)
- undersea and hyperbaric medicine - residency (see 60.0582 Undersea and hyperbaric medicine residency programs)

60.0413 Family medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the provisions of regular and long-term care to individuals and family members. These programs include courses in comprehensive care and specialist referral, basic surgery, emergency medical procedures, and diagnostic imaging and practice management.

Illustrative example(s)
- family medicine - residency

Exclusion(s)
- adolescent medicine - residency (see 60.0502 Adolescent medicine residency programs)
- general medicine (see 51.1201 Medicine (MD))

60.0414 General surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the care and treatment of diseases and disorders via invasive procedures and the etiology, pathogenesis, diagnosis and management of physical disorders. These programs include courses in clinical and operative skills, pre-operative and postoperative care, trauma management and endoscopic techniques.

Illustrative example(s)
- general surgery - residency

Exclusion(s)
- congenital cardiac surgery - residency (see 60.0510 Congenital cardiac surgery residency programs)
- critical care surgery - residency (see 60.0579 Surgical critical care residency programs)
- hand surgery - residency (see 60.0578 Surgery of the hand residency programs)
- neurological surgery/neurosurgery - residency (see 60.0416 Neurological surgery residency programs)
- orthopedics/orthopedic surgery - residency (see 60.0422 Orthopedic surgery residency programs)
- pediatric surgery - residency (see 60.0565 Pediatric surgery residency programs)
- plastic surgery - residency (see 60.0427 Plastic surgery residency programs)
- thoracic surgery - residency (see 60.0432 Thoracic surgery residency programs)
- vascular surgery - residency (see 60.0434 Vascular surgery residency programs)

60.0415 Internal medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the provision of general medical services to adult patients with a wide range of non-surgical clinical problems. These programs include courses in behavioural aspects of diseases, patient and family counselling and practice management.

Illustrative example(s)
- internal medicine - residency

Exclusion(s)
- general medicine (see 51.1201 Medicine (MD))
- interventional cardiology - residency (see 60.0528 Interventional cardiology residency programs)
- transplant hepatology - residency (see 60.0581 Transplant hepatology residency programs)

60.0416 Neurological surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the prevention, diagnosis, evaluation, treatment, critical care, and rehabilitation of disorders of the central, peripheral, and autonomic nervous systems, using operative and non-operative means; the evaluation and treatment of pathological processes that modify the function or activity of the nervous system; and the management of pain.

Illustrative example(s)
- neurological surgery - residency
- neurological surgery/neurosurgery - residency

Exclusion(s)
- vascular neurology - residency (see 60.0584 Vascular neurology residency programs)

60.0417 Neurology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of all types of disease or impaired function of the brain, spinal cord, peripheral nerves, muscles and autonomic nervous system, as well as the blood vessels that relate to these structures.

Illustrative example(s)
- neurology - residency

Exclusion(s)
- child/pediatric neurology - residency (see 60.0404 Child neurology residency programs)
- neurodevelopmental disabilities - residency (see 60.0540 Neurodevelopmental disabilities residency programs)
- neuromuscular medicine - residency (see 60.0541 Neuromuscular medicine residency programs)
- neurotology - residency (see 60.0544 Neurotology residency programs)
- vascular neurology - residency (see 60.0584 Vascular neurology residency programs)

60.0418 Nuclear medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to use the tracer principle, most often with radiopharmaceuticals, to evaluate molecular, metabolic, physiologic and pathologic conditions of the body for the purposes of diagnosis, therapy and research. These programs include courses in tracer kinetics, the biologic effects of radiation exposure, the fundamentals of the physical sciences, and the principles and operation of radiation detection and imaging systems.

Illustrative example(s)
- nuclear medicine - residency

Exclusion(s)
- medical nuclear physics - residency (see 60.0533 Medical nuclear physics residency programs)
- nuclear medicine technology (see 51.0905 Nuclear medical technology/technologist)

60.0419 Obstetrics and gynecology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, prevention and treatment of diseases of women, especially those affecting the reproductive system, and the comprehensive care and treatment of women before, during and after childbirth.

Illustrative example(s)
- obstetrics and gynecology - residency

Exclusion(s)
- gynecologic oncology - residency (see 60.0522 Gynecologic oncology residency programs)
- maternal and fetal medicine - residency (see 60.0530 Maternal and fetal medicine residency programs)
- reproductive endocrinology/infertility - residency (see 60.0573 Reproductive endocrinology/infertility residency programs)

60.0420 Occupational medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the maintenance of the health of workers, the ability to perform work, the arrangements of work, and the physical and chemical environments of the workplace. These programs include courses in data collection and management and the administration and regulation of occupational medical services. One of three general certificates in the area of preventive medicine.

Illustrative example(s)
- occupational medicine - residency

60.0421 Ophthalmology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, prevention treatment of ophthalmic diseases and disorders, and ocular pathology procedures. These programs include courses in eye surgery.

Illustrative example(s)
- ophthalmology - residency

Exclusion(s)
- ophthalmic dispensing (see 51.1801 Opticianry/ophthalmic dispensing optician)
- optometry (see 51.1701 Optometry (OD))

60.0422 Orthopedic surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the investigation, preservation, and restoration of the form and function of the extremities, spine and associated structures by medical, surgical and physical methods.

Illustrative example(s)
- adult reconstructive orthopedics (orthopedic surgery) - residency
- orthopedic surgery - residency
- orthopedics - residency
- orthopedics/orthopedic surgery - residency

Exclusion(s)
- orthopaedic sports medicine - residency (see 60.0546 Orthopaedic sports medicine residency programs)
- pediatric orthopedics - residency (see 60.0558 Pediatric orthopedics residency programs)

60.0423 Otolaryngology residency programs

This instructional program class comprises any residency training program that prepares physicians to diagnose and provide medical and/or surgical therapy or prevention of diseases, allergies, neoplasms, deformities, disorders, and injuries of the ears, nose, sinuses, throat, respiratory and upper alimentary systems, face, jaws, and the other head and neck systems.

Illustrative example(s)
- otolaryngology - residency

Exclusion(s)
- neurotology - residency (see 60.0544 Neurotology residency programs)
- pediatric otolaryngology - residency (see 60.0559 Pediatric otolaryngology residency programs)
- plastic surgery within the head and neck - residency (see 60.0569 Plastic surgery within the head and neck residency programs)

60.0424 Pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the clinical laboratory analysis and diagnosis of disease and anatomic abnormalities. These programs include courses in performing general autopsies, forensic medicine, laboratory management and quality control.

Illustrative example(s)
- anatomic pathology - residency
- anatomic pathology and clinical pathology - residency
- clinical pathology - residency
- pathology - residency

Exclusion(s)
- dermatopathology - residency (see 60.0513 Dermatopathology residency programs)
- forensic pathology - residency (see 60.0517 Forensic pathology residency programs)
- hematological pathology - residency (see 60.0523 Hematological pathology residency programs)
- molecular genetic pathology - residency (see 60.0536 Molecular genetic pathology residency programs)
- neuropathology - residency (see 60.0542 Neuropathology residency programs)
- pathology (see 26.0910 Pathology/experimental pathology)
- pathology technician (see 51.0811 Pathology/pathologist assistant)
- pediatric pathology - residency (see 60.0560 Pediatric pathology residency programs)
- radioisotopic pathology - residency (see 60.0572 Radioisotopic pathology residency programs)

60.0425 Pediatrics residency programs

This instructional program class comprises any residency training program that prepares physicians in the comprehensive care and treatment of all aspects of human growth and development from conception through fetal life, infancy, childhood and adolescence, including preventive and therapeutic regimes. These programs include courses in behavioural aspects of illness, related family and community medicine issues, and emergency and critical care procedures.

Illustrative example(s)
- pediatrics - residency

Exclusion(s)
- pediatric nursing (see 51.3809 Pediatric nurse/nursing)
- pediatric subspecialties (see 60.05 Medical residency programs - subspecialty certificates)
- podiatric medicine (see 51.2101 Podiatric medicine/podiatry (DPM))

60.0426 Physical medicine and rehabilitation residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, etiology, treatment, prevention and rehabilitation of neuromusculo-skeletal, cardiovascular, pulmonary and other system disorders common to patients of both sexes and all ages. These programs include courses in physical examinations, design and prescription of rehabilitation strategies and the supervision of rehabilitation teams.

Illustrative example(s)
- physical and rehabilitation medicine - residency
- physical medicine and rehabilitation - residency

Exclusion(s)
- neuromuscular medicine - residency (see 60.0541 Neuromuscular medicine residency programs)
- pediatric rehabilitation medicine - residency (see 60.0563 Pediatric rehabilitation medicine residency programs)
- physical medicine and rehabilitation/psychiatry - residency (see 60.0568 Physical medicine and rehabilitation, psychiatric residency programs)
- physical therapy (see 51.2308 Physical therapy/therapist)

60.0427 Plastic surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the repair, replacement and reconstruction of defects of form and function of the integument and its underlying musculoskeletal system, with emphasis on the craniofacial structures, the oropharynx, the hand, the breast and the external genitalia. These programs include courses in aesthetic as well as reconstructive surgery. Requires prior completion of a program in general surgery.

Illustrative example(s)
- plastic surgery - residency

Exclusion(s)
- plastic surgery within the head and neck - residency (see 60.0569 Plastic surgery within the head and neck residency programs)

60.0428 Psychiatry residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, treatment, and prevention of mental, emotional, behavioural and neurological disorders. These programs include courses in psychotherapy, family counselling, referral, clinical diagnosis, and practice management.

Illustrative example(s)
- psychiatry - residency

Exclusion(s)
- addiction psychiatry - residency (see 60.0501 Addiction psychiatry residency programs)
- applied psychology (see 42.2813 Applied psychology)
- forensic psychiatry - residency (see 60.0518 Forensic psychiatry residency programs)
- geriatric psychiatry - residency (see 60.0521 Geriatric psychiatry residency programs)
- mental health care (see 51.1502 Psychiatric/mental health services technician)
- psychiatric nursing (see 51.3810 Psychiatric/mental health nurse/nursing)
- psychosomatic medicine - residency (see 60.0570 Psychosomatic medicine residency programs)
- psychotherapy (see 51.1507 Psychoanalysis and psychotherapy)
- registered psychiatric nurse (see 51.3823 Registered psychiatric nurse/nursing)

60.0429 Public health and general preventive medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to promote health, prevent disease, and manage the health of communities and defined populations; combines population-based public health skills with knowledge of primary, secondary, and tertiary prevention-oriented clinical practice in a wide variety of settings. One of three general certificates in the area of preventive medicine. Note: this medical specialty merges the previous subspecialties of preventive medicine and public health medicine.

Illustrative example(s)
- preventive medicine - residency
- public health and preventive medicine - residency
- public health medicine - residency

Exclusion(s)
- epidemiology (see 26.1309 Epidemiology)
- public health (MPH, DPH) (see 51.2201 Public health, general (MPH, DPH))
- public health nursing (see 51.3811 Public health/community nurse/nursing)
- undersea and hyperbaric medicine - residency (see 60.0582 Undersea and hyperbaric medicine residency programs)

60.0430 Radiation oncology residency programs

This instructional program class comprises any residency training program that prepares physicians in the use of ionizing radiation to treat patients with cancer and other diseases. These programs include courses in treatment planning, instrument design and operation, radiation physics and radiobiology. One of two general certificates in the area of radiology.

Illustrative example(s)
- radiation oncology - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- oncology - residency (see 60.0534 Medical oncology residency programs)

60.0431 Radiologic physics residency programs

This instructional program class comprises any residency training program that prepares physicians in that branch of physics which includes the physical aspects of radiation therapy, radiologic diagnosis, and/or nuclear medicine. Radiologic physicists must specialize in at least one of the three subspecialty areas: therapeutic radiologic physics, diagnostic radiologic physics, and/or medical nuclear physics.

Illustrative example(s)
- radiologic physics - residency

Exclusion(s)
- diagnostic radiologic physics - residency (see 60.0515 Diagnostic radiologic physics residency programs)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- medical nuclear physics - residency (see 60.0533 Medical nuclear physics residency programs)
- therapeutic radiologic physics - residency (see 60.0580 Therapeutic radiologic physics residency programs)

60.0432 Thoracic surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the evaluation and surgical treatment of pulmonary, esophageal, mediastinal, chest wall, diaphragmatic and cardiovascular disorders. These programs include courses in bronchoscopy and esophagoscope. Requires prior completion of a program in general surgery.

Illustrative example(s)
- thoracic surgery - residency

60.0433 Urology residency programs

This instructional program class comprises any residency training program that prepares physicians to manage congenital and acquired conditions of the genitourinary system and contiguous structures including the adrenal gland, including conditions extending from the fetus to the elderly and which may be benign or malignant. This specialist is skilled in medical and open surgical therapy of these conditions, as well as endoscopic, percutaneous, and other minimally invasive methods.

Illustrative example(s)
- urology - residency

60.0434 Vascular surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the surgical treatment of diseases and disorders of the arterial, venous and lymphatic circulatory systems and of the heart and thoracic aorta.

Illustrative example(s)
- vascular surgery - residency

Exclusion(s)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)
- vascular neurology - residency (see 60.0584 Vascular neurology residency programs)

60.0499 Medical residency programs - general certificates, other

This instructional program class comprises any program not listed above that relates to Medical residency programs - general certificates.

Exclusion(s)
- pharmacy - residency (see 60.9999 Dental, medical and veterinary residency programs, other)

60.05 Medical residency programs - subspecialty certificates

This subseries comprises instructional program classes 60.0501 to 60.0599.

60.0501 Addiction psychiatry residency programs

This instructional program class comprises any residency training program that prepares physicians in the evaluation and treatment of individuals with alcohol, drug, or other substance-related disorders, and of individuals with the dual diagnosis of substance-related and other psychiatric disorders. Requires prior completion of a program in psychiatry.

Illustrative example(s)
- addiction psychiatry - residency

Exclusion(s)
- addiction counselling (see 51.1501 Substance abuse/addiction counselling)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)

60.0502 Adolescent medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the unique physical, psychological, and social characteristics of adolescents and their healthcare problems and needs. Requires prior completion of a program in family medicine, internal medicine, or pediatrics.

Illustrative example(s)
- adolescent medicine - residency

Exclusion(s)
- child and adolescent psychiatry - residency (see 60.0507 Child and adolescent psychiatry residency programs)
- family medicine - residency (see 60.0413 Family medicine residency programs)

- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0503 Blood banking/transfusion medicine residency programs

This instructional program class comprises any residency training program that prepares physicians for the maintenance of an adequate blood supply, blood donor and patient-recipient safety, and appropriate blood utilization. Includes directing the preparation and safe use of specially prepared blood components, including red blood cells, white blood cells, platelets and plasma constituents, and marrow or stem cells for transplantation. Requires prior completion of a program in pathology.

Illustrative example(s)
- blood banking - residency
- blood banking/transfusion medicine - residency

Exclusion(s)
- blood bank technologist (see 51.1001 Blood bank technology specialist)

60.0504 Cardiovascular disease residency programs

This instructional program class comprises any residency training program that prepares physicians to specialize in diseases of the heart and blood vessels and to manage complex cardiac conditions such as heart attacks and life-threatening, abnormal heartbeat rhythms. Requires prior completion of a program in internal medicine. Note: this subspecialty was previously titled Cardiology.

Illustrative example(s)
- cardiology - residency
- cardiovascular disease - residency

Exclusion(s)
- cardiovascular science (see 26.0907 Cardiovascular science)
- clinical cardiac electrophysiology - residency (see 60.0508 Clinical cardiac electrophysiology residency programs)
- congenital cardiac surgery - residency (see 60.0510 Congenital cardiac surgery residency programs)
- interventional cardiology - residency (see 60.0528 Interventional cardiology residency programs)
- pediatric cardiology - residency (see 60.0549 Pediatric cardiology residency programs)

60.0505 Chemical pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the use and interpretation of chemical analyses, chemical diagnoses and management, and the supervision of chemical pathology laboratories. These programs include courses in basic and applied analytical chemical pathology; instrumentation data processing and chemical laboratory management. Requires prior completion of a program in medical pathology.

Illustrative example(s)
- chemical pathology - residency

60.0506 Child abuse pediatrics residency programs

This instructional program class comprises any residency training program that prepares physicians to accurately diagnose abuse, consult with community agencies on child safety, provide expertise in courts of law, treat consequences of abuse and neglect, direct child abuse and neglect prevention programs and participate on multidisciplinary investigative teams, and manage child abuse cases. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- child abuse pediatrics - residency

Exclusion(s)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0507 Child and adolescent psychiatry residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of developmental, behavioural, emotional, and mental disorders of childhood and adolescence. Requires prior completion of a program in psychiatry.

Illustrative example(s)
- child and adolescent psychiatry - residency
- child psychiatry - residency

Exclusion(s)
- adolescent medicine - residency (see 60.0502 Adolescent medicine residency programs)
- child psychology (see 42.2703 Developmental and child psychology)
- developmental-behavioural pediatrics - residency (see 60.0514 Developmental-behavioural pediatrics residency programs)

60.0508 Clinical cardiac electrophysiology residency programs

This instructional program class comprises any residency training program, within the subspecialty of cardiovascular disease, which prepares physicians in intricate technical procedures to evaluate heart rhythms and determine appropriate treatment. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- clinical cardiac electrophysiology - residency

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- cardiology technology (see 51.0901 Cardiovascular technology/technologist)
- interventional cardiology - residency (see 60.0528 Interventional cardiology residency programs)

60.0509 Clinical neurophysiology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of central, peripheral, and autonomic nervous system disorders using a combination of clinical evaluation and electrophysiologic testing such as electroencephalography (EEG), electromyography (EMG), and nerve conduction studies (NCS). Requires prior completion of a program in neurology, child neurology, or psychiatry.

Illustrative example(s)
- clinical neurophysiology - residency

Exclusion(s)
- neurophysiology (see 26.1503 Neurobiology and anatomy)

60.0510 Congenital cardiac surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the operative treatment of structural abnormalities involving the heart and major blood vessels, including defects resulting from congenital malformations as well as defects acquired in infants and children; includes care of patients from the fetus to the adult. Requires prior completion of a program in thoracic surgery.

Illustrative example(s)
- congenital cardiac surgery - residency

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- general surgery - residency (see 60.0414 General surgery residency programs)
- interventional cardiology - residency (see 60.0528 Interventional cardiology residency programs)
- pediatric cardiology - residency (see 60.0549 Pediatric cardiology residency programs)
- pediatric surgery - residency (see 60.0565 Pediatric surgery residency programs)

60.0511 Critical care medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the management of care for patients with acutely life-threatening conditions which may include multiple organ failure. These programs include courses in the management of critical care units, emergency procedures and post-discharge care of former critical care patients. Requires prior completion of a program in anesthesiology, internal medicine, or obstetrics and gynecology. Note: critical care anesthesiology is no longer a medical subspecialty, but anesthesiologists may complete a subspecialty in critical care medicine.

Illustrative example(s)
- critical care anesthesiology - residency
- critical care medicine - residency

Exclusion(s)
- anesthesiologist assistant (see 51.0809 Anesthesiologist assistant)
- anesthesiology - residency (see 60.0403 Anesthesiology residency programs)
- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)

60.0512 Cytopathology residency programs

This instructional program class comprises any residency training program that prepares individuals to study, prevent, and manage human diseases manifested in cells. These programs include courses in laboratory procedures; laboratory management; quality assurance; screening; specimen collection; cytopreparation; cytometric and image analysis; and related immunological and molecular techniques. Requires prior completion of a program in pathology.

Illustrative example(s)
- cytopathology - residency

Exclusion(s)
- cytotechnology (see 51.1002 Cytotechnology/cytotechnologist)

60.0513 Dermatopathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the clinical and microscopic diagnosis and analysis of skin diseases and disorders. These programs include courses in laboratory administration and the supervision and training of support personnel. Requires prior completion of a program in dermatology or pathology.

Illustrative example(s)
- dermatopathology - residency

Exclusion(s)
- pathology - residency (see 60.0424 Pathology residency programs)

60.0514 Developmental-behavioural pediatrics residency programs

This instructional program class comprises any residency training program that prepares physicians to assist in the prevention, diagnosis, and management of developmental difficulties and problematic behaviours in children, and in the family dysfunctions that compromise children's development; and to foster understanding and promotion of optimal development of children and families through research, education, clinical care, and advocacy efforts. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- developmental-behavioural pediatrics - residency

Exclusion(s)
- child and adolescent psychiatry - residency (see 60.0507 Child and adolescent psychiatry residency programs)
- child/pediatric neurology - residency (see 60.0404 Child neurology residency programs)
- neurodevelopmental disabilities - residency (see 60.0540 Neurodevelopmental disabilities residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0515 Diagnostic radiologic physics residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnostic applications of x-rays, gamma rays from sealed sources, ultrasonic radiation, and magnetic resonance; and in the use of equipment associated with their production and use, including radiation safety. One of the three subspecialties available to residents in radiologic physics who must select one or more subspecialty areas.

Illustrative example(s)
- diagnostic radiologic physics - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- radiologic physics - residency (see 60.0431 Radiologic physics residency programs)
- therapeutic radiologic physics - residency (see 60.0580 Therapeutic radiologic physics residency programs)

60.0516 Endocrinology, diabetes and metabolism residency programs

This instructional program class comprises any residency training program that prepares physicians to specialize in disorders of the internal (endocrine) glands such as the thyroid and adrenal glands, and to deal with disorders such as diabetes, metabolic and nutritional disorders, obesity, pituitary diseases, and menstrual and sexual problems. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- endocrinology and metabolism - residency
- endocrinology, diabetes and metabolism - residency

Exclusion(s)
- endocrinology (see 26.0904 Endocrinology)
- pediatric endocrinology - residency (see 60.0553 Pediatric endocrinology residency programs)

60.0517 Forensic pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the performance of medical autopsies, the analysis of human remains and crime scenes, and the legal follow-up and responsibilities of public pathologists. Requires prior completion of a program in pathology.

Illustrative example(s)
- forensic pathology - residency

Exclusion(s)
- forensic chemistry (see 40.0510 Forensic chemistry)
- forensic science (see 43.0106 Forensic science and technology)
- pathology - residency (see 60.0424 Pathology residency programs)

60.0518 Forensic psychiatry residency programs

This instructional program class comprises any residency training program that prepares physicians to evaluate individuals involved with the legal system and provide specialized treatment to those incarcerated in jails, prisons, penitentiaries, and forensic psychiatric hospitals; and who focus on the interrelationships between psychiatry and civil, criminal, and administrative law. Requires prior completion of a program in psychiatry.

Illustrative example(s)
- forensic psychiatry - residency

Exclusion(s)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)

60.0519 Gastroenterology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of patients with digestive and other gastrointestinal disorders. These programs include courses in surgical procedures, cancer of the digestive system, nutrition and malnutrition, and counselling the behavioural adjustment of patients with chronic problems. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- gastroenterology - residency

Exclusion(s)
- pediatric gastroenterology - residency (see 60.0554 Pediatric gastroenterology residency programs)

60.0520 Geriatric medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the care and management of elderly patients in acute, ambulatory, community and long-term care settings, and the treatment of diseases and conditions associated with the aging process. These programs include courses in ethical and legal issues, behavioural aspects of illness, socioeconomic factors in care and rehabilitation therapies. Requires prior completion of a program in family medicine or internal medicine.

Illustrative example(s)
- geriatric medicine - residency
- geriatric medicine (internal medicine) - residency

Exclusion(s)
- geriatric nurse (see 51.3821 Geriatric nurse/nursing)
- gerontology (see 30.1101 Gerontology)

60.0521 Geriatric psychiatry residency programs

This instructional program class comprises any residency training program that prepares physicians in the prevention, evaluation, diagnosis, and treatment of mental and emotional disorders in the elderly, and to improve the psychiatric care of the elderly both in health and in disease. Requires prior completion of a program in psychiatry.

Illustrative example(s)
- geriatric psychiatry - residency

Exclusion(s)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)

60.0522 Gynecologic oncology residency programs

This instructional program class comprises any residency training program that prepares physicians for consultation and comprehensive management of patients with gynecologic cancer, including those diagnostic and therapeutic procedures necessary for the total care of the patient with gynecologic cancer and resulting complications. Requires prior completion of a program in obstetrics and gynecology.

Illustrative example(s)
- gynecologic oncology - residency

Exclusion(s)
- obstetrics and gynecology - residency (see 60.0419 Obstetrics and gynecology residency programs)

60.0523 Hematological pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the laboratory and analytical procedures for studying all facets of hematologic and coagulation disorders. These programs include courses in the management of hematology laboratories. Requires prior completion of a program in pathology.

Illustrative example(s)
- hematological pathology - residency

Exclusion(s)
- hematology technologist (see 51.1003 Hematology technology/technician)
- pathology - residency (see 60.0424 Pathology residency programs)

60.0524 Hematology residency programs

This instructional program class comprises any residency training program that prepares physicians in the mechanisms and therapy of diseases of the blood, bone marrow, spleen, and lymph, including patient management, diagnostic tests, biopsies and other procedures. Requires prior completion of a program in internal medicine or pathology.

Illustrative example(s)
- hematology - residency

Exclusion(s)
- hematology technologist (see 51.1003 Hematology technology/technician)

60.0525 Hospice and palliative medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to prevent and relieve the suffering experienced by patients with life-limiting illnesses and to maximize quality of life while addressing the physical, psychological, social, and spiritual needs of both patient and family throughout the course of the disease, including through the dying process and subsequent family grieving. Requires prior completion of a program in anesthesiology, emergency medicine, family medicine, internal medicine, neurology, child neurology, obstetrics and gynecology, pediatrics, physical medicine and rehabilitation, psychiatry, radiation oncology, or general surgery.

Illustrative example(s)
- hospice and palliative medicine - residency
- palliative medicine - residency

Exclusion(s)
- pain medicine - residency (see 60.0548 Pain medicine residency programs)
- palliative care nursing (see 51.3819 Palliative care nurse/nursing)

60.0526 Immunopathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, treatment and laboratory management of immunologic diseases. These programs include courses in diagnostic surgical pathology, management of organ transplantation and immunotherapy. Requires prior completion of a program in pathology.

Illustrative example(s)
- immunopathology - residency

Exclusion(s)
- immunology (see 26.0507 Immunology)
- microbiology and immunology (see 26.0508 Microbiology and immunology)

60.0527 Infectious disease residency programs

This instructional program class comprises any residency training program that prepares physicians in the natural history, prevention and treatment of major infectious diseases, including sexually transmitted diseases, and the long-term management of patients. These programs include courses in epidemiology, identification and specimen collection techniques, and quality assurance and cost containment. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- infectious disease - residency

Exclusion(s)
- pediatric infectious diseases - residency (see 60.0556 Pediatric infectious diseases residency programs)

60.0528 Interventional cardiology residency programs

This instructional program class comprises any residency training program, within the subspecialty of cardiology, which trains physicians in the use of specialized imaging and other diagnostic techniques to evaluate blood flow and pressure in the coronary arteries and chambers of the heart, and in the use of technical procedures and medications to treat abnormalities that impair the function of the cardiovascular system. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- interventional cardiology - residency

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- clinical cardiac electrophysiology - residency (see 60.0508 Clinical cardiac electrophysiology residency programs)
- congenital cardiac surgery - residency (see 60.0510 Congenital cardiac surgery residency programs)
- internal medicine - residency (see 60.0415 Internal medicine residency programs)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)

60.0529 Laboratory medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the principles and practices of applied medical research and related techniques, equipment, data systems and research design. These programs include courses in the management of medical laboratories in research and health care facilities.

Illustrative example(s)
- laboratory medicine - residency

Exclusion(s)
- clinical laboratory science (see 51.1005 Clinical laboratory science/medical technology/technologist)
- clinical laboratory technician (see 51.1004 Clinical/medical laboratory technician)

60.0530 Maternal and fetal medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to care for, or provide consultation on, patients with complications of pregnancy, based on advanced knowledge of the obstetrical, medical, and surgical complications of pregnancy, and their effect on both the mother and the fetus, and expertise in the most current diagnostic and treatment modalities used in the care of patients with complicated pregnancies. Requires prior completion of a program in obstetrics and gynecology.

Illustrative example(s)
- maternal and fetal medicine - residency

Exclusion(s)
- obstetrics and gynecology - residency (see 60.0419 Obstetrics and gynecology residency programs)

60.0531 Medical biochemical genetics residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and medical management of individuals with inborn errors of metabolism, including the provision of direct care and consultative care for individuals of all ages. Requires prior completion of a program in medical genetics.

Illustrative example(s)
- medical biochemical genetics - residency

Exclusion(s)
- chemical and biochemical engineering (see 14.4301 Biochemical engineering)
- clinical biochemical genetics - residency (see 60.0405 Clinical biochemical genetics residency programs)
- clinical genetics - residency (see 60.0407 Clinical genetics residency programs)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- genetics (see 26.0801 Genetics, general)
- medical genetics (see 26.0806 Human/medical genetics)

60.0532 Medical microbiology residency programs

This instructional program class comprises any residency training program that prepares physicians in the isolation and identification of microbial agents that cause infectious disease, including viruses, bacteria, fungi, and parasites. Requires prior completion of a program in pathology.

Illustrative example(s)
- medical microbiology - residency

Exclusion(s)
- medical microbiology (see 26.0503 Medical microbiology and bacteriology)
- microbiology (see 26.0502 Microbiology, general)
- veterinary microbiology - residency (see 60.0307 Veterinary microbiology residency programs)

60.0533 Medical nuclear physics residency programs

This instructional program class comprises any residency training program that prepares physicians in the therapeutic and diagnostic applications of radionuclides (except those used in sealed sources for therapeutic purposes); and in the use of equipment associated with their production and use, including radiation safety. One of the three subspecialties available to residents in radiologic physics who must select one or more subspecialty areas.

Illustrative example(s)
- medical nuclear physics - residency

Exclusion(s)
- nuclear medicine - residency (see 60.0418 Nuclear medicine residency programs)
- nuclear physics (see 40.0806 Nuclear physics)
- radiologic physics - residency (see 60.0431 Radiologic physics residency programs)

60.0534 Medical oncology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of all types of cancer and other benign and malignant tumours; this includes deciding on and administering therapy for these malignancies, as well as consulting with surgeons and radiotherapists on other treatments for cancer. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- medical oncology - residency
- oncology - residency

Exclusion(s)
- mammography (see 51.0919 Mammography technician/technology)
- musculoskeletal oncology - residency (see 60.0537 Musculoskeletal oncology residency programs)
- oncology (see 26.0911 Oncology and cancer biology)
- pediatric hemato-oncology - residency (see 60.0555 Pediatric hematology-oncology residency programs)
- radiation oncology - residency (see 60.0430 Radiation oncology residency programs)

60.0535 Medical toxicology residency programs

This instructional program class comprises any residency training program that prepares physicians who specialize in the prevention, evaluation, treatment, and monitoring of injury and illness from exposures to drugs and chemicals, as well as exposures to biological and radiological agents. Important areas include acute drug poisoning; adverse drug events; drug abuse, addiction and withdrawal; chemicals and hazardous materials; terrorism preparedness; venomous bites and stings; and environmental and workplace exposures. Requires prior completion of a program in emergency medicine, pediatrics, or preventive medicine.

Illustrative example(s)
- medical toxicology - residency

Exclusion(s)
- toxicology (see 26.1004 Toxicology)
- veterinary toxicology - residency (see 60.0316 Veterinary toxicology residency programs)

60.0536 Molecular genetic pathology residency programs

This instructional program class comprises any residency training program that prepares physicians to make or confirm diagnoses of Mendelian genetic disorders, disorders of human development, infectious diseases and malignancies, and to assess the natural history of those disorders, using the principles, theory, and technologies of molecular biology and molecular genetics. Requires prior completion of a program in medical genetics or pathology.

Illustrative example(s)
- molecular genetic pathology - residency

Exclusion(s)
- clinical molecular genetics - residency (see 60.0408 Clinical molecular genetics residency programs)
- genetics (see 26.0801 Genetics, general)
- medical genetics (see 26.0806 Human/medical genetics)
- molecular genetics (see 26.0802 Molecular genetics)
- molecular medicine (see 26.1401 Molecular medicine)
- pathology - residency (see 60.0424 Pathology residency programs)
- pathology (see 26.0910 Pathology/experimental pathology)

60.0537 Musculoskeletal oncology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of musculoskeletal neoplasm, and the application of cancer therapy regimes.

Illustrative example(s)
- musculoskeletal oncology - residency

Exclusion(s)
- oncology - residency (see 60.0534 Medical oncology residency programs)

60.0538 Neonatal-perinatal medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the physiology of the normal neonate, the patho-physiology of the sick infant, and the diagnosis and management of problems of the newborn infant, including consulting with obstetricians to plan for the care of women with high-risk pregnancies. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- neonatal-perinatal medicine - residency

60.0539 Nephrology residency programs

This instructional program class comprises any residency training program that prepares physicians in the pathogenesis, natural history and management of congenital and acquired diseases of the kidney and urinary tract and renal diseases associated with systemic disorders. These programs include courses in organ transplantation and dialysis therapy. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- nephrology - residency

Exclusion(s)
- pediatric nephrology - residency (see 60.0557 Pediatric nephrology residency programs)

60.0540 Neurodevelopmental disabilities residency programs

This instructional program class comprises any residency training program that prepares physicians to treat children having developmental delays or learning disorders, including those associated with visual and hearing impairment, mental retardation, cerebral palsy, spina bifida, autism, and other chronic neurologic conditions. Requires prior completion of a program in neurology, child neurology, or pediatrics.

Illustrative example(s)
- neurodevelopmental disabilities - residency

Exclusion(s)
- child neurology - residency (see 60.0404 Child neurology residency programs)
- developmental-behavioural pediatrics - residency (see 60.0514 Developmental-behavioural pediatrics residency programs)
- neurology - residency (see 60.0417 Neurology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0541 Neuromuscular medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of disorders of nerve, muscle, or neuromuscular junction, including amyotrophic lateral sclerosis, peripheral neuropathies, various muscular dystrophies, congenital and acquired myopathies, inflammatory myopathies, and neuromuscular transmission disorders. Requires prior completion of a program in neurology, child neurology, or physical medicine and rehabilitation.

Illustrative example(s)
- neuromuscular medicine - residency

Exclusion(s)
- child neurology - residency (see 60.0404 Child neurology residency programs)
- neurology - residency (see 60.0417 Neurology residency programs)
- physical medicine and rehabilitation - residency (see 60.0426 Physical medicine and rehabilitation residency programs)

60.0542 Neuropathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the laboratory analysis of nerve tissues and the clinical diagnosis of neurological and neuromuscular diseases. These programs include courses in nerve biopsies and necropsies. Requires prior completion of a program in pathology.

Illustrative example(s)
- neuropathology - residency

Exclusion(s)
- pathology - residency (see 60.0424 Pathology residency programs)

60.0543 Neuroradiology residency programs

This instructional program class comprises any residency training program that prepares diagnostic radiologists in the diagnosis and treatment of disorders of the brain, spine, spinal cord, peripheral nerves, and head and neck in adults and children. Requires prior completion of a program in diagnostic radiology.

Illustrative example(s)
- neuroradiology - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)

60.0544 Neurotology residency programs

This instructional program class comprises any residency training program that prepares physicians to treat diseases of the ear and temporal bone, including disorders of hearing and balance. Requires prior completion of a program in otolaryngology.

Illustrative example(s)
- neurotology - residency

Exclusion(s)
- neurology - residency (see 60.0417 Neurology residency programs)
- otolaryngology - residency (see 60.0423 Otolaryngology residency programs)

60.0545 Nuclear radiology residency programs

This instructional program class comprises any residency training program that prepares physicians in the imaging by external detection of radionuclides and/or biodistribution by external detection of radionuclides for diagnosis of disease. Requires prior partial completion of a program in diagnostic radiology.

Illustrative example(s)
- nuclear radiology - residency

Exclusion(s)
- nuclear medicine technology (see 51.0905 Nuclear medical technology/technologist)
- pediatric radiology - residency (see 60.0562 Pediatric radiology residency programs)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)

60.0546 Orthopaedic sports medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to prevent and manage athletic injuries and to provide appropriate care for all structures of the musculoskeletal system directly affected by participation in sporting activity. Requires prior completion of a program in orthopedic surgery.

Illustrative example(s)
- orthopaedic sports medicine - residency

Exclusion(s)
- orthopedics - residency (see 60.0422 Orthopedic surgery residency programs)
- sports medicine - residency (see 60.0577 Sports medicine residency programs)

60.0547 Orthopedic surgery of the spine residency programs

This instructional program class comprises any residency training program that prepares individuals for the study, prevention and treatment of spinal column disease, disorders, and injuries by medical, physical and surgical methods. These programs include courses in pathogenesis and diagnosis of clinical disorders of the spine;

non-operative treatment modalities; invasive modalities; basic sciences related to the musculoskeletal system; spinal degeneration; spinal neurologic function; pre-operative and postoperative management; and patient evaluation.

Illustrative example(s)
- orthopedic surgery of the spine - residency

Exclusion(s)
- spinal cord injury medicine – residency (see 60.0576 Spinal cord injury medicine residency programs)

60.0548 Pain medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of the entire range of painful disorders, either as a primary physician or consultant, for patients experiencing problems with acute, chronic, and/or cancer pain in both hospital and ambulatory settings. Requires prior completion of a program in anesthesiology, neurology, child neurology, physical medicine and rehabilitation, or psychiatry.

Illustrative example(s)
- pain medicine - residency

Exclusion(s)
- palliative medicine - residency (see 60.0525 Hospice and palliative medicine residency programs)

60.0549 Pediatric cardiology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of diseases and disorders of the cardiovascular and cardiopulmonary systems of infants, children and adolescents. These programs include courses in related public health and community medicine issues. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric cardiology - residency

Exclusion(s)
- cardiology - residency (see 60.0504 Cardiovascular disease residency programs)
- congenital cardiac surgery - residency (see 60.0510 Congenital cardiac surgery residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0550 Pediatric critical care medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in advanced life support for children, from the term or near-term neonate to the adolescent. This includes critical care management of life-threatening organ system failure in both medical and surgical patients, and support of vital physiological functions. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric critical care medicine - residency

Exclusion(s)
- critical care medicine - residency (see 60.0511 Critical care medicine residency programs)
- critical care nursing (see 51.3814 Critical care nurse/nursing)
- emergency medicine - residency (see 60.0412 Emergency medicine residency programs)
- pediatric emergency medicine - residency (see 60.0552 Pediatric emergency medicine residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

- surgical critical care - residency (see 60.0579 Surgical critical care residency programs)
- veterinary emergency and critical care medicine - residency (see 60.0304 Veterinary emergency and critical care medicine residency programs)

60.0551 Pediatric dermatology residency programs

This instructional program class comprises any residency training program that prepares physicians in the treatment of specific skin disease categories, with emphasis on those diseases which predominate in infants, children, and adolescents. Requires prior completion of a program in dermatology.

Illustrative example(s)
- pediatric dermatology - residency

Exclusion(s)
- dermatology - residency (see 60.0410 Dermatology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- veterinary dermatology - residency (see 60.0303 Veterinary dermatology residency programs)

60.0552 Pediatric emergency medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to manage emergencies in infants and children. Requires prior completion of a program in emergency medicine or pediatrics.

Illustrative example(s)
- pediatric emergency medicine - residency

Exclusion(s)
- emergency medical technician (ambulance) (see 51.0810 Emergency care attendant (EMT ambulance))
- emergency medical technician (paramedic) (see 51.0904 Emergency medical technology/technician (EMT paramedic))
- emergency medicine - residency (see 60.0412 Emergency medicine residency programs)
- emergency nursing (see 51.3816 Emergency room/trauma nurse/nursing)
- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- veterinary emergency and critical care medicine - residency (see 60.0304 Veterinary emergency and critical care medicine residency programs)

60.0553 Pediatric endocrinology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of endocrine diseases and the regulation of hormone balance in childhood and adolescence. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric endocrinology - residency

Exclusion(s)
- endocrinology (see 26.0904 Endocrinology)
- endocrinology and metabolism - residency (see 60.0516 Endocrinology, diabetes and metabolism residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0554 Pediatric gastroenterology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of diseases of the digestive systems of infants, children, and adolescents; includes treatment of conditions such as abdominal pain, ulcers, diarrhea, cancer, and jaundice, and performance of complex diagnostic and therapeutic procedures using lighted scopes to see internal organs. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric gastroenterology - residency

Exclusion(s)
- gastroenterology - residency (see 60.0519 Gastroenterology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0555 Pediatric hematology-oncology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of hematologic disorders and malignant diseases, including blood and bone marrow function, in infancy, childhood and adolescence. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric hematology-oncology - residency
- pediatric hemato-oncology - residency

Exclusion(s)
- oncology - residency (see 60.0534 Medical oncology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0556 Pediatric infectious diseases residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, treatment, and prevention of infectious diseases in children; and to effect a better outcome for pediatric infections with complicated courses, underlying diseases that predispose to unusual or severe infections, unclear diagnoses, uncommon diseases, and complex or investigational treatments. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric infectious diseases - residency

Exclusion(s)
- infectious disease - residency (see 60.0527 Infectious disease residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- veterinary infectious diseases (Cert., MS, MSc, PhD) (see 51.2511 Veterinary infectious diseases (Cert., MS, MSc, PhD))

60.0557 Pediatric nephrology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of infants, children and adolescents with renal and genito-urinary problems, hypertension and disorders of body fluid physiology. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric nephrology - residency

Exclusion(s)
- nephrology - residency (see 60.0539 Nephrology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0558 Pediatric orthopedics residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, surgical and non-surgical treatment, and management of musculoskeletal diseases, abnormalities and trauma in infants, children and adolescents. Requires prior completion of a program in orthopedic surgery.

Illustrative example(s)
- pediatric orthopedics - residency

Exclusion(s)
- orthopedics/orthopedic surgery - residency (see 60.0422 Orthopedic surgery residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0559 Pediatric otolaryngology residency programs

This instructional program class comprises any residency training program that prepares physicians to diagnose, treat and manage disorders of infants and children that include congenital and acquired conditions involving the aerodigestive tract, nose and paranasal sinuses, the ear, and other areas of the head and neck; this includes special skills in the diagnosis, treatment, and management of childhood disorders of voice, speech, language, and hearing. Requires prior completion of a program in otolaryngology.

Illustrative example(s)
- pediatric otolaryngology - residency

Exclusion(s)
- otolaryngology - residency (see 60.0423 Otolaryngology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0560 Pediatric pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the laboratory diagnosis of diseases that occur during fetal growth, infancy, and child development, based on knowledge of general pathology, normal growth and development, and pediatric medicine. Requires prior completion of a program in pathology.

Illustrative example(s)
- pediatric pathology - residency

Exclusion(s)
- pathology - residency (see 60.0424 Pathology residency programs)
- pathology (see 26.0910 Pathology/experimental pathology)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0561 Pediatric pulmonology residency programs

This instructional program class comprises any residency training program that prepares physicians in the prevention and treatment of all respiratory diseases affecting infants, children, and young adults, based on knowledge of the growth and development of the lung, assessment of respiratory function in infants and children, and experience in a variety of invasive and noninvasive diagnostic techniques. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric pulmonology - residency

Exclusion(s)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- pulmonary disease - residency (see 60.0571 Pulmonary disease residency programs)

60.0562 Pediatric radiology residency programs

This instructional program class comprises any residency training program that prepares physicians in all forms of diagnostic imaging as it pertains to the diagnosis and treatment of diseases in the newborn, infant, child, and adolescent. Requires prior completion of a program in diagnostic radiology.

Illustrative example(s)
- pediatric radiology - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- nuclear radiology - residency (see 60.0545 Nuclear radiology residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- radiology technologist (see 51.0911 Radiologic technology/science – radiographer)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)
- veterinary radiology - residency (see 60.0313 Veterinary radiology residency programs)

60.0563 Pediatric rehabilitation medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to use an interdisciplinary approach to prevent, diagnose, treat, and manage congenital and childhood-onset physical impairments in children and young adults, including related medical, physical, functional, psychosocial, and vocational limitations or conditions. Requires prior completion of a program in physical medicine and rehabilitation.

Illustrative example(s)
- pediatric rehabilitation medicine - residency

Exclusion(s)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- physical and rehabilitation medicine - residency (see 60.0426 Physical medicine and rehabilitation residency programs)
- physical medicine and rehabilitation/psychiatry - residency (see 60.0568 Physical medicine and rehabilitation, psychiatric residency programs)
- rehabilitation aide (see 51.2604 Rehabilitation aide)
- rehabilitation assistant (RA) (see 51.0817 Rehabilitation assistant)
- rehabilitation science (see 51.2314 Rehabilitation science)

60.0564 Pediatric rheumatology residency programs

This instructional program class comprises any residency training program that prepares physicians to diagnose and treat diseases of joints, muscle, bones, and tendons in children and young adults, including arthritis, back pain, muscle strains, common athletic injuries, and collagen diseases. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric rheumatology - residency

Exclusion(s)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- rheumatology - residency (see 60.0574 Rheumatology residency programs)

60.0565 Pediatric surgery residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis, evaluation and surgical treatment of diseases, disorders and trauma in infants and children. Requires prior completion of a program in general surgery.

Illustrative example(s)
- pediatric surgery - residency

Exclusion(s)
- congenital cardiac surgery - residency (see 60.0510 Congenital cardiac surgery residency programs)
- general surgery - residency (see 60.0414 General surgery residency programs)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)

60.0566 Pediatric transplant hepatology residency programs

This instructional program class comprises any residency training program that prepares physicians with special knowledge, skill, and expertise required of pediatric gastroenterologists to care for children and young adults prior to and following hepatic transplantation. Requires prior completion of a program in pediatrics.

Illustrative example(s)
- pediatric transplant hepatology - residency

Exclusion(s)
- pediatrics - residency (see 60.0425 Pediatrics residency programs)
- transplant hepatology - residency (see 60.0581 Transplant hepatology residency programs)

60.0567 Pediatric urology residency programs

This instructional program class comprises any residency training program that prepares individuals in the study, prevention, and management of congenital, childhood-acquired, and overlapping adolescent anomalies; problems, diseases, tumours, and traumas of the urologic system. Requires prior completion of a program in urology.

Illustrative example(s)
- pediatric urology - residency

60.0568 Physical medicine and rehabilitation, psychiatric residency programs

This instructional program class comprises any residency training program that prepares individuals to diagnose, evaluate, and treat patients with limited physical, psychological, social, and vocational functions as a consequence of diseases, injuries, impairments, and/or disabilities. These programs include courses in pathogenesis of systems disorders; psychiatric examination; therapeutic exercises and physical modalities; prosthetics, orthotics and other durable rehabilitative equipment; gait analysis; diagnostic and therapeutic injections; electrodiagnostic analysis; and rehabilitation management.

Illustrative example(s)
- physical medicine and rehabilitation/psychiatry - residency

Exclusion(s)
- pediatric rehabilitation medicine - residency (see 60.0563 Pediatric rehabilitation medicine residency programs)

- physical medicine and rehabilitation - residency (see 60.0426 Physical medicine and rehabilitation residency programs)
- spinal cord injury medicine – residency (see 60.0576 Spinal cord injury medicine residency programs)

60.0569 Plastic surgery within the head and neck residency programs

This instructional program class comprises any residency training program that prepares physicians in plastic and reconstructive procedures within the head, face, neck, and associated structures, including cutaneous head and neck oncology and reconstruction, management of maxillofacial trauma, soft tissue repair, and neural surgery. Requires prior completion of a program in otolaryngology or plastic surgery.

Illustrative example(s)
- plastic surgery within the head and neck - residency

Exclusion(s)
- otolaryngology - residency (see 60.0423 Otolaryngology residency programs)
- plastic surgery - residency (see 60.0427 Plastic surgery residency programs)

60.0570 Psychosomatic medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of psychiatric disorders and symptoms in complex medically ill patients. This includes treatment of patients with acute or chronic medical, neurological, obstetrical, or surgical illness in which psychiatric illness is affecting their medical care and/or quality of life, and patients who have a psychiatric disorder that is the direct consequence of a primary medical condition, a somatoform disorder, or psychological factors affecting a general medical condition. Requires prior completion of a program in psychiatry.

Illustrative example(s)
- psychosomatic medicine - residency

Exclusion(s)
- psychiatry - residency (see 60.0428 Psychiatry residency programs)
- somatic bodywork (see 51.3503 Somatic bodywork)

60.0571 Pulmonary disease residency programs

This instructional program class comprises any residency training program that prepares physicians in pulmonary physiology and the treatment of lung diseases, pulmonary malignancies, related vascular diseases, respiratory disorders, diagnostic and therapeutic procedures, and pulmonary pathology. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- pulmonary disease - residency

Exclusion(s)
- pediatric pulmonology - residency (see 60.0561 Pediatric pulmonology residency programs)

60.0572 Radioisotopic pathology residency programs

This instructional program class comprises any residency training program that prepares physicians in the use of radionuclides in the study of body fluids, excreta, or tissues quantified outside the body. These programs include courses in laboratory management and safety, quality control, instrumentation, isotope storage and in vitro analyses. Require prior completion of a program in pathology.

Illustrative example(s)
- radioisotopic pathology - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- pathology - residency (see 60.0424 Pathology residency programs)

60.0573 Reproductive endocrinology/infertility residency programs

This instructional program class comprises any residency training program that prepares physicians to manage complex problems relating to reproductive endocrinology and infertility. Requires prior completion of a program in obstetrics and gynecology.

Illustrative example(s)
- reproductive endocrinology - residency
- reproductive endocrinology/infertility - residency
- reproductive infertility - residency

Exclusion(s)
- endocrinology (see 26.0904 Endocrinology)
- obstetrics and gynecology - residency (see 60.0419 Obstetrics and gynecology residency programs)
- reproductive biology (see 26.0905 Reproductive biology)

60.0574 Rheumatology residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and treatment of patients with acute and chronic rheumatic diseases, diffuse connective tissue diseases, systemic and metabolic diseases and infections and complications following surgery. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- rheumatology - residency

Exclusion(s)
- pediatric rheumatology - residency (see 60.0564 Pediatric rheumatology residency programs)

60.0575 Sleep medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the diagnosis and management of clinical conditions that occur during sleep, that disturb sleep, or that are affected by disturbances in the wake-sleep cycle; in the analysis and interpretation of comprehensive polysomnography; and in management of a sleep laboratory. Requires prior completion of a program in family medicine, internal medicine, neurology, child neurology, otolaryngology, pediatrics, or psychiatry.

Illustrative example(s)
- sleep medicine - residency

Exclusion(s)
- sleep technology (see 51.0917 Polysomnography)

60.0576 Spinal cord injury medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to address the prevention, diagnosis, treatment, and management of traumatic spinal cord injury and non-traumatic etiologies of spinal cord dysfunction, including related medical, physical, psychological, and vocational disabilities and complications. Requires prior completion of a program in physical medicine and rehabilitation.

Illustrative example(s)
- spinal cord injury medicine - residency

Exclusion(s)
- orthopedic surgery of the spine - residency (see 60.0547 Orthopedic surgery of the spine residency programs)
- physical medicine and rehabilitation/psychiatry - residency (see 60.0568 Physical medicine and rehabilitation, psychiatric residency programs)

60.0577 Sports medicine residency programs

This instructional program class comprises any residency training program that prepares physicians in the pathology and biomechanics of athletic injuries and the effects of injury on the athlete, including both physical and psychological manifestations. These programs include courses in acute and chronic patient supervision, therapy and rehabilitation, and diagnostic procedures. Requires prior completion of a program in emergency medicine, family medicine, internal medicine, orthopedic surgery, pediatrics, or physical medicine and rehabilitation.

Illustrative example(s)
- sports medicine - residency

Exclusion(s)
- human kinetics (see 31.0505 Kinesiology and exercise science)
- orthopaedic sports medicine - residency (see 60.0546 Orthopaedic sports medicine residency programs)
- sport and exercise studies (see 31.0501 Health and physical education/fitness, general)

60.0578 Surgery of the hand residency programs

This instructional program class comprises any residency training program that prepares physicians in the investigation, preservation and restoration by medical, surgical or physical methods of all structures of the upper extremity which directly affect the form and function of the limb, wrist and hand. Requires prior completion of a program in orthopedic surgery, plastic surgery or general surgery.

Illustrative example(s)
- hand surgery - residency
- surgery of the hand - residency

60.0579 Surgical critical care residency programs

This instructional program class comprises any residency training program that prepares surgeons in the diagnosis, treatment, and support of critically ill and injured patients, particularly trauma victims and patients with multiple organ dysfunction. Requires prior completion of a program in general surgery. Note: this subspecialty was previously titled Critical Care Surgery.

Illustrative example(s)
- critical care surgery - residency
- surgical critical care - residency

Exclusion(s)
- general surgery - residency (see 60.0414 General surgery residency programs)
- pediatric critical care medicine - residency (see 60.0550 Pediatric critical care medicine residency programs)

60.0580 Therapeutic radiologic physics residency programs

This instructional program class comprises any residency training program that prepares physicians to deal with the physical aspects of the therapeutic applications of x-rays, gamma rays, electron, and other charged particle beams, neutrons, and radiations from sealed radionuclide sources; and with the equipment associated with their production and use, including radiation safety. One of the three subspecialties available to residents in radiologic physics who must select one or more subspecialty areas.

Illustrative example(s)
- therapeutic radiologic physics - residency

Exclusion(s)
- diagnostic radiologic physics - residency (see 60.0515 Diagnostic radiologic physics residency programs)
- radiation therapy (see 51.0907 Medical radiologic technology/science – radiation therapist)
- radiologic physics - residency (see 60.0431 Radiologic physics residency programs)
- radiologic technology (see 51.0911 Radiologic technology/science – radiographer)

60.0581 Transplant hepatology residency programs

This instructional program class comprises any residency training program that prepares physicians with special knowledge and the skill required of a gastroenterologist to care for patients prior to and following hepatic transplantation that spans all phases of liver transplantation. Requires prior completion of a program in internal medicine.

Illustrative example(s)
- transplant hepatology - residency

Exclusion(s)
- internal medicine - residency (see 60.0415 Internal medicine residency programs)
- pediatric transplant hepatology - residency (see 60.0566 Pediatric transplant hepatology residency programs)

60.0582 Undersea and hyperbaric medicine residency programs

This instructional program class comprises any residency training program that prepares physicians to treat decompression illness and diving accident cases; to use hyperbaric oxygen therapy treatment for conditions such as carbon monoxide poisoning, gas gangrene, non-healing wounds, tissue damage from radiation and burns, and bone infections; to serve as consultant in all aspects of hyperbaric chamber operations; and to assess risks and apply appropriate standards to prevent disease and disability in divers and other persons working in altered atmospheric conditions. Requires prior completion of a program in emergency medicine or preventive medicine.

Illustrative example(s)
- hyperbaric medicine - residency
- undersea and hyperbaric medicine - residency
- undersea medicine - residency

Exclusion(s)
- emergency medicine - residency (see 60.0412 Emergency medicine residency programs)
- preventive medicine - residency (see 60.0429 Public health and general preventive medicine residency programs)

60.0583 Vascular and interventional radiology residency programs

This instructional program class comprises any residency training program that prepares diagnostic radiologists with additional training in image-guided therapies, using fluoroscopy, digital radiography, computed tomography, sonography, and magnetic resonance imaging, to guide small devices inserted into the body through very small openings. These therapies include angioplasty, stent placement, thrombolysis, embolization, biliary and genitourinary drainages, and abscess drainages. Requires prior completion of a program in diagnostic radiology.

Illustrative example(s)
- interventional radiology - residency
- vascular and interventional radiology - residency
- vascular radiology - residency

Exclusion(s)
- diagnostic radiology - residency (see 60.0411 Diagnostic radiology residency programs)
- interventional cardiology - residency (see 60.0528 Interventional cardiology residency programs)
- neuroradiology - residency (see 60.0543 Neuroradiology residency programs)
- nuclear radiology - residency (see 60.0545 Nuclear radiology residency programs)
- pediatric radiology - residency (see 60.0562 Pediatric radiology residency programs)
- vascular neurology - residency (see 60.0584 Vascular neurology residency programs)
- vascular surgery - residency (see 60.0434 Vascular surgery residency programs)

60.0584 Vascular neurology residency programs

This instructional program class comprises any residency training program that prepares physicians in the evaluation, prevention, treatment, and recovery from vascular diseases of the nervous system resulting from a large number of causes, such as ischemic stroke, intracranial hemorrhage, spinal cord ischemia, and spinal cord hemorrhage. Requires prior completion of a program in neurology or child neurology.

Illustrative example(s)
- vascular neurology - residency

Exclusion(s)
- neurological surgery - residency (see 60.0416 Neurological surgery residency programs)
- neurology - residency (see 60.0417 Neurology residency programs)
- pediatric neurology - residency (see 60.0404 Child neurology residency programs)
- vascular and interventional radiology - residency (see 60.0583 Vascular and interventional radiology residency programs)
- vascular surgery - residency (see 60.0434 Vascular surgery residency programs)

60.0599 Medical residency programs - subspecialty certificates, other

This instructional program class comprises any program not listed above that relates to Medical residency programs - subspecialty certificates.

Exclusion(s)
- pharmacy - residency (see 60.9999 Dental, medical and veterinary residency programs, other)

60.06 Podiatric medicine residency programs

This subseries comprises instructional program classes 60.0601 to 60.0699.

60.0601 Podiatric medicine and surgery residency programs - 24

This instructional program class comprises any two-year residency training program that prepares podiatrists for primary practice in podiatric healthcare and foot surgery certification. This includes diagnosis and treatment of conditions affecting the human foot, ankle, and their governing and related structures, including the leg, and the local manifestations of systemic conditions, by all appropriate systems and means.

Illustrative example(s)
- general podiatric medicine and surgery - residency
- podiatric medicine and surgery - 24 - residency

Exclusion(s)
- podiatric medicine (see 51.2101 Podiatric medicine/podiatry (DPM))
- podiatric medicine and surgery specialty in rearfoot and ankle surgery - residency (see 60.0602 Podiatric medicine and surgery residency programs - 36)

60.0602 Podiatric medicine and surgery residency programs - 36

This instructional program class comprises any three-year residency training program that prepares podiatrists for primary practice in podiatric healthcare, foot surgery certification, and reconstructive rearfoot and ankle surgery.

Illustrative example(s)
- podiatric medicine and surgery - 36 - residency
- podiatric medicine and surgery specialty in rearfoot and ankle surgery - residency

Exclusion(s)
- general podiatric medicine and surgery - residency (see 60.0601 Podiatric medicine and surgery residency programs - 24)
- podiatric medicine (see 51.2101 Podiatric medicine/podiatry (DPM))

60.0699 Podiatric medicine residency programs, other

This instructional program class comprises any program not listed above that relates to Podiatric medicine residency programs.

60.99 Dental, medical and veterinary residency programs, other

This subseries comprises instructional program class 60.9999.

60.9999 Dental, medical and veterinary residency programs, other

This instructional program class comprises any program not listed above that relates to Dental, medical and veterinary residency programs.

Illustrative example(s)
- pharmacy - residency

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54.0108 air force history
49.0106 air host/hostess
52.0209 air mobility
49.0105 air traffic control
49.0105 air traffic controller
14.0201 aircraft design engineering
47.0609 aircraft electronics
47.0609 aircraft electronics service technician
47.0608 aircraft engine mechanic
47.0608 aircraft engine technician
14.0201 aircraft engineering
47.0607 aircraft maintenance engineer

47.0607 aircraft maintenance engineer technician
47.0607 aircraft maintenance journeyman/journeywoman
47.0607 aircraft maintenance journeyperson
47.0607 aircraft maintenance technician
47.0607 aircraft mechanic
36.0119 aircraft pilot (private) (not for credit)
47.0609 aircraft radar technician
47.0607 aircraft sheet metal mechanics
47.0607 aircraft structural repair technician
47.0607 aircraft structural technician
47.0607 airframe mechanic
49.0104 airline and flight operations
49.0102 airline pilot
49.0199 airline ticket agent
49.0102 airplane pilot
49.0104 airport management
49.0104 airport operations
47.0110 alarm and security technician
47.0110 alarm installation
16.0404 Albanian
16.0404 Albanian language and literature
16.0404 Albanian literature
27.0102 algebra
27.0102 algebra and number theory
47.0604 alignment and brakes technician
47.0604 alignment mechanic
60.0402 allergies and immunology - residency
60.0402 allergy and immunology - residency
16.1599 Altaic
30.2801 alternative dispute resolution
47.0614 alternative fuel powered vehicle repair
47.0614 alternative fuel powered vehicle technician
51.3300 alternative medicine
51.0810 ambulance attendant
51.0810 ambulance technician
33.0102 American citizenship education
54.0102 American history
22.0203 American justice studies (graduate level)
22.0101 American law (except graduate level)
22.0203 American law and jurisprudence studies (graduate level)
23.1402 American literature
45.1002 American politics
16.1601 American Sign Language
16.1603 American Sign Language interpreting
05.0102 American studies
51.3804 anaesthesia nurse practitioner
51.0809 anaesthetist assistant
27.0103 analysis and functional analysis
40.0502 analytical chemistry
41.0301 analytical chemistry technician
41.0301 analytical chemistry technology
60.0424 anatomic pathology - residency
60.0424 anatomic pathology and clinical pathology - residency
26.0403 anatomy
30.2201 ancient civilization
16.1202 ancient Greek
30.2202 ancient Greek and Roman studies
16.1202 ancient Greek language and literature
54.0199 ancient history
30.2201 ancient studies
51.3804 anesthesia nurse practitioner
51.0809 anesthesiologist assistant
60.0403 anesthesiology - residency
38.0203 Anglican studies
26.0708 animal behaviour
26.0701 animal biology
01.0902 animal breeding
51.0808 animal care technology
26.1301 animal ecology
26.0804 animal genetics
01.0504 animal grooming
01.0903 animal health
51.0808 animal health technician
51.0808 animal health technology
01.0302 animal husbandry
01.0904 animal nutrition
26.0707 animal physiology
01.0302 animal production
01.0302 animal production technology
01.0901 animal sciences
01.0505 animal training
45.0201 anthropological sciences
45.0201 anthropology
13.1317 anthropology education
01.0399 apiculture
50.0407 apparel design
19.0905 apparel marketing management
19.0902 apparel production management
47.0106 appliance repair
47.0106 appliance service technician
47.0106 appliance technician
27.0304 applied and computational mathematics
50.0401 applied arts
42.2814 applied behaviour analysis
42.2814 applied behavioural sciences
26.0101 applied biology
52.0407 applied business technology
14.4401 applied chemistry
19.0706 applied child studies
09.0900 applied communication
15.1202 applied computer technology
45.0401 applied criminology
45.0602 applied economics
38.0104 applied ethics
45.0701 applied geography
54.0105 applied history
01.0601 applied horticulture
19.0504 applied human nutrition
19.0101 applied human sciences
16.0101 applied language studies
16.0105 applied linguistics

27.0301 applied mathematics
14.1101 applied mechanics
30.1401 applied museum studies
50.0406 applied photography
14.1201 applied physics
42.2813 applied psychology
42.2813 applied social psychology
31.0599 applied sport science and coaching
27.0501 applied statistics
01.0303 aquaculture
01.0303 aquaculture technician
01.0303 aquaculture technology
26.1304 aquatic biology
26.1304 aquatic ecology
05.0108 Arab studies
16.1101 Arabic
16.1101 Arabic language
16.1101 Arabic language, literature and linguistics
16.1101 Arabic literature
01.0699 arboriculture
01.0699 arborist
48.0508 arc welding
43.0123 archaeological resources protection
45.0301 archaeology
45.0301 archaeometry
43.0123 archeological resources protection
45.0301 archeology
04.0902 architectural and building sciences
04.0902 architectural and building technology
15.1399 architectural and civil drafting
15.1399 architectural and electrical drafting
15.1399 architectural and industrial drafting
15.1303 architectural CAD technology
04.0901 architectural construction technology
04.0901 architectural design
04.0901 architectural design technology
15.1303 architectural drafting
14.0401 architectural engineering
15.0101 architectural engineering technician
15.0101 architectural engineering technologist
15.0101 architectural engineering technology
46.0406 architectural glass and metal mechanic
04.0801 architectural history
04.0801 architectural history and theory
04.0201 architectural science
48.0506 architectural sheet metal worker
04.0901 architectural technician
04.0901 architectural technology
04.0201 architecture
25.0103 archival administration
25.0103 archival administration and records management
25.0199 archival and library science
25.0103 archival management
25.0103 archival studies
25.0301 archival technician
25.0103 archives
25.0301 archives assistant
25.0103 archives records management
25.0301 archives technician
25.0103 archivist
31.0301 arena management
16.1599 Armenian
54.0108 army history
29.0501 army technical warrant officer program
51.3701 aromatherapist
51.3701 aromatherapy
01.0304 aromatic and medicinal plant production
43.0205 arson prevention and investigation
36.0110 art (not for credit)
50.0703 art conservation
13.1302 art education
50.0703 art history
50.0703 art history and criticism
13.1302 art history education
50.0703 art restoration
50.0701 art studies
13.1302 art teacher
13.1302 art teaching
51.2301 art therapy
01.0902 artificial insemination
11.0102 artificial intelligence
50.1001 artist management
50.0799 artistic glass making
12.0406 artistic makeup
50.0708 artistic painting
12.0411 artistic tattooing
50.1001 arts administration
50.0201 arts and crafts
24.0102 arts and science
50.1001 arts management
46.0414 asbestos insulator
46.0414 asbestos worker
05.0109 Asia Pacific studies
05.0206 Asian American studies
05.0103 Asian Area studies
54.0106 Asian history
38.0299 Asian religions
05.0103 Asian studies
16.1601 ASL
16.1603 ASL interpreting
16.0799 Assamese
52.0807 asset and wealth management
12.0505 assistant cook
41.0000 assistant science lab technician
41.0000 assistant science laboratory technician
51.2312 assistive/augmentative technology and rehabilitation engineering
52.0206 association management
30.0101 astrobiology
14.0201 astronautical engineering
40.0201 astronomy
40.0201 astronomy and physics
40.0202 astrophysics

31.0501 athletic coach
51.0913 athletic therapist
51.0913 athletic therapy
51.0913 athletic trainer
05.0122 Atlantic Canada studies
40.0807 atmospheric and space optics
40.0403 atmospheric physics
40.0401 atmospheric sciences
40.0802 atomic physics
52.1901 auctioneering
10.0203 audio engineering
10.0203 audio recording technology
51.0202 audiologist
51.0202 audiology
51.0202 audiology and hearing sciences
51.0204 audiology and speech-language pathology
10.0299 audiovisual technician
10.0299 audiovisual technology
52.0303 auditing
16.1401 Australian languages
16.1401 Australian languages and literature
47.0603 auto body
47.0603 auto body collision repair
47.0603 auto body mechanic
47.0603 auto body painting
47.0603 auto body refinisher
47.0603 auto body repair
47.0603 auto body technician
47.0603 auto body work
47.0603 auto body worker
46.0406 auto glass technician
47.0604 auto mechanic
13.1320 auto mechanic teacher
52.1907 auto parts sales
47.0604 auto repair
47.0604 auto service technician
48.0303 auto upholstery
15.1302 autoCAD
15.1302 autoCAD drafting
52.0302 automated accounting
15.0406 automated engineering technician
15.0406 automated engineering technology
14.3601 automated manufacturing engineering
15.0406 automated systems electromechanics
15.0406 automated systems engineering technology
14.4201 automation and robotics engineering
14.4201 automation engineering
15.0406 automation engineering technology
47.0604 automobile mechanic
47.0604 automobile mechanics technician
52.1907 automobile sales
47.0603 automotive collision repair technician
47.0605 automotive diesel mechanics
47.0604 automotive electrical repair
47.0604 automotive electronics
14.9999 automotive engineering
15.0803 automotive engineering technician
15.0803 automotive engineering technology
47.0617 automotive high performance mechanic
47.0617 automotive high performance technician
47.0604 automotive maintenance technician
15.0803 automotive manufacturing technology
52.1907 automotive marketing
47.0604 automotive mechanic
47.0604 automotive mechanics
47.0603 automotive painter
47.0603 automotive painting
47.0409 automotive parts and light warehousing
47.0409 automotive partsman/partswoman
47.0409 automotive partsperson
15.0803 automotive product design technology
47.0603 automotive refinishing technician
47.0604 automotive repair
52.1907 automotive sales
47.0604 automotive service technician
47.0603 automotive spray painting
47.0604 automotive transmission repair
16.1599 Avaric
47.0609 aviation electronics
14.0201 aviation engineering
49.0104 aviation flight management
49.0104 aviation management
49.0101 aviation sciences
47.0609 avionics
14.0201 avionics engineering
47.0609 avionics maintenance technician
47.0609 avionics technician
47.0609 avionics technology
51.3305 Ayurveda
51.3305 Ayurvedic medicine
16.1599 Azeri

B

22.0101 Bachelor of Civil Law (BCL)
22.0101 Bachelor of law
22.0101 Bachelor of Law (LLB)
22.0101 Bachelor of laws
22.0101 Bachelor of Laws (LLB)
49.0202 backhoe operator
26.0503 bacteriology
16.1402 Bahasa Indonesian
16.1402 Bahasa Indonesian languages and literature
22.0399 bailiff
12.0501 baker
12.0501 bakery
12.0501 baking
12.0501 baking and pastry arts
05.0116 Balkan studies
50.0302 ballet
50.0302 ballet dancer
50.0302 ballet dancing
13.1324 ballet teacher

16.0401 Baltic languages
16.0401 Baltic languages and literature
05.0117 Baltic studies
43.0107 band constable
52.0803 bank teller
52.0803 banking and financial support services
22.0101 bar admission course
12.0502 bar management
12.0402 barber
12.0402 barbering
04.0201 BArch
50.0914 baritone (brass instrument)
50.0908 baritone (singer)
12.0502 barman/woman
12.0502 bartender
12.0502 bartending
16.1599 Bashkir
12.0409 basic aesthetician
32.0110 basic computer applications
32.0110 basic computer skills
12.0409 basic esthetician
32.0101 basic skills, general
16.9999 Basque
50.0916 bass drum
50.0915 bassoon
16.1499 Batak
47.0699 bearings mechanic
12.0401 beautician
12.0412 beauty parlour management
01.0906 beef management
01.0302 beef production
01.0906 beef production management
01.0399 beekeeping
45.0602 behavioural and experimental economics
51.2212 behavioural health
26.1501 behavioural neuroscience
30.1701 behavioural science
30.1701 behavioural science technology
30.1701 behavioural sciences
16.0499 Belarusian
48.0701 benchwork and joinery
16.0704 Bengali
16.0704 Bengali language and literature
16.0704 Bengali literature
16.1199 Berber languages
10.0201 best boy
39.0201 Bible studies
39.0201 Bible study
39.0799 Biblical counselling
16.1103 Biblical languages
16.1103 Biblical languages and literature
16.1103 Biblical literature
39.0201 Biblical studies
47.0610 bicycle mechanics
47.0610 bicycle repair
16.0799 Bihari
13.0201 bilingual and multilingual education
13.0201 bilingual education
52.0401 bilingual secretary
51.2212 biobehavioural health
14.4301 biochemical engineering
26.0202 biochemistry
26.0210 biochemistry and molecular biology
13.1322 biochemistry education
14.0501 bioengineering
15.0401 bioengineering technology
03.0104 bioenvironmental sciences
51.3201 bioethics
01.1002 bio-food technology
26.1103 bioinformatics
14.4501 biological and biosystems engineering
30.0101 biological and physical sciences
45.0202 biological anthropology
26.0202 biological chemistry
14.4501 biological engineering
26.1302 biological oceanography
30.1001 biological psychology
26.0101 biological sciences
14.4501 biological systems engineering
41.0101 biological technology
26.0101 biology
30.2701 biology and society
13.1322 biology education
41.0101 biology lab technician
41.0101 biology lab technology
41.0101 biology laboratory technician
41.0101 biology laboratory technology
13.1322 biology teacher
13.1322 biology teaching
41.0101 biology technician
14.4501 biomass engineering
14.0501 biomaterials engineering
26.1199 biomathematics
31.0505 biomechanics
51.2703 biomedical animation
15.0401 biomedical electronics
14.0501 biomedical engineering
15.0401 biomedical engineering technology
51.2706 biomedical informatics
51.1005 biomedical laboratory technologist
51.2205 biomedical physics
26.0102 biomedical science
15.0401 biomedical technician
15.0401 biomedical technology
26.1004 biomedical toxicology
26.1101 biometrics
26.1101 biometry
26.0203 biophysics
14.0301 bioprocess engineering
14.0301 bioprocessing engineering
30.1001 biopsychology
14.0301 bio-resource engineering
15.9999 bio-resources engineering technician
26.0101 bioscience

26.1102 biostatistics
14.4501 biosystems engineering
26.1201 biotechnology
41.0101 biotechnology lab technician
41.0101 biotechnology laboratory technician
41.0101 biotechnology technician
41.0101 biotechnology technologist
34.0102 birthing and parenting knowledge and skills
16.1499 Bisayan
05.0201 Black Canadian studies
05.0201 Black studies
48.0599 blacksmith
46.0505 blaster
46.0505 blasting
46.0505 blasting technician
51.1001 blood bank technologist
51.1001 blood bank technology specialist
60.0503 blood banking - residency
60.0503 blood banking/transfusion medicine - residency
36.0103 board, card and role-playing games (not for credit)
16.1499 Bodo
43.0120 bodyguard
46.0414 boiler and pipe insulator
48.0801 boilermaker
48.0801 boilermaking
09.1001 book and magazine publishing
09.1001 book publishing
10.0399 bookbinding
52.0302 bookkeeper
52.0302 bookkeeping
49.0206 boom truck operator
43.0199 border guard
16.0408 Bosnian
26.0301 botany
49.0208 brakeman/brakewoman
50.0914 brass instruments
01.1002 brewing technology
46.0101 brick and stone mason
46.0101 brick masonry
46.0101 bricklayer
46.0101 bricklaying
46.0101 bricklaying-masonry
14.0803 bridge engineering
54.0103 British history
23.1404 British literature
10.0299 broadcast captioning
10.0202 broadcast engineering technology
09.0402 broadcast journalism
10.0202 broadcast technology
38.0202 Buddhism
38.0202 Buddhist studies
15.1001 building construction engineering technology
46.0415 building construction technology
15.1303 building design and architecture CAD
15.1303 building design CAD technology
15.1001 building engineering technology
46.0401 building envelope technician
46.0403 building inspection
46.0403 building inspection technology
46.0401 building maintenance
46.9999 building renovation technician
46.9999 building restoration technician
46.0401 building service technician
16.0405 Bulgarian
16.0405 Bulgarian language and literature
16.0405 Bulgarian literature
16.1403 Burmese language
16.1403 Burmese language and literature
49.0205 bus driver
49.0205 bus driving
47.0613 bus mechanic
47.0613 bus technician
49.0102 bush pilot
52.0101 business
52.0201 business administration
52.1401 business administration - marketing
43.0112 business and organizational security management
35.0103 business and social skills
11.0202 business applications programming
52.0501 business communications
11.0202 business computer programming
52.0601 business economics
13.1303 business education
52.0701 business entrepreneurship
47.0102 business equipment repair
38.0104 business ethics
52.0801 business finance
52.1201 business information management
52.0407 business information processing
52.1201 business information systems
11.0103 business information technology
52.1701 business insurance
52.1301 business intelligence
22.0101 business law (except graduate level)
22.0205 business law (graduate level)
47.0102 business machine repair
47.0102 business machine technician
52.0201 business management
52.0701 business start-up
52.1302 business statistics
52.0101 business studies
12.0506 butcher
12.0506 butcher shop delicatessen
12.0506 butchering
12.0506 butchery
01.0306 butter making
52.1802 buyer
43.0199 bylaw enforcement
30.2202 Byzantine civilization

C

48.0703 cabinet making
48.0703 cabinet making - joinery
48.0703 cabinetmaker
48.0703 cabinetmaker-joiner
46.0303 cable splicer
47.0103 cable telecommunications technician
47.0103 cable television service installation
47.0103 cable television technician
46.0303 cableman/cablewoman
15.1302 CAD drafting
15.1302 CAD technology
52.0207 call centre administration
52.0207 call centre management
52.0411 call centre service representative
15.0613 CAM
16.1405 Cambodian
16.1405 Cambodian literature
10.0201 camera operator
10.0201 cameraman/camerawoman
12.0500 camp cook
52.1701 Canadian Accredited Insurance Broker (CAIB)
33.0105 Canadian citizenship education
28.0801 Canadian forces command and staff college
28.0801 Canadian forces staff school
45.1003 Canadian government and politics
54.0107 Canadian history
22.0101 Canadian law (except graduate level)
22.0204 Canadian legal studies (graduate level)
23.1403 Canadian literature (in English)
55.1403 Canadian literature (in French)
45.1003 Canadian political science
45.1003 Canadian political studies
45.1003 Canadian politics
52.0807 Canadian securities
45.0902 Canadian security studies programme
05.0115 Canadian studies
26.0911 cancer biology
39.9999 canon law
47.0604 car mechanic
47.0604 car repair
52.1907 car sales
60.0504 cardiology - residency
51.3899 cardiology nurse practitioner
51.0901 cardiology technician
51.0901 cardiology technologist
51.0901 cardiology technology
34.0199 cardiopulmonary resuscitation (CPR)
51.0915 cardiopulmonary technologist
51.0915 cardiopulmonary technology
60.0504 cardiovascular disease - residency
26.0907 cardiovascular science
51.0901 cardiovascular technician
32.0107 career awareness skills
32.0107 career exploration skills
05.0119 Caribbean studies
46.0201 carpenter
46.0201 carpenter-joiner
46.0201 carpentry
13.1320 carpentry teaching
46.0413 carpet installation
46.0413 carpet laying
46.0413 carpet, flooring, and tile technician
46.0413 carpet, linoleum, and soft tile layer
45.0702 cartographic technician
45.0702 cartographic technology
45.0702 cartography
50.0709 carving
31.9999 casino dealer
52.0908 casino management
16.0907 Catalan
16.0907 Catalan language and literature
16.0907 Catalan literature
39.0401 catechism
12.0504 catering management
11.0203 CCIE
11.0203 CCNA
11.0203 CCNP
26.0499 cell and developmental biology
26.0406 cell and molecular biology
14.0501 cell and tissue engineering
26.0401 cell biology
26.0407 cell biology and anatomy
26.0903 cell physiology
50.0911 cello
26.0406 cellular and molecular biology
26.0401 cellular biology
16.1301 Celtic languages
16.1301 Celtic languages and literature
16.1301 Celtic literature
46.0402 cement finisher
46.0402 cement finishing
46.0402 cement mason
46.0402 cement-applicator operator
47.0201 central air conditioning installer
47.0201 central air conditioning repairer
05.0105 Central and Eastern European studies
05.0120 Central Asian studies
05.0105 Central European studies
50.0711 ceramic arts
14.0601 ceramic engineering
14.0601 ceramic sciences
13.1302 ceramic teacher
46.0413 ceramic tile installation
46.0413 ceramic tile setting
50.0711 ceramics
51.0601 certified dental assistant (CDA)
52.0804 certified financial planner
52.0301 certified general accountant (CGA)
52.0305 certified management accountant (CMA)
51.3902 certified nurse aide

51.3902 certified nursing aide
51.3901 certified nursing assistant
50.0903 chamber music performance
52.9999 change management
52.0301 chartered accountant (CA)
16.1599 Chechen-Ingushetian
01.0306 cheese making
12.0503 chef
12.0503 chef training
40.0502 chemical analysis
14.4301 chemical and biochemical engineering
14.0702 chemical and biomolecular engineering
14.1801 chemical and materials engineering
40.1001 chemical and materials science
14.2501 chemical and petroleum engineering
14.0701 chemical engineering
15.0615 chemical engineering technician
15.0615 chemical engineering technology
41.0301 chemical lab technician
41.0301 chemical lab technology
41.0301 chemical laboratory technician
41.0301 chemical laboratory technology
40.0607 chemical oceanography
60.0505 chemical pathology - residency
40.0508 chemical physics
41.0303 chemical process technology
41.0301 chemical technician
41.0301 chemical technology
40.0501 chemist
40.0501 chemistry
13.1323 chemistry education
13.1323 chemistry teaching
05.0203 Chicano studies
52.1206 chief information officer training
60.0506 child abuse pediatrics - residency
60.0507 child and adolescent psychiatry - residency
19.0701 child and youth care
44.0702 child and youth care counsellor
19.0706 child and youth studies
44.0702 child and youth worker
19.0709 child care
19.0708 child care administration
19.0709 child care assistant
19.0708 child care centre administration
19.0708 child care management
19.0709 child care services
19.0709 child care worker
19.0708 child day care management
19.0706 child development
19.0706 child growth, care and development studies
60.0404 child neurology - residency
60.0507 child psychiatry - residency
42.2703 child psychology
51.0299 child speech-language disorders
19.0706 child studies
60.0404 child/pediatric neurology - residency
19.0706 childhood development
25.0102 children's library services
39.0702 children's ministries
51.3809 children's nurse
16.0301 Chinese
51.3302 Chinese herbal medicine
54.0106 Chinese history
16.0301 Chinese language
16.0301 Chinese language and literature
16.0301 Chinese literature
51.3302 Chinese medecine
05.0123 Chinese studies
13.1306 Chinese teacher
51.3302 Chinese traditional medicine
51.2101 chiropodist
51.2101 chiropody
51.0101 chiropractic
51.0813 chiropractic assistant
51.0101 chiropractor
50.0906 choral conducting
50.0301 choreography, dance
38.0103 Christian ethics
39.0705 Christian leadership
39.0602 Christian ministry
38.0203 Christian studies
39.0601 Christian theology
38.0203 Christianity and culture
38.0203 church history
39.9999 church law
39.0602 church ministry
39.0501 church music
50.0602 cinema production
50.0601 cinema studies
50.0602 cinematography
50.9999 circus arts
05.0105 CIS studies
11.0203 CISCO
11.0203 CISCO certification
11.0203 Cisco Certified Internetwork Expert
11.0203 Cisco Certified Network Associate
11.0203 Cisco Certified Network Professional
33.0101 citizenship activities, general
04.0301 city planning
15.1304 civil and municipal drafting
15.0201 civil and structural engineering technology
15.1304 civil drafting
14.0801 civil engineering
15.1304 civil engineering CAD
15.1304 civil engineering computer-assisted design and drafting
15.1304 civil engineering drafting
15.0201 civil engineering technologist
15.0201 civil engineering technology
22.0101 civil law (except graduate level)
22.0299 civil law (graduate level)
14.0803 civil structural engineering
50.0915 clarinet
49.0205 Class 1 truck driver

47.0604 Class A mechanic
10.0304 classical animation
45.0301 classical archaeology
45.0301 classical archeology
50.0302 classical ballet
30.2202 classical civilization
50.0301 classical dance
16.1202 classical Greek
16.1200 classical languages
16.1200 classical literature
50.0901 classical music
30.2202 classical studies
16.1200 classics
13.1399 classics education
19.0999 cleaner and presser
39.0602 clergy
52.0408 clerk typist
40.0402 climatology
51.0710 clinic office assistant
51.2006 clinical and industrial drug development
51.0801 clinical assistant
60.0405 clinical biochemical genetics - residency
60.0508 clinical cardiac electrophysiology - residency
42.2807 clinical child psychology
60.0406 clinical cytogenetics - residency
60.0407 clinical genetics - residency
51.3603 clinical hypnosis
51.3603 clinical hypnotherapy
51.1004 clinical lab technician
51.1005 clinical laboratory science
51.1004 clinical laboratory technician
51.1005 clinical laboratory technologist
60.0408 clinical molecular genetics - residency
60.0509 clinical neurophysiology - residency
42.2801 clinical neuropsychology
51.3820 clinical nurse leader
51.3813 clinical nursing
51.3102 clinical nutrition
51.1506 clinical pastoral counselling
60.0424 clinical pathology - residency
51.2008 clinical pharmacy
42.2801 clinical psychology
51.1503 clinical social work
51.0719 clinical trial research coordination
51.0719 clinical trials management
51.2008 clinical, hospital, and managed care pharmacy
47.0408 clock repair
47.0408 clockmaker-jeweller
47.0408 clockmaking
43.0120 close protection
19.0901 clothing and textiles
50.0407 clothing design
48.0510 CNC machining
48.0510 CNC programmer
15.0901 coal mining
48.0304 cobbler
42.2701 cognitive and motivational psychology
26.1501 cognitive neuroscience
42.2701 cognitive psychology
30.2501 cognitive science
36.0111 collecting (not for credit)
53.0102 college preparatory program
13.1102 college student counselling and personnel services
13.1299 college teaching
60.0409 colon and rectal surgery - residency
27.0102 combinatorics
27.0399 combinatorics and optimization
52.0101 commerce
13.1303 commerce education
22.0205 commerce law (graduate level)
50.0406 commercial and digital photography
50.0402 commercial art
50.0402 commercial art painting
50.0402 commercial artist
49.0104 commercial aviation management
12.0501 commercial baking
46.0415 commercial construction
12.0500 commercial cooking
12.0505 commercial cooking aide
52.0809 commercial credit
49.0304 commercial diving
49.0205 commercial driver
49.0205 commercial driver education
49.0303 commercial fishing
22.0205 commercial law (graduate level)
46.0408 commercial painting
50.0406 commercial photography
49.0102 commercial pilot
46.0410 commercial roofing
47.0613 commercial transport mechanic
47.0613 commercial transport vehicle mechanic
22.0101 common law (except graduate level)
22.0299 common law (graduate level)
23.1404 Commonwealth literature (in English)
05.0105 Commonwealth of Independent States (CIS) studies
05.0121 Commonwealth studies
50.0401 communication design
51.0201 communication disorders
13.1399 communication education
09.0100 communication sciences
51.0201 communication sciences and disorders
09.0100 communication studies
47.0103 communication technician (apprenticeship)
09.0100 communications
47.0103 communications electrician (apprenticeship)
14.1004 communications engineering
15.0305 communications engineering technology
14.1004 communications systems engineering
10.0105 communications technician
47.0103 communications technician (apprenticeship)
10.0105 communications technology

51.0816 communicative disorders assistant
44.0201 community advocacy
04.0301 community and regional planning
33.0103 community awareness
13.0407 community college administration
19.0707 community development worker
45.0604 community economic development
51.2208 community health and preventive medicine
51.1504 community health care
51.1504 community health education
51.3811 community health nursing
51.1504 community health representative
51.2208 community health science
51.1504 community health services
33.0104 community involvement
51.2208 community medicine
44.0201 community organization and advocacy
04.0301 community planning
42.2802 community psychology
31.0101 community recreation
19.0707 community service worker
19.0707 community services
19.0707 community support worker
19.0707 community wellness
19.0707 community worker
51.2509 comparative and laboratory animal medicine (Cert., MS, MSc, PhD)
26.0299 comparative biochemistry
16.0104 comparative Canadian literature
05.0200 comparative ethnic studies
45.1001 comparative government and politics
22.0101 comparative law (except graduate level)
22.0206 comparative law (graduate level)
16.0104 comparative literature
45.1001 comparative politics
42.2702 comparative psychology
38.0201 comparative religion
52.1301 competitive intelligence
52.0499 comptometer operator
27.0304 computational and applied mathematics
26.1104 computational and systems biology
26.1104 computational biology
40.0599 computational chemistry
40.0603 computational geophysics
16.0102 computational linguistics
27.0303 computational mathematics
26.1599 computational neurobiology
26.1501 computational neuroscience
40.0810 computational physics
52.0302 computer accounting
11.0501 computer analyst
11.1001 computer and network support technician
11.1003 computer and network systems security
10.0304 computer animation
11.0201 computer applications development
11.1006 computer call centre specialist
15.1302 computer drafting
13.1321 computer education
15.1201 computer electronics
15.1201 computer electronics technician
14.0901 computer engineering
15.1201 computer engineering technician
15.1201 computer engineering technology
43.0116 computer forensics
36.0113 computer games and programming skills (not for credit)
11.0803 computer graphics
10.0303 computer graphics for desktop publishing
10.0303 computer graphics for prepress
14.0902 computer hardware engineering
15.1203 computer hardware technician
15.1203 computer hardware technology
11.1006 computer help desk specialist
11.0103 computer information systems
11.1001 computer network administration
11.1001 computer network administrator
14.0999 computer network engineering
15.1299 computer network engineering technician
15.1299 computer network engineering technology
11.1002 computer network management
11.1002 computer network manager
11.1003 computer network security
11.1001 computer network specialist
11.1001 computer network technology
11.1001 computer networking
11.1001 computer networking and technical support
11.1001 computer networking technology
11.0901 computer networks (university)
11.1003 computer networks and security
48.0510 computer numerical control machining
11.0201 computer programmer
11.0501 computer programmer-analyst
11.0201 computer programming
11.0201 computer programming technology
11.0202 computer programming, business applications
47.0104 computer repair
47.0104 computer repair technician
11.0701 computer science
13.1321 computer science education
11.0701 computer science technology
47.0104 computer service technician
14.0903 computer software engineering
15.1204 computer software technician
15.1204 computer software technology
11.1006 computer support specialist
11.1001 computer systems administration
11.1001 computer systems administrator
11.0501 computer systems analyst
14.0901 computer systems engineering
11.0901 computer systems networking (university)
11.1003 computer systems security
47.0104 computer systems service technician
15.1202 computer systems technician

11.1001 computer systems technician - networking
15.1202 computer systems technology
11.1001 computer systems technology - networking
11.0901 computer systems telecommunications (university)
11.1006 computer technical support specialist
15.1202 computer technician
15.1202 computer technology
15.1303 computer-aided architectural drafting
15.1302 computer-aided design
15.1302 computer-aided design and drafting technology
15.1302 computer-aided drafting
15.0613 computer-aided manufacturing technology
15.1302 computer-assisted drafting
15.1306 computer-assisted mechanical drafting
50.0913 computer-assisted scoring
50.0913 computer-assisted sonic design
52.0302 computerized accounting
52.0302 computerized bookkeeping
15.1306 computerized mechanical design
48.0510 computerized numerically controlled manufacturing
11.0101 computing and information science
11.0101 computing and information systems
11.0701 computing science
46.0101 concrete block laying
46.0402 concrete finisher
46.0402 concrete finishing
46.0402 concrete preparation and finishing
40.0808 condensed-matter physics
52.1501 condominium management
12.0599 confectioner
52.0907 conference management
52.0907 conference planning
30.0501 conflict resolution studies
60.0510 congenital cardiac surgery - residency
26.1307 conservation biology
03.0208 conservation enforcement
03.0208 conservation law enforcement
03.0201 conservation management
03.0208 conservation officer
22.0204 constitutional law (graduate level)
46.0000 construction
48.0801 construction boilermaker
46.0201 construction carpentry
46.0000 construction craft labourer
46.0000 construction craft worker
15.1303 construction drafting
46.0302 construction electrician
14.3301 construction engineering
14.3301 construction engineering and management
15.1001 construction engineering technician
15.1001 construction engineering technology
49.0202 construction equipment operation
46.0412 construction foreman/forewoman
47.0302 construction heavy equipment mechanics
52.2001 construction management
47.0303 construction millwright
52.2001 construction project management
46.0412 construction site management
46.0412 construction supervision
15.1102 construction surveying
46.0415 construction technology
46.0000 construction trades
19.0201 consumer behaviour
19.0402 consumer economics
19.0403 consumer education and advocacy
19.0403 consumer protection
19.0201 consumer sciences
19.0403 consumer services
19.0201 consumer studies
50.0301 contemporary dance
13.1201 continuing education teacher
52.0202 contracts management
14.4201 control engineering
15.0404 control engineering technology
52.0399 controllership
52.0907 conventions and meetings management
12.0500 cook
12.0500 cooking
36.0112 cooking and other domestic skills (not for credit)
51.3899 coronary care nursing
52.0501 corporate communications
22.0101 corporate law (except graduate level)
22.0205 corporate law (graduate level)
22.0205 corporation law (graduate level)
43.0102 correction services worker
43.0102 correctional officer
43.0102 correctional services
43.0102 correctional services technology
43.0102 correctional techniques
43.0102 correctional worker
43.0102 corrections
43.0113 corrections administration
14.1801 corrosion engineering
15.0699 corrosion engineering technician
12.0401 cosmetician
12.0401 cosmetologist
12.0401 cosmetology
12.0413 cosmetology instructor
40.0202 cosmology
50.0510 costume design
50.0510 costume studies
42.2803 counselling psychology
43.0399 counterterrorism
13.0501 courseware authoring
13.0501 courseware development
22.0399 court and tribunal agent
22.0303 court reporter
22.0303 court reporting
22.0303 court stenographer
22.0303 court stenography

50.0201 crafts
49.0206 crane and hoist operator
49.0206 crane and hoisting equipment operator
49.0206 crane operating
49.0206 crane operator
51.0503 craniofacial biology (MS, MSc, PhD)
09.0903 creative advertising
50.0402 creative advertising design
50.0401 creative design
50.0407 creative fashion design
50.0409 creative graphics
50.0605 creative photography
52.0809 credit management
16.1001 Cree language
16.1001 Cree language studies
16.1001 Cree linguistics
45.0401 criminal deviance
43.0107 criminal justice - policing
43.0109 criminal justice - security
43.0103 criminal justice administration
43.0104 criminal justice studies
22.0101 criminal law (except graduate level)
22.0299 criminal law (graduate level)
42.2812 criminal psychology
43.0111 criminal science
43.0111 criminalistics
45.0401 criminology
43.0302 crisis management
60.0511 critical care anesthesiology - residency
60.0511 critical care medicine - residency
51.3814 critical care nursing
60.0579 critical care surgery - residency
43.0119 critical incident response/special police operations
51.1599 critical incident stress management
43.0399 critical infrastructure protection
30.2601 critical theory and analysis
16.0408 Croatian
16.0408 Croatian language and literature
16.0408 Croatian literature
01.1199 crop and horticultural science
01.0304 crop production
01.1102 crop science
01.0304 crop technology
31.9999 croupier
05.0203 Cuban American studies
12.0504 culinary administration
12.0503 culinary arts
12.0504 culinary management
12.0509 culinary science
12.0509 culinology
45.0204 cultural and social anthropology
45.0204 cultural anthropology
45.0701 cultural geography
30.1202 cultural resource management
30.1202 cultural resource management and policy analysis
43.0123 cultural resources protection
13.0901 culture and values in education
13.0301 curriculum
13.0301 curriculum and instruction
13.0301 curriculum development
13.0301 curriculum education
13.0301 curriculum specialization
13.0301 curriculum studies
13.0301 curriculum theory
16.1199 Cushitic languages
19.0999 custom tailoring and alterations
52.0411 customer service
52.0411 customer service by telephone
52.0207 customer service management
52.0411 customer service representative
43.0103 customs administration
52.0209 customs broker
03.0511 cutter and skidder
19.0999 cutting and sewing
43.0116 cyber forensics
11.1003 cyberspace security
51.1010 cytogenetics
26.0401 cytology
60.0512 cytopathology - residency
51.1002 cytotechnologist
51.1002 cytotechnology
16.0406 Czech
16.0406 Czech language and literature
16.0406 Czech literature

D

01.0306 dairy farming
01.0306 dairy herd management
01.0306 dairy herdsman
01.0306 dairy herdsperson
01.0306 dairy herdswoman
01.0306 dairy husbandry
01.0306 dairy production
01.0905 dairy science
01.0306 dairy technology
16.1001 Dakota language studies
50.0301 dance
50.0301 dance movement studies
13.1324 dance teacher
51.2302 dance therapist
51.2302 dance therapy
50.0301 dancing
36.0114 dancing (not for credit)
16.0503 Danish
16.0503 Danish language and literature
16.0503 Danish literature
11.0601 data entry
11.0601 data entry operator
11.0301 data processing
11.0301 data processing technology

11.0802 data warehousing
11.0802 database administration
11.0802 database developer
11.0802 database management
19.0709 day care services
16.1499 Dayak
19.0709 daycare
19.0709 daycare assistant
19.0708 daycare management
19.0709 daycare provider
19.0709 daycare worker
51.0401 DDS
13.1003 deaf education
05.0211 deaf studies
05.0211 deaf studies and American Sign Language
05.0211 deaf studies and ASL
05.0211 deaf studies and QSL
05.0211 deaf studies and Quebec Sign Language
05.0211 deaf studies and sign language
49.0309 deck officer
49.0304 deep-sea diving
29.0501 defence engineering
29.0501 defence engineering and management
28.0801 defence management and policy
28.0801 defence studies
43.0110 delinquency intervention
45.0501 demography
51.0601 dental assistant
51.0601 dental assisting
51.0501 dental clinical sciences (MS, MSc, PhD)
51.0602 dental hygiene
13.1327 dental hygiene education
51.0602 dental hygienist
51.0603 dental lab technician
51.0603 dental lab technology
51.0603 dental laboratory technician
51.0603 dental laboratory technology
51.0505 dental materials (MS, MSc, PhD)
51.0401 dental medicine
51.0601 dental nursing
51.0705 dental office administration
60.0102 dental public health - residency
51.0504 dental public health and education (Cert., MS, MSc, MPH, PhD, DPH)
60.0102 dental public health specialty - residency
51.0712 dental reception
51.0712 dental receptionist
51.0501 dental sciences (MS, MSc, PhD)
51.0716 dental secretarial
51.0716 dental secretary
51.0603 dental technician
51.0603 dental technology
51.0699 dental therapy
60.0101 dental/oral surgery specialty - residency
51.0401 dentist
51.0401 dentistry
51.0603 denturist
51.0603 denturology
60.0410 dermatology - residency
60.0513 dermatopathology - residency
50.0401 design arts
14.9999 design engineering
10.0303 desktop publishing
52.1906 development and promotion of travel products
45.0604 development economics
26.0404 developmental biology
26.1501 developmental neuroscience
42.2703 developmental psychology
19.0710 developmental services worker
60.0514 developmental-behavioural pediatrics - residency
51.0910 diagnostic medical sonography
60.0515 diagnostic radiologic physics - residency
60.0411 diagnostic radiology - residency
51.1011 dialysis technologist
51.1011 dialysis technology
48.9999 diamond cutting
48.9999 diamond cutting and polishing
15.0901 diamond drilling
48.9999 diamond polishing
05.0299 diaspora studies
52.0408 dicta-typing
48.0507 die maker
48.0507 die making
48.0507 diemaker
47.0605 diesel engine mechanic
47.0605 diesel mechanic
47.0605 diesel mechanics
47.0605 diesel service technician
47.0605 diesel technician
47.0605 diesel technology
51.3104 dietary aide
19.0505 dietary and food service management
51.3104 dietary assistant
51.3103 dietetic technician
51.3103 dietetic technician, registered (DTR)
51.3101 dietetics
13.1327 dietetics education
13.1327 dietetics teaching
51.3101 dietitian
10.0304 digital animation
50.0102 digital art
50.0102 digital arts
09.0702 digital communications
10.0303 digital imaging design
45.0702 digital mapping
09.0702 digital media
12.0507 dining room management
12.0507 dining room service
14.1201 directed energy physics
50.0507 direction of plays
19.0710 disability and community rehabilitation
05.0210 disability studies

43.0302 disaster and emergency management
43.0302 disaster and emergency studies
43.0302 disaster management
43.0302 disaster medicine and management
43.0302 disaster operations and recovery
43.0302 disaster planning and management
51.1801 dispensing optician
30.2801 dispute resolution
13.1299 distance learning teacher
49.0304 diving instructor
39.0602 divinity
51.0401 DMD
51.1201 doctor
51.0401 doctor of dental medicine
51.0401 doctor of dental surgery
51.1201 doctor of medicine
51.3818 Doctorate of Advanced Nursing Practice
51.3818 Doctorate of Nursing Practice (DNP)
51.0710 doctor's office assistant
50.0607 documentary production
01.0504 dog grooming
01.0505 dog training
19.0101 domestic science
50.0911 double bass
15.1301 drafting
15.1301 drafting and design
15.1301 drafting and design technician
15.1301 drafting and design technology
15.1302 drafting CAD
15.1301 drafting technician
15.1301 drafting technology
50.0501 drama and theatre
13.1324 drama education
50.0506 dramatic actor/actress
50.0501 dramatic arts
50.0504 dramatic writing
50.0705 drawing
19.0999 dressmaker
19.0999 dressmaking
46.0504 drilling
46.0505 drilling and blasting
13.1304 driver instructor
13.1304 driving instructor
51.1501 drug and alcohol counselling
19.0999 dry cleaning
19.0999 dry cleaning and clothing maintenance
46.0404 drywall and acoustical mechanic
46.0404 drywall finisher and plasterer
46.0404 drywall finishing
46.0404 drywall installation
46.0404 drywall installer and finisher
46.0404 drywall taping
46.0404 drywall, acousting and lathing applicator
46.0404 drywalling
19.0710 DSW
16.0504 Dutch
16.0504 Dutch language and literature
47.0101 DVD player repair
19.0904 dye chemistry

E

19.0706 early child development
19.0706 early childhood development
13.1210 early childhood education (Bachelor)
19.0709 early childhood education (college)
13.1210 early childhood education (Masters)
13.1015 early childhood education special needs
13.1501 early childhood education teacher assistant/aide
13.1210 early childhood education teaching (Bachelor)
19.0709 early childhood education teaching (college)
13.1210 early childhood education teaching (Masters)
19.0709 early childhood educator assistant
13.1015 early childhood special education
50.0903 early music performance
40.0601 Earth science
13.1337 Earth science teacher education
16.0300 East Asian languages
16.0300 East Asian languages and literature
05.0104 East Asian studies
05.0105 East European studies
38.0203 Eastern Christian studies
05.0105 Eastern European studies
38.0199 Eastern philosophy
38.0299 Eastern religions
38.0299 Eastern religious traditions
52.0208 e-business
52.0208 e-business management
39.0601 ecclesiastic theology
19.0709 ECE (college)
13.1210 ECE (university)
51.0902 ECG technician
51.0902 ECG technologist
51.0902 ECG technology
26.1301 ecology
26.1310 ecology and evolutionary biology
52.0208 e-commerce
11.0202 e-commerce applications development
52.0208 e-commerce management
45.0603 econometrics
43.0117 economic crime investigation
45.0604 economic development
45.0601 economic sciences
45.0601 economic studies
45.0601 economics
13.1317 economics education
03.0201 ecosystem management
26.1301 ecosystem science
03.0103 ecosystem studies
03.0207 ecotourism
26.1006 ecotoxicology

13.0101 education
13.0401 education administration
13.1501 education assistant
13.1101 education counselling
13.1101 education guidance
13.1004 education of exceptional children
13.1017 education of individuals in elementary special education programs
13.1018 education of individuals in intermediate school special education programs
13.1018 education of individuals in junior high school special education programs
13.1018 education of individuals in middle school special education programs
13.1019 education of individuals in secondary special education programs
13.1014 education of individuals who are developmentally delayed
13.1013 education of individuals with autism
13.1005 education of individuals with emotional disturbances
13.1007 education of individuals with multiple disabilities
13.1008 education of individuals with orthopedic and other physical health impairments
13.1011 education of individuals with specific learning disabilities
13.1012 education of individuals with speech or language impairments
13.1016 education of individuals with traumatic brain injuries
13.1009 education of individuals with vision impairments
13.1006 education of intellectually-impaired individuals
13.1003 education of the deaf
44.0502 education policy studies
13.1315 education reading specialist
13.0401 educational administration
13.0401 educational administration and foundations
13.0401 educational administration and policy
13.1101 educational and career counselling
13.1501 educational assistant
13.0901 educational contexts
13.0601 educational evaluation and research
13.0901 educational foundations
13.0401 educational leadership
13.0401 educational leadership and policy
13.0401 educational leadership studies
13.0501 educational media
44.0502 educational policy
44.0502 educational policy studies
42.2806 educational psychology
13.0601 educational research
13.0603 educational statistics and research methods
13.0101 educational studies
13.0411 educational system administration
13.0501 educational technology
13.0101 educational theory
13.0501 educational uses of the computer
13.0404 educational, instructional and curriculum supervision
51.0903 EEG technician
51.0902 EKG technician
47.0101 electric motor system technician
47.0101 electric motor systems technician
47.0101 electric motor winder
47.0614 electric vehicle service technician
14.1001 electrical and electronic engineering
15.1305 electrical CAD
15.1305 electrical drafting
14.1001 electrical engineering
15.0303 electrical engineering technology
15.1305 electrical facility drafting technologist
15.0404 electrical instrumentation
47.0101 electrical maintenance
47.0101 electrical motor and equipment repairer - winding
47.0101 electrical motor system electrician
47.0101 electrical motor system mechanic
47.0101 electrical motor system technician
47.0101 electrical motor systems technician
14.1001 electrical power engineering
46.0303 electrical power lineman/linewoman
47.0101 electrical repair
47.0101 electrical rewind mechanic
46.0301 electrical systems installation
15.0303 electrical technician
15.0303 electrical technology
15.0303 electrical, electronic and communications engineering technology
46.0302 electrician
50.0904 electroacoustic composition
51.0902 electrocardiograph technician
14.1001 electrodynamic engineering
40.0899 electrodynamics
15.0403 electrodynamics technology
51.0903 electroencephalographic technician
12.0404 electrologist
12.0404 electrology
12.0404 electrolysis
14.4101 electromechanical engineering
15.0403 electromechanical engineering technology
14.4101 electromechanical systems engineering
15.0403 electromechanical technician
15.0403 electromechanical technology
51.0903 electroneurodiagnostic technologist
14.1099 electronic and communications engineering
52.0208 electronic commerce
11.0301 electronic data processing
15.0303 electronic design technology
14.1001 electronic engineering
15.0303 electronic engineering technology
47.0101 electronic maintenance

10.0303 electronic prepress
10.0303 electronic publishing
47.0106 electronic service technician (consumer products)
15.0303 electronic systems technician
15.0303 electronic technician
15.1305 electronics drafting
15.1305 electronics CAD
13.1320 electronics education
47.0101 electronics repair
13.1320 electronics teaching
15.0303 electronics technician
47.0106 electronics technician (consumer products)
14.1003 electro-optic engineering
40.0807 electro-optics
13.1202 elementary education
13.1501 elementary education teacher assistant/aide
13.1311 elementary mathematics teacher education
40.0804 elementary particle physics
13.0408 elementary principal
13.0408 elementary school administration
13.0408 elementary school principal
13.1202 elementary school teacher
13.1202 elementary teacher training
47.0699 elevating platform mechanics
46.9999 elevator constructor
46.9999 elevator installation
46.9999 elevator mechanic
46.9999 elevator technology
52.1499 e-marketing
12.0303 embalmer
12.0303 embalming
26.0404 embryology
43.0302 emergency and disaster mitigation
43.0399 emergency communications
43.0399 emergency communications and response
43.0399 emergency communications operator
43.0302 emergency management
51.0810 emergency medical care attendant
51.0810 emergency medical responder (EMR)
51.0810 emergency medical technician - ambulance (EMT-A)
51.0904 emergency medical technician - paramedic (EMT-P)
51.0810 emergency medical technician (ambulance)
51.0904 emergency medical technician (paramedic)
60.0412 emergency medicine - residency
51.3816 emergency nurse practioner
51.3816 emergency nursing
43.0302 emergency preparedness and technology
51.3816 emergency room nursing
43.0399 emergency services communications
43.0399 emergency telecommunications
26.0904 endocrinology
60.0516 endocrinology and metabolism - residency
60.0516 endocrinology, diabetes and metabolism - residency
60.0103 endodontics - residency
51.0506 endodontics (Cert., MS, MSc, PhD)
60.0103 endodontics specialty - residency
51.0506 endodontist (Cert., MS, MSc, PhD)
22.0101 energy law (except graduate level)
22.0207 energy law (graduate level)
15.0503 energy management technology
15.0503 energy systems management technology
15.0503 energy systems technician
15.0503 energy systems technology
47.0615 engine machinist
47.0615 engine rebuilding
14.0101 engineering
14.4401 engineering chemistry
15.1502 engineering design
15.1399 engineering design and drafting technology
15.1399 engineering drafting technology
38.0104 engineering ethics
15.1301 engineering graphics and design
15.1301 engineering graphics technology
15.1501 engineering management
14.1101 engineering mechanics
14.1201 engineering physics
14.1301 engineering science
15.0000 engineering technician
15.0000 engineering technologist
15.0000 engineering technology
23.0101 English
16.1701 English as a second language
32.0109 English as a second language (not for credit)
23.1303 English biomedical writing
23.1303 English business writing
23.1405 English children's literature
23.1301 English composition
23.1302 English creative non-fiction
23.1302 English creative writing
13.1305 English education
23.1401 English general literature
23.0101 English language
23.0101 English language and literature
13.1305 English language arts education
23.0101 English language, literature and linguistics
23.1401 English literary studies
23.1401 English literature
13.1305 English literature education
23.1405 English literature for children and young adults
23.1303 English medical writing
23.1304 English rhetoric
23.1304 English rhetoric and composition
23.1304 English rhetoric and writing
23.1304 English rhetoric and writing studies
23.1304 English rhetorical studies
23.1304 English speech and rhetoric
23.1304 English speech and rhetorical studies
23.0101 English studies
13.1305 English teacher

13.1305 English teaching
23.1303 English technical and professional writing
23.1303 English technical writing
23.1301 English writing
23.9999 English writing and literature
01.0309 enology
50.1001 entertainment business
26.0702 entomology
52.0701 entrepreneurial studies
52.0701 entrepreneurship
30.9999 environment and business
03.0101 environmental and conservation science
26.1305 environmental biology
40.0509 environmental chemistry
03.0101 environmental conservation
03.0199 environmental conservation and reclamation
04.0401 environmental design
04.0401 environmental design studies
03.0204 environmental economics
13.1338 environmental education
13.1338 environmental education teacher
14.1401 environmental engineering
15.0507 environmental engineering technology
45.0701 environmental geography
51.2202 environmental health
14.1401 environmental health engineering
01.0601 environmental horticulture technology
01.0605 environmental landscape management
22.0101 environmental law (except graduate level)
22.0207 environmental law (graduate level)
03.0208 environmental law enforcement
03.0201 environmental management
14.1401 environmental management engineering
26.1305 environmental microbiology
03.0208 environmental monitoring and enforcement
15.0599 environmental performance of organizations
44.0599 environmental policy analysis
42.2808 environmental psychology
03.0103 environmental resource studies
03.0104 environmental science
15.0507 environmental science technology
01.1299 environmental soil science
03.0103 environmental studies
13.1338 environmental studies teacher
03.0101 environmental systems
15.0501 environmental systems engineering technology
15.0507 environmental technician
15.0507 environmental technology
26.1006 environmental toxicology
26.1309 epidemiology
38.0199 epistemology
01.0507 equestrian coaching
01.0507 equestrian sports
01.0507 equestrian studies
01.0507 equestrian training
01.0507 equine care
01.0307 equine management
01.0504 equine massage therapy
01.0307 equine science
01.0507 equine studies
01.0307 equine technology
51.2313 equine-assisted therapy
47.0000 equipment mechanic
47.0000 equipment repair
46.0406 erector mechanic (glazier)
14.3501 ergonomics engineering
16.1701 ESL
12.0409 esthetician
12.0409 esthetics
16.1502 Estonian
38.0103 ethics
38.0103 ethics studies
05.0200 ethnic and pluralism studies
05.0200 ethnic studies
45.0204 ethnology
50.0905 ethnomusicology
26.0708 ethology
16.1299 Etruscan
50.0914 euphonium
05.0199 European and Russian studies
54.0103 European cultural history
54.0103 European history
05.0106 European integration studies
38.0199 European philosophy
54.0103 European social history
05.0106 European studies
05.0199 European, Russian and Eurasian studies
52.0907 events and convention coordination
52.0907 events and convention management
26.1303 evolutionary biology
52.0402 executive assistant
43.0120 executive protection
52.0402 executive secretary
26.0908 exercise physiology
31.0505 exercise sciences
47.0612 exhaust systems repair
38.0199 existentialism
51.1401 experimental medicine
26.0910 experimental pathology
40.0801 experimental physics
42.2704 experimental psychology
46.0505 explosives technician
52.0907 exposition, convention and trade show management
13.1201 extension education teacher

F

19.0906 fabric consultant
19.0902 fabric design
12.0408 facial skin care
12.0408 facial therapy

12.0408 facialist
19.0604 facilities management
46.0401 facilities mechanic
46.0401 facilities technician
19.0604 facility planning
16.0599 Faeroese
19.0701 family and child studies
19.0707 family and community services
19.0202 family and consumer sciences communications
19.0201 family and consumer studies
13.1308 family and consumer studies teaching
51.1505 family counselling
22.0299 family law (graduate level)
13.1308 family life education
60.0413 family medicine - residency
51.3805 family nurse practitioner
42.2811 family psychology
19.0704 family relations
19.0401 family resource management
19.0101 family science
19.0101 family social sciences
19.0000 family studies
13.1308 family studies education
19.0704 family systems
51.1505 family therapy
01.0104 farm and ranch management
01.0301 farm business
01.0301 farm business management
01.1299 farm drainage
01.0205 farm equipment mechanic
01.0204 farm equipment operator
01.0205 farm equipment service technician
01.0205 farm equipment technician
01.0205 farm machinery mechanic
01.0205 farm machinery repair
01.0205 farm machinery technician
01.0104 farm management
01.0105 farm supplies retailing and wholesaling
01.0301 farming
01.0599 farrier
01.0599 farrier science
19.0906 fashion consultant
50.0407 fashion design
50.0407 fashion design and technology
50.0407 fashion designer
19.0905 fashion management
19.0905 fashion management and design
52.1902 fashion marketing
52.1902 fashion merchandising
52.1903 fashion modelling
50.0407 fashion patternmaker
19.0902 fashion production
52.1904 fashion retail
19.0906 fashion sales and consulting
52.1904 fashion sales representative
52.1701 Fellow of the Insurance Institute of Canada (FIIC)
38.0199 feminist philosophy
05.0207 feminist studies
52.0907 festivals/community events management
50.0712 fibre arts
47.0616 fibreglass boat repair
15.0699 fibreglass technician
01.0304 field crop production
31.0501 figure skating
31.0501 figure skating coaching
16.1404 Filipino
50.0602 film and video production
50.0601 film and video studies
50.0602 film directing
50.0601 film history
50.0601 film history, theory, and criticism
22.0212 film law (graduate level)
50.0602 film making
50.0602 film production
50.0601 film studies
10.0201 film technician
50.0601 film theory
52.0801 finance
52.0302 financial accounting
52.0804 financial advisor
52.0303 financial audit
52.0601 financial economics
52.0807 financial investments
52.0801 financial management
27.0305 financial mathematics
52.0804 financial planner
52.0804 financial planning
52.0807 financial securities
52.0804 financial services
52.0804 financial services management
52.1908 financial services marketing
50.0703 fine art history
50.0708 fine art painting
50.0702 fine arts
13.1302 fine arts education
50.1002 fine arts management
13.1302 fine arts teaching
46.0201 finishing carpentry
16.1502 Finnish
16.1502 Finnish language and literature
16.1502 Finnish literature
47.0110 fire alarm and protection system
47.0110 fire alarm technician
43.0201 fire inspection
43.0205 fire investigation
43.0201 fire prevention
43.0201 fire prevention education
43.0201 fire prevention technology
43.0201 fire protection
15.9999 fire protection engineering technician
15.9999 fire protection engineering technologist

43.0201 fire protection inspection and testing
43.0201 fire protection technology
43.0201 fire risk prevention and inspection
14.9999 fire safety engineering
43.0201 fire safety techniques
43.0203 fire science
43.0203 fire science technology
43.0202 fire service administration
43.0202 fire service management
43.0204 fire systems technology
47.0402 firearms repair
43.0203 firefighter training
43.0203 firefighting
43.0203 firefighting technology
46.0414 firestopping insulator
34.0199 first aid
43.0107 First Nations constable
16.1001 First Nations language
44.0401 First Nations public administration
05.0202 First Nations studies
13.0203 First Nations teacher education
26.0709 fish and wildlife biology
03.0208 fish and wildlife law enforcement
01.0303 fish culture
01.0303 fish farming
26.1304 fisheries biology
03.0301 fisheries development
03.0301 fisheries management
03.0301 fisheries science
49.0303 fisherman/fisherwoman
49.0303 fishing
49.0303 fishing captain
49.0303 fishing master
31.0501 fitness and health
31.0507 fitness instructor
31.0507 fitness leadership
31.0507 fitness technician
31.0507 fitness trainer
31.0507 fitness training
49.0207 flagging
49.0207 flagman/flagwoman
49.0207 flags person
49.0207 flagsman/flagswoman
16.0504 Flemish
16.0504 Flemish literature
10.0307 flexographic press operator
49.0106 flight attendant
49.0102 flight engineer
49.0108 flight instructor
49.0106 flight steward/stewardess
46.0413 floor covering installation
46.0413 floor covering installer
46.0413 floor laying
46.0413 flooring and hardwood technician
01.0608 floral arrangement
01.0608 floral design
01.0608 floriculture
01.0608 florist
01.0608 floristry
01.0608 floristry operations and management
01.0401 flour milling
47.0302 fluid power and control mechanic
15.1103 fluid power technician
15.1103 fluid power technology
50.0915 flute
49.0108 flying instructor
05.0209 folklore and folklife
05.0209 folklore and mythology
05.0209 folklore studies
01.0102 food and agribusiness management
12.0507 food and beverage service
19.0504 food and human nutrition
19.0501 food and nutrition
01.1001 food chemistry
14.0301 food engineering
01.0401 food inspection
12.0505 food preparation
14.0301 food processing engineering
01.1002 food processing technology
01.0401 food products processing
12.0599 food safe
01.1001 food safety
01.1001 food science
12.0508 food service worker
19.0505 food services management
01.1002 food technology
19.0501 food, nutrition and health
12.0599 foodsafe
16.0101 foreign languages
16.0101 foreign languages and literature
22.0202 foreign lawyer trainee program (graduate level)
16.0101 foreign literature
45.0901 foreign policy and diplomacy
52.1101 foreign trade
43.0117 forensic accounting
45.0202 forensic anthropology
43.0117 forensic auditing
40.0510 forensic chemistry
43.0116 forensic investigation - computer crime
60.0517 forensic pathology - residency
60.0518 forensic psychiatry - residency
42.2812 forensic psychology
43.0106 forensic science
43.0106 forensic science and technology
43.0106 forensic science technology
43.0206 forest arson investigation and prevention
03.0502 forest biology
03.0502 forest ecology
03.0204 forest economics
14.3401 forest engineering
03.0502 forest entomology
43.0206 forest fire investigation and prevention
43.0206 forest firefighting

03.0502 forest genetics
03.0506 forest management
03.0502 forest pathology
03.0509 forest products processing technology
03.0511 forest products technology
03.0208 forest ranger
03.0207 forest recreation technician
03.0506 forest resource management
03.0510 forest resources production and management
03.0502 forest science
03.0511 forest technician
03.0511 forest technology
03.0501 forester
03.0501 forestry
03.0511 forestry crew
03.0208 forestry law enforcement
03.0506 forestry management
03.0506 forestry resource management
03.0511 forestry technician
03.0511 forestry technology
03.0599 forestry worker
49.0299 fork lift operator
47.0699 forklift mechanic
16.0399 Formosan
46.0201 framer (carpentry)
52.0702 franchise operations
52.0702 franchising
43.0117 fraud and money-laundering
43.0117 fraud examination and forensic accounting
52.0209 freight forwarding
55.0101 French
16.1702 French as a second language
32.0109 French as a second language (not for credit)
55.1303 French business writing
55.1405 French children's literature
55.1301 French composition
55.1302 French creative writing
13.1325 French education
55.1401 French general literature
54.0103 French history
55.0101 French language
55.0101 French language and literature
13.1325 French language arts education
55.0101 French language, literature and linguistics
55.1401 French literary studies
13.1325 French literature education
55.1405 French literature for children and young adults
55.1304 French rhetoric
55.1304 French rhetoric and composition
55.1304 French rhetoric and writing
55.1304 French rhetoric and writing studies
55.1304 French speech and rhetoric studies
05.0124 French studies
13.1325 French teacher
13.1325 French teaching
55.1303 French technical and business writing
55.1303 French technical writing
55.1301 French writing
55.9999 French writing and literature
16.0599 Frisian
16.0999 Friulian
16.1702 FSL
47.0699 fuel and lube technician
52.0206 fundraising
52.0206 fundraising management
12.0301 funeral and allied health services
12.0301 funeral directing and embalming
12.0302 funeral director
12.0301 funeral director and embalmer
12.0301 funeral director and mortician
12.0302 funeral service education
12.0302 funeral services director
03.9999 fur trade
47.0201 furnace installer and repairer
48.0702 furniture - milled wood
48.0702 furniture and related templates
48.0702 furniture design
48.0702 furniture making
48.0303 furniture upholstery
19.0999 furrier

G

10.0201 gaffer
16.0999 Galician
50.0411 game design
50.0411 game development
03.0208 game warden
52.0908 gaming and casino management
31.9999 gaming attendant
01.0605 garden design
50.0407 garment design
47.0201 gas and oil burner technician
47.0106 gas appliance technician
46.0502 gas fitting
46.0502 gas piping installation
15.0903 gas processing
46.0502 gasfitter
60.0519 gastroenterology - residency
05.0208 gay and lesbian studies
50.0713 gemology
05.0299 gender studies
51.0914 gene therapy
24.0102 general arts
24.0102 general arts and science
52.0101 general business
52.0101 general business studies
46.0201 general carpenter
46.0000 general construction
52.2001 general construction estimating
15.1301 general drafting

14.0101 general engineering
54.0101 general history
24.0103 general humanities
48.0501 general machinist
52.0201 general management
47.0000 general mechanic
51.1201 general medicine
51.1201 general physician
60.0601 general podiatric medicine and surgery - residency
51.1201 general practice
51.1201 general practitioner
42.0101 general psychology
30.0101 general science
52.0401 general secretarial
24.0102 general studies
24.0102 general study
60.0414 general surgery - residency
51.1509 genetic counselling
14.9999 genetic engineering
26.0801 genetics
01.1104 genetics and plant breeding
26.0807 genomics
40.0602 geochemistry
40.0699 geodesy
14.3801 geodetic engineering
40.0699 geodetic sciences
15.1102 geodetic surveying
40.0699 geodetics
14.0802 geoenvironmental engineering
45.0702 geographic information systems
45.0701 geographic sciences
45.0701 geography
13.1332 geography education
13.1332 geography teacher
14.3901 geological engineering
15.9999 geological engineering technology
40.0601 geological science
40.0601 geologist
40.0601 geology
40.0603 geology and physics
13.1337 geology education
45.0702 geomatics
14.3801 geomatics engineering
45.0702 geomatics sciences
45.0702 geomatics technician
45.0702 geomatics technology
27.0104 geometric analysis
27.0104 geometry
14.3901 geophysical engineering
40.0603 geophysics
16.1599 Georgian
40.0601 geoscience
13.1337 geosciences education
14.0802 geotechnical and geoenvironmental engineering
14.0802 geotechnical engineering
60.0520 geriatric medicine - residency
60.0520 geriatric medicine (internal medicine) - residency
51.3821 geriatric nurse
51.3821 geriatric nurse practitioner
51.3821 geriatric nursing
60.0521 geriatric psychiatry - residency
16.0501 German
54.0103 German history
16.0501 German language
16.0501 German language and literature
16.0501 German linguistics
16.0501 German literature
16.0501 German philology
38.0199 German philosophy
05.0125 German studies
13.1326 German teacher
16.0500 Germanic languages
16.0500 Germanic languages and literature
16.0500 Germanic linguistics
16.0500 Germanic literature
16.0500 Germanic philology
05.0125 Germanic studies
51.3821 gerontological nurse
51.3821 gerontological nurse practitioner
51.3821 gerontological nursing
19.0702 gerontological services
30.1101 gerontology
42.2809 geropsychology
13.1004 gifted education
45.0702 GIS
50.0799 glass blower
50.0799 glass blowing
46.0406 glassworker (glazier)
46.0406 glazier
46.0406 glazier - auto glass technician
52.1101 global business
52.1101 global commerce
45.0605 global economics
52.1101 global management
30.2001 global studies
50.0713 goldsmithing
31.0501 golf
01.0607 golf and sports turf management
31.0302 golf club management
31.0302 golf club management and operations
31.0302 golf course and greenspace management
31.0302 golf course maintenance
31.0302 golf course management
31.0302 golf course technology
31.0302 golf management
31.0501 golf professional
16.0599 Gothic
44.0401 government administration
49.0202 grader operator
01.0401 grain inspection
50.0409 graphic arts

10.0301 graphic communications
10.0302 graphic communications management
50.0409 graphic design
50.0409 graphic design for print and web
50.0409 graphic design technology
50.0410 graphic illustration
10.0301 graphic production
10.0301 graphic production and printing
16.0601 Greek
16.0601 Greek language and literature
16.0601 Greek literature
38.0199 Greek philosophy
01.0604 greenhouse management
01.0604 greenhouse operations and management
01.0604 greenhouse production technology
31.0302 greenskeeping
01.0605 greenspace
01.0605 greenspace maintenance
01.0605 greenspace management
10.0201 grip
01.0605 groundskeeping
13.1101 guidance and counselling
13.1101 guidance counselling
13.1101 guidance counsellor
50.0911 guitar
16.0799 Gujarati
47.0402 gunsmith
47.0402 gunsmithing
31.0501 gymnastics
31.0501 gymnastics coaching
60.0522 gynecologic oncology - residency

H

47.0201 HAC mechanic
47.0201 HACR mechanic
12.0412 hair salon management
12.0407 hairdresser
12.0407 hairdressing
12.0413 hairdressing instructor
12.0407 hairstyling
12.0407 hairstylist
60.0578 hand surgery - residency
50.0201 handicrafts
36.0102 handicrafts and model-making (not for credit)
15.0901 hard rock mining
50.0911 harp
50.0907 harpsichord
03.0599 harvesting of forest biomass
50.0407 haute couture
15.0508 hazardous materials and waste treatment technician
15.0508 hazardous materials and waste treatment technologist
15.0704 hazardous materials information systems technology
15.0508 hazardous materials management
15.0508 hazardous waste technology
51.0000 health
51.0701 health administration
51.2601 health aide
31.0501 health and fitness studies
09.0905 health and health science communication
51.2212 health and social behaviour
51.0001 health and wellness
51.2212 health behaviour
51.0701 health care administration
51.2601 health care aide
51.2601 health care attendant
16.0103 health care interpreting
51.0701 health care management
51.2601 health care worker
09.0905 health communication
51.2706 health informatics
51.0706 health information management
51.0706 health information science
51.0707 health information technology
22.0101 health law (except graduate level)
22.0208 health law (graduate level)
51.0701 health management
51.0705 health office administration
51.2205 health physics
44.0503 health policy
51.0001 health promotion and wellness
42.2810 health psychology
51.0706 health record administration
51.0706 health records administration
51.0707 health records technician
51.0707 health records technology
51.0000 health sciences
51.0000 health services
51.2211 health services administration
51.2211 health services management
51.0000 health studies
13.1307 health teacher education
51.0703 health unit clerk
51.0703 health unit coordinator
51.0704 health unit manager
51.0704 health unit supervisor
51.0715 health/medical claims examiner
51.0918 hearing aid practitioner
51.0918 hearing aid specialist
51.0918 hearing aid technician
51.0918 hearing instrument specialist
46.0414 heat and frost insulator
47.0201 heating and air conditioning mechanic
15.0501 heating engineering technology
47.0201 heating systems technician
47.0201 heating technician
47.0201 heating, air conditioning and refrigeration mechanic
15.0501 heating, refrigeration and air conditioning technician

15.0501 heating, refrigeration and air conditioning technology
14.9999 heating, ventilation and air conditioning engineering (university)
47.0201 heating, ventilation and air conditioning mechanic
15.0501 heating, ventilation and air conditioning technician
15.0501 heating, ventilation and air conditioning technology
47.0201 heating, ventilation, air conditioning and refrigeration mechanic
15.0501 heating, ventilation, air conditioning and refrigeration technician
15.0501 heating, ventilation, air conditioning and refrigeration technology
49.0202 heavy construction equipment operator
47.0605 heavy duty diesel mechanic
47.0302 heavy duty equipment mechanic
47.0302 heavy duty equipment technician
49.0205 heavy duty truck driver
47.0613 heavy duty/commercial transport repair mechanic
47.0302 heavy equipment maintenance
47.0302 heavy equipment mechanic
47.0302 heavy equipment mechanics
49.0202 heavy equipment operation
49.0202 heavy equipment operator
47.0302 heavy equipment repair
47.0302 heavy equipment service technician
47.0302 heavy equipment technician
47.0302 heavy equipment technology
49.0202 heavy machinery operator
49.0205 heavy truck driving
47.0613 heavy vehicle mechanic
47.0613 heavy vehicle mechanics
49.0202 heavy-duty equipment operator
16.1102 Hebrew
39.0201 Hebrew Bible
16.1102 Hebrew language
16.1102 Hebrew language and literature
13.1306 Hebrew teacher
49.0102 helicopter pilot
60.0523 hematological pathology - residency
60.0524 hematology - residency
51.1003 hematology technician
51.1003 hematology technologist
51.1003 hematology technology
51.3702 herbal medicine
51.3702 herbalism
51.3702 herbalist
51.3702 herbology
51.2507 herd medicine and theriogenology (Cert., MS, MSc, PhD)
47.0617 high performance powertrain mechanic
47.0617 high performance powertrain technician
48.0508 high pressure welding
53.0202 high school certificate of competence
53.0201 high school equivalence certificate
53.0203 high school individual educational program certificate
13.0409 high school principal
13.1205 high school teacher
46.0303 high voltage lineman/linewoman
13.0406 higher education
13.0406 higher education administration
13.0406 higher education policy
40.0805 high-temperature physics
14.0804 highway engineering
31.0101 hiking guide
16.0701 Hindi
16.0701 Hindi language
16.0701 Hindi language and literature
16.0701 Hindi literature
38.0204 Hindu religion
38.0204 Hindu studies
38.0204 Hinduism
05.0203 Hispanic American studies
16.0908 Hispanic language and literature
16.0908 Hispanic literature
05.0130 Hispanic studies
51.1008 histologic technician
51.1007 histologic technologist
26.0401 histology
50.0510 historic costumes
30.1201 historic preservation
30.1201 historic preservation and conservation
45.0301 historical archaeology
45.0301 historical archeology
45.0799 historical geography
54.0101 historical research
54.0101 historical studies
39.0601 historical theology
54.0101 history
50.0703 history and philosophy of art
13.0901 history and philosophy of education
38.9999 history and philosophy of religion
54.0104 history and philosophy of science
04.0801 history and theory of architecture
13.1328 history education
54.0107 history of Canada
45.0699 history of economics
13.0901 history of education
54.0104 history of medicine
54.0107 history of New France
38.0199 history of philosophy
54.0107 history of Quebec and Canada
38.0299 history of religion
38.0299 history of religious movements and institutions
54.0104 history of science
54.0199 history of the Americas
39.9999 history of theology
13.1328 history teacher

31.0501 hockey coach
49.0206 hoist operator
49.0206 hoisting engineer
49.0206 hoistman/hoistwoman
51.3306 holistic health
51.3306 holistic medicine
51.3199 holistic nutrition
30.2101 holocaust and genocide studies
30.2101 holocaust studies
39.9999 holy scripture studies
47.0106 home appliance repair
46.0415 home building
51.2602 home care aide
51.2602 home care attendant
19.0605 home decorating
19.0101 home economics
13.1308 home economics education
13.1308 home economics teacher
13.1308 home economics teaching
51.2602 home health aide
46.0403 home inspection
36.0105 home maintenance and improvement (not for credit)
51.2602 home support aide
51.2602 home support attendant
43.0399 homeland security
51.3304 homeopathic medicine
51.3304 homeopathy
50.0914 horn
01.0307 horse breeding
01.0507 horse dressage
01.0504 horse grooming
01.0307 horse husbandry
01.0507 horse training
01.0507 horseback riding
01.0599 horseshoeing
01.0605 horticultural landscaping
01.1104 horticultural plant breeding
01.1103 horticultural science
01.0601 horticultural technology
01.0601 horticulture
01.0601 horticulture operations
01.0601 horticulturist
60.0525 hospice and palliative medicine - residency
51.0702 hospital administration
51.0702 hospital management
51.2008 hospital pharmacy
51.0703 hospital unit clerk
52.0901 hospitality administration
52.0908 hospitality and casino management
52.1910 hospitality and recreation marketing
52.0901 hospitality and tourism administration
52.0901 hospitality and tourism management
52.0901 hospitality management
52.1910 hospitality marketing
52.0904 hotel administration
52.0904 hotel management
52.0909 hotel, motel, and restaurant management
46.0408 house painting
19.0101 household science
19.0601 housing and human environments
15.0501 HRAC technician
15.0501 HRAC technology
47.0616 hull technician
30.2701 human biology
30.3101 human computer interaction
19.0701 human development studies
19.0101 human ecology
14.3501 human factors engineering
26.0806 human genetics
45.0701 human geography
31.0505 human kinetics
19.0504 human nutrition
30.1901 human nutritional sciences
31.0505 human performance
26.0901 human physiology
42.9999 human psychology
52.1001 human resources
52.1001 human resources administration
52.1005 human resources development
52.1001 human resources management
45.9999 human rights studies
44.0000 human services
44.0000 human services counsellor
44.0000 human services worker
24.0103 humanistic studies
24.0103 humanities
24.0103 humanities, art and literature
16.1503 Hungarian
16.1503 Hungarian language and literature
16.1503 Hungarian literature
03.9999 hunting
03.0207 hunting and fishing guide
03.0601 hunting and fishing management technology
03.9999 hunting and trapping
47.0201 HVAC (apprenticeship)
15.0501 HVAC (diploma)
47.0201 HVAC (journeyman/journeywoman)
47.0201 HVAC (journeyperson)
14.9999 HVAC engineering (university)
47.0201 HVAC mechanic
15.0501 HVAC technician
15.0501 HVAC technology
47.0201 HVACR mechanic
15.0501 HVACR technician
15.0501 HVACR technology
47.0614 hybrid powered automobile service technician
14.0805 hydraulic engineering
15.1103 hydraulic engineering technician
47.0302 hydraulic mechanic
47.0302 hydraulic mechanics
15.1103 hydraulic technician
15.1103 hydraulics technician

47.0501 hydroelectricity technician
40.0605 hydrogeology
15.1102 hydrographic surveying
14.0802 hydrological engineering
40.0605 hydrology
60.0582 hyperbaric medicine - residency
51.3603 hypnotherapist
51.3603 hypnotherapy

I

16.0599 Icelandic
50.0410 illustration
16.1499 Ilokano
26.0507 immunology
60.0526 immunopathology - residency
47.0616 inboard and outboard motor mechanics
47.0616 inboard and outboard motor technology
47.0616 inboard mechanic
47.0616 inboard/outboard mechanic
43.0302 incident command systems
24.0101 independent studies
05.0202 Indigenous studies
24.0101 individualized studies
16.1401 Indo-Pacific languages
51.2009 industrial and physical pharmacy and cosmetics sciences
13.1309 industrial arts education
13.1309 industrial arts teacher
41.0303 industrial chemistry technology
15.0404 industrial control technician
50.0404 industrial design
15.1301 industrial drafting
45.0602 industrial economics
13.1320 industrial education
46.0302 industrial electrician
47.0105 industrial electronics
47.0105 industrial electronics technician
47.0105 industrial electronics technology
14.3501 industrial engineering
15.0612 industrial engineering technology
47.0303 industrial equipment technology
51.2206 industrial hygiene
15.0703 industrial hygiene technology
15.0404 industrial instrument mechanic
15.0404 industrial instrumentation
15.0404 industrial instrumentation technology
48.0501 industrial machinist
47.0303 industrial maintenance mechanic
47.0303 industrial maintenance technician
47.0303 industrial maintenance technology
15.1501 industrial management
52.1999 industrial marketing
47.0303 industrial mechanic
47.0303 industrial mechanic (millwright)
47.0303 industrial mechanic millwright
47.0303 industrial mechanics
47.0303 industrial millwright
46.0408 industrial painting
51.2009 industrial pharmacy
46.0502 industrial pipefitting
47.0303 industrial plant technician
19.0999 industrial power sewing
19.0902 industrial production of clothing
42.2804 industrial psychology
41.0204 industrial radiographer
41.0204 industrial radiography
41.0204 industrial radiological technician
41.0204 industrial radiological technologist
41.0204 industrial radiological technology
52.1002 industrial relations
46.0410 industrial roofing
15.0703 industrial safety technology
47.9999 industrial sewing machine mechanics
48.0506 industrial sheet metal working
52.0205 industrial supervision
14.3501 industrial systems engineering
15.0612 industrial technician
15.0612 industrial technology
48.0303 industrial upholstery
47.0409 industrial warehousing
48.0508 industrial welder
48.0508 industrial welding
48.0701 industrial woodworking
19.0709 infant and toddler care
60.0527 infectious disease - residency
22.0101 information and technology law (except graduate level)
22.0212 information and technology law (graduate level)
11.1003 information assurance
52.1206 information management
52.0407 information processing, business
52.1206 information resources management
11.0401 information science
11.0401 information studies
52.1201 information system administration
52.1201 information system management
11.1003 information systems security
11.0103 information technology
11.1006 information technology contact centre - customer care agent
11.1006 information technology contact centre - technical support agent
11.1005 information technology project management
11.1006 information technology support specialist
43.0399 infrastructure protection and international security
51.0908 inhalation therapy
52.0904 inn management
22.0212 innovation law (graduate level)
16.1001 Innu language
40.0503 inorganic chemistry

52.0299 institutional administration
12.0500 institutional cook
12.0500 institutional cooking
12.0508 institutional food service
52.0299 institutional management
12.0506 institutional meat cutting
13.0501 instructional media
13.0501 instructional technology
50.0904 instrumental composition
50.0912 instrumental pedagogy
50.0903 instrumental performance
15.0404 instrumentation and control engineering technician
15.0404 instrumentation and control technician
14.9999 instrumentation engineering
15.0404 instrumentation engineering technology
15.0404 instrumentation mechanic
15.0404 instrumentation technician
15.0404 instrumentation technology
46.0414 insulation
46.0414 insulator
46.0414 insulator (heat and frost)
52.1701 insurance
52.1701 insurance adjuster
52.1701 insurance agent
52.0804 insurance and financial services
52.1701 insurance broker
52.1701 insurance claims adjuster
52.1701 insurance management
52.1701 insurance underwriting
15.0306 integrated circuit design
15.0306 integrated circuit design and layout
43.0302 integrated emergency management
03.0206 integrated land management
22.0212 intellectual property law (graduate level)
51.3814 intensive care nurse practitioner
51.3814 intensive care nursing
11.0801 interactive multimedia and design
09.0907 intercultural communication
30.2301 intercultural studies
30.9999 interdisciplinary studies
04.0501 interior architecture
19.0605 interior decorating
50.0408 interior design
50.0706 intermedia
13.1206 intermediate and secondary education
13.1203 intermediate education
52.0303 internal audit
60.0415 internal medicine - residency
45.0901 international affairs
01.0701 international agriculture
13.0701 international and comparative education
09.0907 international and intercultural communication
52.1101 international business
22.0101 international business law (except graduate level)
22.0210 international business law (graduate level)
52.1101 international business management
52.1101 international commerce
09.0907 international communication
45.0604 international development
45.0604 international development studies
45.0605 international economics
19.0905 international fashion development and management
52.0806 international finance
22.0209 international human rights law (graduate level)
52.1101 international import-export business
09.0401 international journalism
22.0101 international law (except graduate level)
22.0209 international law (graduate level)
22.0209 international legal studies (graduate level)
52.1101 international management
52.1403 international marketing
45.1004 international political economy
45.0901 international politics
51.2210 international public health/international health
44.0504 international public policy
45.0901 international relations
45.0901 international relations and affairs - economics
45.0901 international relations and affairs - history
45.0901 international relations and affairs - political science
30.2001 international studies
22.0101 international tax law (except graduate level)
22.0210 international tax law (graduate level)
52.1101 international trade
22.0210 international trade law (graduate level)
43.0116 internet crime investigation
43.0116 internet forensic investigation
11.1003 internet security
35.0101 interpersonal and social skills, general
35.0102 interpersonal relationships skills
16.0103 interpreter translator
60.0528 interventional cardiology - residency
60.0583 interventional radiology - residency
21.0101 introduction to trades
54.0107 Inuit history
05.0202 Inuit studies
52.0409 inventory control
52.0409 inventory management
43.0114 investigation and interviewing
43.0114 investigative and enforcement skills
43.0117 investigative and forensic accounting
52.0804 investment advisor
52.0807 investment management
52.0807 investments and securities
40.0403 ionospheric environment
16.0801 Iranian literature
54.0103 Irish history
05.0133 Irish studies

48.0509 ironwork
48.0509 ironworker
48.0509 ironworker (generalist)
48.0509 ironworker (reinforcing)
48.0509 ironworker (structural/ornamental)
48.0509 ironworker generalist
48.0509 ironworker reinforcing rebar
48.0509 ironworker structural
48.0509 ironworker structural and ornamental
48.0509 ironworking
01.0299 irrigation
01.0299 irrigation technology
38.0205 Islamic religion
38.0205 Islamic studies
11.0103 IT
11.1005 IT project management
11.1003 IT security
11.1006 IT support specialist
16.0902 Italian
16.0902 Italian language
16.0902 Italian language and literature
16.0902 Italian literature
05.0126 Italian studies

J

16.0302 Japanese
16.0302 Japanese language
16.0302 Japanese language and literature
16.0302 Japanese literature
05.0127 Japanese studies
50.0910 jazz
50.0910 jazz music
50.0910 jazz performance
50.0910 jazz studies
47.0408 jeweller
50.0713 jewellery arts
50.0713 jewellery design
47.0408 jewellery making
47.0408 jewellery repair
39.0606 Jewish law
38.0206 Jewish studies
39.0601 Jewish theology
32.0105 job-changing skills
32.0105 job-seeking skills
48.0701 joinery
28.0801 joint command and staff programme
28.0801 joint staff operations programme
09.0401 journalism
09.9999 journalism and communication
38.0206 Judaic studies
13.1203 junior and intermediate education
22.0101 Juris Doctor (JD)
43.0103 justice administration
43.0107 justice and law enforcement
43.0110 juvenile corrections

K

13.0401 K-12 educational administration
13.0401 K-12 educational leadership
16.1499 Kachin
16.0799 Kannanda
16.1499 Karen
16.0499 Kashubian
16.1599 Kazakh
11.0601 keypunch
11.0601 keypunch operator
16.1405 Khmer
16.1405 Khmer language and literature
31.0505 kinanthropology
13.1206 kindergarten and elementary education
13.1209 kindergarten teacher
13.1209 kindergarten teaching
31.0505 kinesiology
31.0505 kinesiology and health science
31.0505 kinesiology and sport studies
51.2311 kinesiotherapist
51.2311 kinesiotherapy
16.1599 Kirghiz
12.0505 kitchen help
52.1207 knowledge management
50.0912 Kodaly concept of music education
50.0912 Kodaly methodology
16.0303 Korean
54.0106 Korean history
16.0303 Korean language
16.0303 Korean language and literature
16.0303 Korean literature
05.0128 Korean studies

L

51.0921 laboratory and X-ray technology
60.0306 laboratory animal medicine - residency
60.0529 laboratory medicine - residency
52.1004 labour and workplace studies
22.0299 labour law (graduate level)
52.1002 labour relations
52.1002 labour relations administration
52.1004 labour studies
52.1002 labour-management relations
51.0815 lactation consultant
51.0815 lactation counsellor
51.0815 lactation education
51.0815 lactation management
11.1002 LAN management
11.1002 LAN manager
52.9999 land agent
29.0501 land force technical staff programme
03.0206 land management
15.1102 land survey technician
15.1102 land surveying

15.1102 land surveyor
03.0206 land use planning
01.0605 landscape and gardening
04.0601 landscape architectural technology
04.0601 landscape architecture
01.0605 landscape construction
01.0605 landscape design
01.0605 landscape gardener
01.0605 landscape horticulture
01.0605 landscape management
01.0605 landscape technology
01.0605 landscaping
04.0601 landscaping architecture
16.1601 language for the deaf
16.0103 languages and translation
16.1601 langue des signes québécoise
16.0999 langue d'oc
16.1406 Lao
16.1406 Laotian language and literature
16.1406 Laotian language
51.2507 large animal/food animal and equine surgery and medicine (Cert., MS, Msc, PhD)
14.1003 laser and optical engineering
15.0304 laser and optical technician
15.0304 laser and optical technology
14.1201 laser physics
48.9999 lathe operator
46.0404 lather (interior systems mechanic)
16.1203 Latin
05.0134 Latin American and Caribbean studies
16.0908 Latin American literature
05.0107 Latin American studies
16.1203 Latin language and literature
16.1203 Latin studies
13.1333 Latin teacher
13.1333 Latin teacher education
16.0401 Latvian
22.0101 law (except graduate level)
43.0199 law and security administration
22.0302 law clerk
43.0107 law enforcement
43.0103 law enforcement administration
43.0118 law enforcement intelligence analysis
43.0115 law enforcement record keeping and evidence management
22.0101 law school (except graduate level)
22.0101 lawyer
39.0705 lay leadership
39.0705 lay ministry
52.0213 leadership studies
13.0607 learning sciences and policy
13.0607 learning sciences research
19.0999 leather apparel tailoring and accessory production
48.0304 leather goods repair
48.0304 leathercraft
22.0301 legal administration
22.0301 legal administrative assistant
22.0301 legal administrative secretary
22.0302 legal assistant
22.0301 legal office administration
22.0301 legal office procedures
22.9999 legal philosophy
22.0301 legal secretarial
22.0301 legal secretary
22.0301 legal stenography
22.0000 legal studies
22.0000 legal studies, Bachelor of Arts
22.0000 legal studies, certificate
22.0000 legal studies, college diploma
22.0000 legal studies, Master of Arts
22.0399 legal support services
15.1102 legal surveying
22.0302 legal technician
22.0301 legal word processing
22.0299 legislative drafting (graduate level)
22.0201 Legum Doctor (LLD)
22.0201 Legum Magister (LLM)
31.0504 leisure and recreation services management
36.0101 leisure and recreational activities, general (not for credit)
31.0504 leisure and sport management
31.0101 leisure sciences
31.0504 leisure service administration
31.0101 leisure studies
23.0101 letters, English
55.0101 letters, French
24.0101 liberal arts
24.0101 liberal arts and sciences
24.0101 liberal science
24.0101 liberal studies
25.0101 librarianship
25.0301 library aide
25.0101 library and information science
25.0301 library and information technician
25.0301 library and information technology
25.0301 library assistant
25.0301 library clerk
25.0101 library management
25.0101 library science
25.0101 library studies
25.0301 library technician
25.0301 library techniques
25.0301 library technology
46.0302 licensed electrician
51.3901 licensed nursing assistant
51.3901 licensed practical nurse
51.3901 licensed vocational nurse
52.1701 life insurance
26.0101 life sciences
49.0299 lift truck operator
49.0399 lighthouse keeper
26.1304 limnology
46.0303 lineman/linewoman

16.0102 linguistics
16.1602 linguistics of signed languages
32.0108 literacy
32.0101 literacy and basic skills
32.0108 literacy and communication skills
32.0101 literacy and essential skills
32.0101 literacy and numeracy
55.1404 literature of France
55.1404 literature of France and the French community, French
55.1404 literature studies of the francophonie (in French)
50.0710 lithography
16.0401 Lithuanian
01.0906 livestock management
01.0302 livestock production
49.0202 loader operator
11.1002 local area network management
11.1002 local area network manager
47.0403 locksmith
47.0403 locksmithing
47.0605 locomotive diesel mechanics
49.0208 locomotive engineer
03.0509 log scaler
03.0509 log scaling
03.0511 logging
38.0102 logic
52.0203 logistics administration
52.0203 logistics and materiel management
52.0203 logistics and supply management
14.2701 logistics engineering
52.0203 logistics management
52.0203 logistics planning
16.1499 Lolo-Moso
51.0718 long term care administration
51.0718 long term care management
49.0399 longshoreman/longshorewoman
40.0808 low-temperature physics
51.3901 LPN
16.1601 LSQ
03.0509 lumber grading
03.0509 lumber inspection
03.0511 lumber jack
16.0499 Lusatian
16.0599 Luxembourgetsch
51.3901 LVN

M

16.0499 Macedonian
10.0399 machine bookbinding
47.0000 machine mechanic
47.0000 machine repair
48.0503 machine shop
48.0503 machine shop assistant
48.0503 machine shop technology
48.0501 machine tool fitter
48.0501 machine tool operator
48.0501 machining
48.0501 machining technology
48.0501 machinist
48.0507 machinist-mould maker
48.0501 machinist-technician
16.1499 Madurese
09.1001 magazine publishing
51.0920 magnetic resonance imaging technician
51.0920 magnetic resonance imaging technology
40.0403 magnetospheric physics
52.0205 maintenance management
47.0000 maintenance mechanic
16.1499 Makasarese
12.0406 makeup
12.0406 makeup artist
12.0406 makeup artistry
16.1499 Malagasy
16.0799 Malayalam
16.1199 Maltese
51.0919 mammography
52.0201 management
52.0305 management accounting
52.0601 management economics
52.1201 management information systems
52.0206 management of cooperatives
51.0702 management of health care facilities
52.1301 management science
52.0201 management studies
16.0399 Manchu
16.0301 Mandarin
12.0410 manicure
12.0410 manicurist
46.9999 manlift technician
15.1302 manufacturing design CAD technology
14.3601 manufacturing engineering
15.0613 manufacturing engineering technician
15.0613 manufacturing engineering technology
52.0205 manufacturing management
15.0613 manufacturing technician
15.0613 manufacturing technologist
15.0613 manufacturing technology
45.0702 map design
45.0702 map making
01.0399 maple production
16.0799 Marathi
04.0201 MArch
31.0301 marina management
26.1302 marine biology
47.0605 marine diesel mechanic
47.0616 marine engine technician
14.2201 marine engineering
15.0899 marine engineering technology
15.0507 marine environment technology
40.0699 marine geology
45.0702 marine geomatics

15.0899 marine mechanical engineering technology
49.0309 marine navigation
03.0205 marine resources management
30.3201 marine sciences
47.0616 marine service technician
22.0299 maritime law (graduate level)
43.0122 maritime law enforcement
30.2901 maritime studies
52.1401 marketing
52.1401 marketing administration
09.0903 marketing communications
13.1310 marketing education
52.1401 marketing management
52.1402 marketing research
52.1401 marketing studies
51.1505 marriage and family counselling
51.1505 marriage and family therapy
31.0501 martial arts
46.0101 masonry
46.0101 masonry restoration
09.0102 mass communication
09.0102 mass media
51.3501 massage therapist
51.3501 massage therapy
12.0414 master aesthetician
12.0503 master chef
47.0408 master clockmaker
46.0302 master electrician
12.0414 master esthetician
49.0309 master mariner
46.0503 master plumber
40.1002 materials chemistry
14.1801 materials engineering
15.0699 materials engineering technology
14.1801 materials processing and manufacturing
40.1001 materials science
40.1001 materials science and engineering
14.1801 materials science engineering
52.0203 materiel management
51.2209 maternal and child health
60.0530 maternal and fetal medicine - residency
51.3806 maternity nursing
27.0306 mathematical biology
45.0603 mathematical economics
27.0305 mathematical finance
16.0102 mathematical linguistics
40.0810 mathematical physics
27.0301 mathematical sciences
27.0502 mathematical statistics
27.0101 mathematics
30.0801 mathematics and computer science
27.0503 mathematics and statistics
13.1311 mathematics education
27.0305 mathematics for commerce
27.0301 mathematics science
11.0203 MCSA
11.0203 MCSE
11.0203 MCTS
51.1201 MD
13.0604 measurement and evaluation in education
13.0604 measurement, evaluation and research methodology in education
12.0506 meat cutter
12.0506 meat cutting
01.0906 meat science
15.1306 mechanical CAD
15.0805 mechanical design (college)
15.1306 mechanical design drafting
15.1306 mechanical drafting
14.1901 mechanical engineering
15.1306 mechanical engineering computer-assisted design
15.1306 mechanical engineering drafting technician
15.0805 mechanical engineering technician
15.0805 mechanical engineering technology
15.0613 mechanical manufacturing
15.0613 mechanical manufacturing technology
47.0303 mechanical millwright
15.0805 mechanical technician
15.0805 mechanical technology
13.1320 mechanics teaching
14.4201 mechatronics engineering
09.0102 media communications
09.0102 media studies
51.0701 medical administration
51.0716 medical administrative assistant
12.0414 medical aesthetician
45.0203 medical anthropology
51.0706 medical archive management
51.0707 medical archives technology
51.0801 medical assistant
60.0531 medical biochemical genetics - residency
26.0299 medical biochemistry
26.0102 medical biology
51.0710 medical clerk
51.0801 medical clinical assistant
51.0708 medical dictatypist
51.1201 medical doctor
14.0501 medical engineering
12.0414 medical esthetician
26.0806 medical genetics
51.2703 medical illustration
51.2703 medical illustrator
51.2706 medical informatics
51.0714 medical insurance billing
51.0713 medical insurance coding
51.0802 medical lab assistant
51.1004 medical lab technician
51.0802 medical laboratory assistant
51.1004 medical laboratory technician
26.0503 medical microbiology
60.0532 medical microbiology - residency
26.1599 medical neurobiology
60.0533 medical nuclear physics - residency

51.0705 medical office administration
51.0710 medical office assistant
51.0709 medical office computer assistant
51.0709 medical office computer specialist
51.0705 medical office management
51.0705 medical office manager
51.0712 medical office receptionist
60.0534 medical oncology - residency
51.2205 medical physics
42.2810 medical psychology
51.0907 medical radiation technology
51.0712 medical receptionist
51.0706 medical records administration
51.0706 medical records management
51.0707 medical records technician
51.0707 medical records technology
51.1401 medical research
51.1401 medical science
51.1401 medical scientist
51.0716 medical secretarial
51.0716 medical secretary
51.1503 medical social work
51.0910 medical sonography
51.0717 medical staff services technician
51.0717 medical staff services technology
51.0708 medical stenographer
51.1005 medical technologist
51.0708 medical terminology
60.0535 medical toxicology - residency
51.0708 medical transcription
51.0708 medical transcriptionist
51.9999 medical triage
51.0910 medical ultrasound technology
51.0703 medical unit clerk
51.0711 medical/health management and clinical assistant/specialist
51.2603 medication aide
51.2004 medicinal and pharmaceutical chemistry
51.2004 medicinal chemistry
51.1201 medicine
54.0199 medieval history
30.1301 medieval studies
52.0907 meeting and event planning
12.0407 men's hairdressing
51.1502 mental health care
51.3810 mental health nurse practitioner
51.3810 mental health nursing
52.1802 merchandising
49.0309 merchant marine
49.0309 merchant marine officer
15.0901 metal and mineral processing technology
46.0411 metal building assembly
14.2001 metal engineering
48.0511 metal fabricator
48.0511 metal fabricator (fitter)
48.0507 metal pattern maker
48.0507 metal pattern making
48.0511 metal shaping and assembly
46.0411 metal structure assembly
14.2001 metallurgical engineering
15.0611 metallurgical engineering technology
15.0611 metallurgical technician
15.0611 metallurgical technology
40.9999 metallurgy
14.2001 metallurgy engineering
15.0611 metallurgy technology
14.1801 metals and materials engineering
38.0199 metaphysics
41.0399 meteorological technician
40.0404 meteorologist
40.0404 meteorology
45.0102 methodology, measurement, and statistics
05.0203 Mexican American studies
16.0399 Miao
26.0803 microbial and eukaryotic genetics
14.4501 microbiological engineering
26.0502 microbiology
26.0508 microbiology and immunology
15.0306 microcircuit mask design
11.0601 microcomputer applications
11.0601 microcomputer business applications
47.0104 microcomputer repair
15.1202 microcomputer technician
15.0399 microelectronics technology
11.0203 Microsoft certification
11.0203 Microsoft Certified Systems Administrator
11.0203 Microsoft Certified Systems Engineer
11.0203 Microsoft Certified Technology Specialist
54.0199 Middle East history
05.0108 Middle Eastern studies
13.1311 middle school mathematics teacher education
51.3401 midwife
51.3401 midwifery
29.0501 military aircraft structures technician
29.0501 military airframe technician
29.0501 military ammunition technician
28.0801 military and strategic studies
28.0801 military arts and science
29.0501 military aviation systems technician
29.0501 military avionics systems technician
29.0501 military communications technician
29.0501 military electronics technician
29.0501 military engineering
54.0108 military history
29.0501 military intelligence
28.0801 military psychology and leadership
29.0501 military radar technician
28.0801 military science
29.0501 military search and rescue technician
28.0801 military studies
29.0501 military weapons technician
01.0306 milk grading
01.0306 milk production

03.0509 milling lumber
48.0703 millwork
47.0303 millwright
03.0204 mineral economics
14.2101 mineral engineering
40.0606 mineralogy
14.9999 mining and materials engineering
14.2101 mining and mineral engineering
14.2101 mining and mineral process engineering
15.0901 mining and mineral processing
15.0901 mining and mineral processing technician
14.2101 mining engineering
15.0901 mining engineering technician
15.0901 mining engineering technology
15.0901 mining technician
15.0901 mining technology
39.0602 minister of religion
39.0602 ministerial studies
39.0602 ministry
14.0201 missile systems engineering
39.0301 missiology
39.0301 mission studies
39.0301 mission studies and interreligious dialogue
39.0301 missionary
39.0301 missionary studies
39.0301 missions
12.0502 mixology
49.0206 mobile crane operator
11.0804 modeling, virtual environments and simulation
16.1199 modern Assyrian
50.0301 modern dance
05.0106 modern European studies
16.0601 modern Greek
38.0204 modern Hinduism
54.0101 modern history
16.0101 modern languages
05.0108 modern Middle Eastern studies
48.0507 molder-founder
26.1501 molecular and cellular neuroscience
26.0205 molecular biochemistry
26.0204 molecular biology
26.0206 molecular biophysics
60.0536 molecular genetic pathology - residency
26.0802 molecular genetics
26.1401 molecular medicine
26.1002 molecular pharmacology
40.0802 molecular physics
26.0902 molecular physiology
26.1005 molecular toxicology
16.1504 Mongolian
16.1504 Mongolian language and literature
16.1504 Mongolian literature
13.1207 Montessori preschool teacher
13.1207 Montessori teacher
13.1207 Montessori teaching
52.0809 mortgage broker
12.0303 mortician
12.0303 mortuary science
52.0904 motel management
10.0201 motion picture and theatre grip
50.0502 motion picture and theatre set dresser
50.0602 motion picture production
50.0601 motion picture studies
47.0611 motocycle mechanics
47.0199 motor rewinding
47.0603 motor vehicle body refinisher
47.0603 motor vehicle body repair
47.0603 motor vehicle body repairer (painter)
47.0604 motor vehicle mechanic
47.0199 motor winding
47.0611 motorcycle mechanic
47.0611 motorcycle repair
47.0611 motorcycle service technician
47.0611 motorcycle technician
48.0507 mould maker
48.0507 mould making
51.3601 movement therapy
51.0920 MRI technician
51.0920 MRI technology
47.0699 muffler installer
13.0202 multicultural education
30.9999 multidisciplinary studies
49.0102 multi-engine pilot
11.0801 multimedia and web
50.0706 multimedia art
09.0702 multimedia communications
44.0401 municipal administration
04.0301 municipal and regional planning
22.0299 municipal law (graduate level)
04.0301 municipal planning
44.0401 municipal services management
60.0537 musculoskeletal oncology - residency
30.1401 museology
50.0510 museum costumes
30.1401 museum curator
30.1401 museum management
30.1401 museum studies
30.1401 museum technology
50.0901 music
50.0907 music - keyboard
50.0916 music - percussion
50.0908 music - vocal
36.0115 music (not for credit)
50.1003 music administrative studies
50.0904 music arranging
50.1003 music business
50.0904 music composition
50.0902 music criticism
13.1312 music education
50.0901 music foundation
50.0902 music history
50.0902 music history and literature
50.1003 music industry management

50.0902 music literature
50.1003 music management
50.1003 music merchandising
50.0912 music pedagogy
50.0903 music performance
50.0903 music performance studies
50.0999 music production
10.0203 music recording
10.0203 music recording engineering
13.1312 music teacher
13.1312 music teaching
50.0913 music technology
50.0509 music theatre
50.0904 music theory and composition
51.2305 music therapist
51.2305 music therapy
50.0901 musical arts
47.0404 musical instrument repair
50.0904 musical orchestration
50.0509 musical theatre
50.0509 musical theatre performance
50.0905 musicology
26.0506 mycology

N

16.1499 Naga
12.0410 nail technician
12.0410 nail technology
15.1601 nanoengineering
15.1601 nanoengineering technology
15.1601 nanofabrication technology
15.1601 nanoscience technician
15.1601 nanoscience technology
15.1601 nanotechnology
45.0902 national security policy studies
45.0902 national security programme
45.0902 national security studies
38.0299 Native American religious traditions
05.0202 Native American studies
50.0201 Native arts
16.1799 Native as a second language
13.1501 Native classroom assistant
19.0701 Native family and child development
16.1001 Native language
16.1001 Native language studies
39.0602 Native ministry
05.0202 Native studies
46.0504 natural gas drilling
47.0614 natural gas powered vehicle service technician
12.0407 natural hair braider
51.2005 natural products chemistry and pharmacognosy
03.0204 natural resource economics
03.0201 natural resource management
03.0101 natural resource science
03.0101 natural resources
03.0101 natural resources conservation
03.0207 natural resources interpretation
22.0101 natural resources law (except graduate level)
22.0207 natural resources law (graduate level)
03.0208 natural resources law enforcement
03.0201 natural resources management technology
03.0101 natural resources technology
30.1801 natural sciences
36.0106 nature appreciation (not for credit)
03.0207 nature-based tourism
51.3303 natureopath
51.3303 naturopathic medicine
51.3303 naturopathy
49.0309 nautical science
14.2201 naval architecture
15.9999 naval architecture technology
14.2201 naval engineering
54.0108 navy history
05.0108 Near and Middle Eastern civilizations
05.0108 Near and Middle Eastern studies
05.0108 Near Eastern studies
30.2801 negotiation and dispute resolution
51.3806 neonatal nurse practitioner
51.3806 neonatal nursing
60.0538 neonatal-perinatal medicine - residency
16.0799 Nepalese
60.0539 nephrology - residency
51.3899 nephrology nurse practitioner
51.3899 nephrology nursing
11.1001 network administration
11.1001 network administrator
47.0103 network cabling specialist (apprenticeship)
14.0999 network engineering
15.1299 network engineering technician
15.1299 network engineering technology
11.1002 network management
11.1002 network manager
11.1003 network security
11.1001 network specialist
11.1001 network support specialist
11.1001 network support technician
11.1001 network technology
15.0305 network telecommunications engineering technology
11.1001 networking
11.1001 networking technology
14.0501 neural engineering
26.1502 neuroanatomy
26.1503 neurobiology
26.1504 neurobiology and behaviour
26.1503 neurobiology and neurophysiology
60.0540 neurodevelopmental disabilities - residency
26.0802 neurogenetics
60.0416 neurological surgery - residency

60.0416 neurological surgery/neurosurgery - residency
60.0417 neurology - residency
60.0404 neurology with special qualifications in child neurology - residency
60.0541 neuromuscular medicine - residency
60.0542 neuropathology - residency
26.1003 neuropharmacology
26.1503 neurophysiology
42.9999 neuropsychology
60.0543 neuroradiology - residency
26.1501 neuroscience
51.3899 neuroscience nursing
26.1501 neurosciences
60.0544 neurotology - residency
39.0201 New Testament
39.0201 New Testament studies
15.0799 non-destructive testing technology
52.0206 non-profit management
52.0206 non-profit sector management
16.0505 Norwegian
16.0505 Norwegian language
16.0505 Norwegian language and literature
16.0505 Norwegian literature
22.0101 notarial law (Quebec)
22.0101 notary (Quebec)
22.9999 notary public
40.0599 nuclear chemistry
41.0205 nuclear energy technician
14.2301 nuclear engineering
15.1401 nuclear engineering technician
15.1401 nuclear engineering technology
14.2301 nuclear fuels engineering
60.0418 nuclear medicine - residency
51.0905 nuclear medicine technician
51.0905 nuclear medicine technologist
51.0905 nuclear medicine technology
40.0806 nuclear physics
14.2301 nuclear power engineering
41.0205 nuclear power technology
60.0545 nuclear radiology - residency
14.2301 nuclear reactor engineering
41.0205 nuclear technician
41.0205 nuclear technology
32.0104 numeracy
32.0104 numeracy and computational skills
48.0510 numerical control machine tool operation
48.0510 numerical control operator
51.3902 nurse aide
51.3804 nurse anesthetist
51.3802 nurse management
51.3807 nurse midwife
51.3805 nurse practitioner
01.0606 nursery technology
51.3802 nursing administration
51.3902 nursing aide
51.3902 nursing assistant
51.3902 nursing assistant (non-registered)
51.3817 nursing education
51.3802 nursing management
51.3807 nursing midwifery
51.3808 nursing science
51.3808 nursing sciences (MSc, PhD)
51.3817 nursing teaching
51.0703 nursing unit clerk
19.0501 nutrition
19.0505 nutrition and food service management
30.1901 nutrition and nutraceutical sciences
19.0501 nutrition and wellness
30.1901 nutrition science
30.1901 nutritional science
51.3102 nutritionist

O

50.0915 oboe
41.0399 observer communicator, weather
60.0419 obstetrics and gynecology - residency
16.0999 Occitan
51.2206 occupational health and industrial hygiene
51.3815 occupational health and safety nursing
15.0701 occupational health and safety technician
15.0701 occupational health and safety technology
51.3815 occupational health nurse practitioner
51.3815 occupational health nursing
60.0420 occupational medicine - residency
51.2306 occupational therapist
51.0803 occupational therapist assistant
51.2306 occupational therapy
51.0817 occupational therapy and physical therapy assistant
51.0817 occupational therapy and speech-language therapy assistant
51.0803 occupational therapy assistant
14.2401 ocean engineering
16.1401 Oceanic languages
16.1401 Oceanic languages and literature
16.1401 Oceanic literature
40.0607 oceanography
01.0309 oenology
52.0407 office automation
52.0408 office clerk
47.0102 office equipment maintenance
47.0102 office equipment maintenance technology
47.0102 office machine technician
52.0204 office management
52.0408 office skills
10.0307 offset press operator
10.0307 offset printing
49.0304 offshore diver
46.0504 oil and gas drilling
14.2501 oil and gas engineering
15.0903 oil and gas field operations

47.0201 oil burner mechanic
46.0504 oil drilling
46.0504 oil field drilling
15.0903 oil field safety
15.0903 oil field technology
47.0201 oil heat system technician
15.0903 oil refining
46.0504 oil well drilling
46.0504 oil well rigger
16.0499 Old Church Slavonic
16.0599 Old Norse
16.0599 Old Saxon
39.0201 Old Testament
39.0201 Old Testament studies
26.0911 oncology
60.0534 oncology - residency
51.3899 oncology nurse practitioner
51.3899 oncology nursing
09.0499 online journalism
13.1299 online teaching
50.0908 opera
50.0908 opera singing
50.0908 operatic performance
51.3812 operating room nurse
51.3812 operating room nursing
51.0909 operating room technician
51.0909 operating room technologist
52.0205 operations management
14.3701 operations research
52.0406 operator-receptionist
51.1803 ophthalmic assistant
51.1801 ophthalmic dispenser
51.1801 ophthalmic dispensing
51.1006 ophthalmic laboratory technician
51.1006 ophthalmic laboratory technologist
51.1803 ophthalmic technician
60.0421 ophthalmology - residency
14.1003 optical engineering
40.0807 optical science
15.0304 optical technician
51.1801 optician
51.1801 opticianry
40.0807 optics physics
51.1802 optometric assistant
51.1802 optometric technician
51.1701 optometrist
51.1701 optometry
51.3812 OR nurse
51.0503 oral and craniofacial biology (MS, MSc, PhD)
60.0104 oral and maxillofacial pathology - residency
51.0503 oral and maxillofacial pathology (MS, MSc, PhD)
60.0109 oral and maxillofacial radiology - residency
60.0101 oral and maxillofacial surgery - residency
51.0507 oral and maxillofacial surgery (Cert., MS, MSc, PhD)
51.0503 oral biology (MS, MSc, PhD)
51.0503 oral biology and oral and maxillofacial pathology (MS, MSc, PhD)
60.0104 oral pathology specialty - residency
51.0507 oral surgery (Cert., MS, MSc, PhD)
50.0906 orchestra conductor
50.0906 orchestral conducting
50.0903 orchestral performance
50.0903 orchestral training
39.0602 ordained clergy
39.0602 ordained minister
51.2601 orderly
50.0907 organ
01.0308 organic agriculture
40.0504 organic chemistry
01.0308 organic farming
01.0308 organic farming inspection
13.0401 organizational and administrative studies in education
30.3301 organizational and environmental sustainability
52.1003 organizational behaviour
52.1003 organizational behaviour studies
09.0901 organizational communication
52.0213 organizational leadership
42.2804 organizational psychology
16.9999 Oriental languages
51.3301 Oriental medicine
21.0101 orientation to trades
16.0799 Oriya
01.0603 ornamental horticulture
01.0603 ornamental horticulture production
51.0699 orthodontic assistant
60.0105 orthodontics - residency
51.0508 orthodontics (Cert., MS, MSc, PhD)
51.0508 orthodontics and dentofacial orthopedics (Cert., MS, MSc, PhD)
60.0105 orthodontics specialty - residency
51.0508 orthodontist (Cert., MS, MSc, PhD)
51.0508 orthodontology (Cert., MS, MSc, PhD)
39.0601 orthodox theology
60.0546 orthopaedic sports medicine - residency
60.0422 orthopedic surgery - residency
60.0547 orthopedic surgery of the spine - residency
60.0422 orthopedics - residency
60.0422 orthopedics/orthopedic surgery - residency
51.1804 orthoptics
51.1804 orthoptist
51.2307 orthotics
51.2307 orthotist
16.1299 Oscan
51.1901 osteopathic medicine
51.1901 osteopathy
60.0423 otolaryngology - residency
47.0616 outboard mechanic
47.0616 outboard motor mechanic
47.0606 outdoor power equipment technician
31.0601 outdoor recreation leadership

31.0504 outdoor recreation management
31.0101 outdoor recreation technician

P

05.0109 Pacific and Asian studies
05.0109 Pacific Rim studies
15.1503 packaging science
60.0548 pain medicine - residency
47.0603 painting (autobody)
50.0708 painting, fine arts
40.0604 palaeontology
45.0202 paleoanthropology
40.0604 paleontology
51.3819 palliative care nurse practitioner
51.3819 palliative care nursing
60.0525 palliative medicine - residency
14.4001 paper engineering
03.0509 paper making
03.0509 paper making technology
14.4001 paper science
14.4001 paper science engineering
22.0302 paralegal
22.0302 paralegal assistant
22.0302 paralegal services
22.0302 paralegal studies
22.0302 paralegalism
51.0904 paramedic
26.0505 parasitology
31.0301 parks management
40.0804 particle physics
47.0409 parts and warehousing
52.0409 parts management
47.0409 parts person
47.0409 parts technician
47.0409 partsman/partswoman
47.0409 partsperson
39.0602 pastor
39.0701 pastoral counselling
39.0701 pastoral leadership
39.0602 pastoral ministry
39.0701 pastoral studies
39.0601 pastoral theology
12.0501 pastry
12.0501 pastry chef
22.0212 patent law (graduate level)
26.0910 pathology
60.0424 pathology - residency
51.0811 pathology assistant
51.0811 pathology technician
52.1099 pay supervisor
52.1099 payroll administration
52.1099 payroll clerk
52.1099 payroll management
30.0501 peace and conflict resolution studies
30.0501 peace and conflict studies
43.0107 peace officer
30.0501 peace studies
13.0501 pedagogical use of the computer
13.0101 pedagogy
60.0549 pediatric cardiology - residency
60.0550 pediatric critical care medicine - residency
60.0106 pediatric dentistry - residency
51.0509 pediatric dentistry (Cert., MS, MSc, PhD)
60.0551 pediatric dermatology - residency
60.0552 pediatric emergency medicine - residency
60.0553 pediatric endocrinology - residency
60.0554 pediatric gastroenterology - residency
60.0555 pediatric hematology-oncology - residency
60.0555 pediatric hemato-oncology - residency
60.0556 pediatric infectious diseases - residency
60.0557 pediatric nephrology - residency
60.0404 pediatric neurology - residency
51.3809 pediatric nursing
51.3809 pediatric nursing practitioner
60.0558 pediatric orthopedics - residency
60.0559 pediatric otolaryngology - residency
60.0560 pediatric pathology - residency
60.0561 pediatric pulmonology - residency
60.0562 pediatric radiology - residency
60.0563 pediatric rehabilitation medicine - residency
60.0564 pediatric rheumatology - residency
60.0565 pediatric surgery - residency
60.0566 pediatric transplant hepatology - residency
60.0567 pediatric urology - residency
60.0425 pediatrics - residency
12.0410 pedicure
51.0509 pedodontics (Cert., MS, MSc, PhD)
60.0106 pedodontics specialty - residency
50.0101 performing arts
50.1001 performing arts administration
51.0906 perfusionist
50.0903 period instrument performance
50.0903 period instruments
51.0510 periodontics (Cert., MS, MSc, PhD)
60.0107 periodontics specialty - residency
51.0510 periodontist (Cert., MS, MSc, PhD)
60.0107 periodontology - residency
51.0510 periodontology (Cert., MS, MSc, PhD)
12.0411 permanent makeup
16.0801 Persian
16.0801 Persian language and literature
16.0801 Persian literature
37.0103 personal decision-making skills
52.0804 personal financial planner
52.0804 personal financial planning
31.0507 personal fitness trainer
34.0103 personal health improvement and maintenance
52.1701 personal insurance
51.2602 personal support worker (PSW)
31.0507 personal trainer
42.2705 personality psychology

52.1001 personnel administration
52.1001 personnel management
01.1105 pest extermination
01.1105 pest management
01.0504 pet grooming
36.0107 pet ownership and care (not for credit)
01.0504 pet stylist
14.2501 petrochemical engineering
15.0903 petroleum and natural gas
14.2501 petroleum engineering
15.0903 petroleum engineering technology
15.0903 petroleum operations technician
15.0903 petroleum technician
15.0903 petroleum technology
40.0606 petrology
51.2004 pharmaceutical chemistry
51.2007 pharmaceutical economics
14.0799 pharmaceutical engineering
51.2011 pharmaceutical marketing
51.2011 pharmaceutical marketing and management
51.2010 pharmaceutical sciences
51.1099 pharmaceutical technician
51.1099 pharmaceutical technology
51.2003 pharmaceutics and drug design
51.2001 pharmacist
51.0805 pharmacist assistant
51.2007 pharmacoeconomics
26.1001 pharmacology
26.1007 pharmacology and toxicology
51.2001 pharmacy
60.9999 pharmacy - residency
51.2002 pharmacy administration
51.0805 pharmacy assistant
13.1327 pharmacy education
51.2002 pharmacy quality assurance and regulatory affairs
51.0805 pharmacy technician
51.0805 pharmacy technology
51.3805 PHCNP
38.0199 phenomenology
16.0102 philology
38.0101 philosophy
38.0001 philosophy and religion
38.0001 philosophy and religious studies
13.0901 philosophy of education
38.0199 philosophy of language
38.0199 philosophy of language and the mind
38.0199 philosophy of mind
38.0199 philosophy of science
54.0104 philosophy of science and technology
51.1009 phlebotomy
10.0306 photo engraving
10.0201 photo lab technician
26.0208 photobiology
47.0102 photocopier technician
10.0201 photofinishing
45.0702 photogrammetry
50.0605 photographic art
50.0605 photography (except commercial)
10.0201 photography, film and video - technologist/technician and assistant
09.0404 photojournalism
50.0710 photolythography
15.0304 photonics engineering technology
15.0304 photonics technology
26.0399 phycology
31.0501 physical activity and sport studies
60.0426 physical and rehabilitation medicine - residency
45.0202 physical anthropology
40.0506 physical chemistry
31.0501 physical education
31.0501 physical education and health
31.0501 physical education and recreation
13.1314 physical education teacher
13.1314 physical education teaching
31.0504 physical fitness and leisure, management
45.0701 physical geography
60.0426 physical medicine and rehabilitation - residency
60.0568 physical medicine and rehabilitation/psychiatry - residency
40.0607 physical oceanography
51.2308 physical rehabilitation therapist (PRT)
41.0399 physical science technician
40.0101 physical sciences
51.2308 physical therapy
51.0817 physical therapy and speech-language therapy assistant
51.0806 physical therapy assistant
31.0507 physical trainer
51.1201 physician
51.0912 physician assistant
40.0801 physicist
40.0801 physics
13.1329 physics education
13.1329 physics teacher
41.0399 physics technology
26.0909 physiological optics
42.2706 physiological psychology
26.0901 physiology
51.2308 physiotherapist
51.0806 physiotherapist assistant
51.2308 physiotherapy
51.0817 physiotherapy and occupational therapy assistant
51.0806 physiotherapy assistant
26.0301 phytochemistry
26.0301 phytology
26.0305 phytopathology
51.3702 phytotherapy
50.0907 piano
50.0907 piano performance
47.0404 piano technician

47.0404 piano technology
47.0404 piano tuning
50.0799 picture framing
49.0202 pile driving
49.0108 pilot instructor
46.0502 pipefitter - fire protection mechanic specialty
46.0502 pipefitter - heating system installer specialty
46.0503 pipefitter - plumber specialty
47.0201 pipefitter - refrigeration mechanic specialty
46.0502 pipefitting
01.0303 pisciculture
47.0303 planermill maintenance technician
40.0203 planetary astronomy
40.0203 planetary science
26.0301 plant biology
26.1201 plant biotechnology
01.1104 plant breeding
01.1104 plant breeding genetics
26.1301 plant ecology
26.0805 plant genetics
26.0308 plant molecular biology
01.0606 plant nursery management
01.0606 plant nursery operations
01.0606 plant nursery operations and management
26.0305 plant pathology
26.0307 plant physiology
01.1105 plant protection
01.1199 plant science technology
01.1101 plant sciences
40.0805 plasma physics
46.0404 plasterer
46.0404 plastering
50.0702 plastic arts
13.1302 plastic arts teaching
60.0427 plastic surgery - residency
60.0569 plastic surgery within the head and neck - residency
14.3201 plastics engineering
15.0607 plastics engineering technician
15.0607 plastics engineering technology
15.0607 plastics processing technology
15.0607 plastics technician
15.0607 plastics technology
10.0306 platemaking
50.0504 playwriting
46.0413 pliable floor covering installation
46.0503 plumber
46.0503 plumbing
51.2101 podiatric medicine
60.0601 podiatric medicine and surgery - 24 - residency
60.0602 podiatric medicine and surgery - 36 - residency
60.0602 podiatric medicine and surgery specialty in rearfoot and ankle surgery - residency
51.2101 podiatrist
51.2101 podiatry
51.3703 polarity therapist
51.3703 polarity therapy
43.0103 police administration
43.0103 police and security management
43.0107 police constable
43.0107 police foundations
43.0103 police management
43.0107 police science
43.0107 police studies
43.0107 police technology
16.0407 Polish
16.0407 Polish language
16.0407 Polish language and literature
16.0407 Polish literature
16.0407 Polish philology
05.0129 Polish studies
09.0904 political communication
45.1004 political economy and government
54.0199 political history
45.1001 political philosophy
45.1001 political science
45.1001 political science and government
13.1317 political science education
45.1001 political studies
45.1004 political studies and economy
40.0507 polymer chemistry
14.3201 polymer engineering
15.0607 polymer engineering technology
15.0607 polymer processing technology
16.1401 Polynesian languages
51.0917 polysomnography
51.0917 polysomnography technology
50.0903 popular music performance
26.1306 population biology
45.0501 population studies
16.0904 Portuguese
16.0904 Portuguese language and literature
16.0904 Portuguese literature
13.1299 postsecondary education
13.1299 postsecondary instructor education
50.0711 pottery
01.0302 poultry husbandry
01.0907 poultry science
60.0318 poultry veterinarian - residency
14.9999 power engineering (university)
47.0501 power engineering technician
47.0501 power engineering technology
46.0303 power line installation
46.0303 power line maintenance
46.0303 power line repair
46.0303 power line technician
46.0303 power lineman/linewoman
14.9999 power plant engineering (university)
47.0501 power plant engineering technology
47.0501 power system electrician
47.0501 power system operation
46.0301 power transmission systems installation

46.0303 powerline electrician
46.0303 powerline technician
46.0303 powerline technician (operating)
39.0601 practical theology
51.1106 pre-chiropractic studies
48.0506 precision sheet metal
51.1101 pre-dentistry
14.0102 pre-engineering
14.0102 pre-engineering transfer program
46.0411 prefabricated metal building assembler
46.0411 prefabricated metal building assembly
46.0411 prefabricated metal structure assembler
46.0411 prefabricated metal structure assembly
51.1199 pre-health science
22.0001 prelaw
22.0001 prelaw program
22.0001 prelaw studies
51.1102 pre-med
51.1102 pre-medicine
39.0604 preministerial studies
34.0102 prenatal class (non credit)
51.1105 pre-nursing
51.1107 pre-occupational therapy studies
51.1108 pre-optometry studies
51.1103 pre-pharmacy
51.1109 pre-physical therapy studies
10.0303 prepress
13.1206 preschool and primary teaching
13.1209 preschool education
13.1209 preschool teacher
13.1209 preschool teaching
43.0203 preservice firefighter
51.0299 pre-speech language pathology and audiology
48.0508 pressure welding
39.0604 pretheology studies
21.0101 pre-trades
60.0429 preventive medicine - residency
51.1104 pre-veterinary medicine
39.0602 priest
39.0602 priesthood
13.1206 primary and intermediate education
51.3805 primary care nurse
51.3805 primary care nurse practitioner
13.1202 primary education
51.3805 primary health care nurse practitioner
13.1202 primary school teacher
45.0202 primatology
09.0401 print journalism
15.0306 printed circuit board design
15.0306 printed circuit drafting
10.0305 printing
10.0305 printing and finishing
10.0308 printing compositor
10.0302 printing management
10.0302 printing management technology
10.0307 printing press operator
10.0307 printing pressman/presswoman
10.0305 printing production
10.0305 printing technology
50.0710 printmaking
39.0602 prison ministry
43.9999 private investigation
43.0109 private policing and asset protection
27.0502 probability
27.0502 probability and statistics
52.0202 procurement
52.0202 procurement management
15.9999 product design engineering technology
14.2701 product development engineering
52.0205 production management
52.0205 production supervision
12.0500 professional cooking
12.0505 professional cooking assistant
49.0304 professional diving
38.0104 professional ethics
52.0804 professional financial planner
31.0302 professional golf management
31.0501 professional hockey
11.0501 programmer-analyst
11.0201 programming
52.0211 project management
10.0299 projectionist
52.1501 property evaluation
22.0299 property law (graduate level)
46.0401 property maintenance
52.1501 property management
15.0999 prospecting
51.0511 prosthetic dentistry (Cert., MS, MSc, PhD)
51.2307 prosthetics
51.2307 prosthetist
60.0108 prosthodontics - residency
51.0511 prosthodontics (Cert., MS, MSc, PhD)
60.0108 prosthodontics specialty - residency
51.0511 prosthodontology (Cert., MS, MSc, PhD)
43.0120 protective security
43.0120 protective services
43.0120 protective services operations
26.0802 protein expression
26.0802 proteomics
16.0999 Provençal
51.3810 psychiatric nurse
51.3810 psychiatric nurse practitioner
51.3810 psychiatric nursing
60.0428 psychiatry - residency
51.1507 psychoanalysis
42.2706 psychobiology
42.2812 psychocriminology
42.2701 psycholinguistics
42.2803 psychological counselling
42.0101 psychologist
42.0101 psychology
42.2804 psychology of work
42.2804 psychology of work and organizations

13.1335 psychology teacher
13.1335 psychology teaching
42.2708 psychometrics
42.2708 psychometry
42.2806 psychopedagogy
42.2709 psychopharmacology
42.2707 psychosociology
60.0570 psychosomatic medicine - residency
51.1507 psychotherapist
51.1507 psychotherapy
52.0301 public accounting
44.0401 public administration
44.0401 public administration and governance
09.0900 public communications
52.0808 public finance
51.2201 public health (MPH, DPH)
51.2201 public health administration
60.0429 public health and preventive medicine - residency
51.2207 public health education
51.2207 public health education and promotion
60.0429 public health medicine - residency
51.3811 public health nursing
43.0302 public health preparedness and emergency management
54.0105 public history
44.0401 public management
44.0501 public policy
44.0501 public policy analysis
09.0902 public relations
09.0900 public relations and advertising
09.0902 public relations and communication management
09.0902 public relations management
43.0399 public safety
43.0399 public safety communications
52.0808 public sector financial management
44.0401 public sector management
44.0401 public services administration
44.0401 public services management
09.1001 publishing
09.1001 publishing techniques and technologies
05.0203 Puerto Rican studies
60.0571 pulmonary disease - residency
14.4001 pulp and paper engineering
03.0509 pulp and paper production
14.4001 pulp and paper science
03.0509 pulp and paper technology
03.0509 pulp and papermaking operations
16.0705 Punjabi
16.0705 Punjabi language
16.0705 Punjabi language and literature
52.0202 purchasing
52.0202 purchasing administration
52.0202 purchasing management
40.0101 pure and applied sciences
27.0101 pure mathematics

Q

15.0702 quality assurance
15.0702 quality assurance technician
15.0702 quality control technician
15.0702 quality control technologist
15.0702 quality control technology
15.0702 quality inspector training
15.0702 quality technician
27.0305 quantitative and computational finance
45.0603 quantitative economics
27.0305 quantitative finance
42.2708 quantitative psychology
30.9999 quantum information processing
40.0810 quantum mechanics
40.0810 quantum physics
40.0604 quaternary geology
55.1403 Quebec literature (in French)
05.0122 Quebec studies

R

39.0605 rabbi
39.0605 rabbinical studies
05.0200 race and ethnicity
05.0200 race, ethnicity and indigeneity
26.0209 radiation biology
60.0430 radiation oncology - residency
51.0907 radiation oncology technology
51.0916 radiation protection/health physics technician
51.0907 radiation technology
51.0907 radiation therapy
09.0701 radio and television
47.0101 radio and TV repair
40.0201 radio astronomy
10.0202 radio broadcast technology
10.0202 radio broadcasting technician
09.0402 radio journalism
09.0701 radio, television, and film
26.0209 radiobiology
51.0911 radiographer
60.0572 radioisotopic pathology - residency
60.0431 radiologic physics - residency
51.0911 radiologic technology
51.0911 radiological technologist
51.0814 radiologist assistant
51.0911 radiology technologist
51.0907 radiotherapy
49.0208 rail traffic controller
49.0208 rail yardmaster
49.0208 railroad conductor
47.0699 railway car service and repair
49.0208 railway conductor
49.0208 railway dispatcher
49.0208 railway operations
16.0799 Rajasthani

01.0104 ranch management
01.1106 range and pasture management
01.1106 range management
01.1106 range science
43.0107 RCMP
36.0116 reading (not for credit)
13.1315 reading education
52.1501 real estate
52.1501 real estate agent
52.1501 real estate appraisal
52.1501 real estate broker
52.1501 real estate brokerage
04.1001 real estate development
22.0299 real estate law (graduate level)
52.1501 real estate sales
52.1501 real property assessment
04.1001 real property development
52.1501 realtor
52.0406 receptionist
10.0203 recording engineering
25.0103 records and information management
25.0103 records management
31.0504 recreation administration
31.0101 recreation and leisure
31.0504 recreation and leisure management
31.0504 recreation and sport management
31.0504 recreation and sports administration
31.0301 recreation club management
31.0301 recreation facilities management
31.0101 recreation leadership
31.0504 recreation management
31.0101 recreation studies
31.0101 recreation technology
47.0618 recreation vehicle (RV) mechanic
47.0618 recreation vehicle (RV) service technician
47.0618 recreation vehicle (RV) technician
47.0618 recreation vehicle mechanic
47.0618 recreation vehicle service technician
51.2309 recreational therapy
47.0618 recreational vehicle service technician
47.0618 recreational vehicle technician
31.0101 recreology
51.3501 reflexology
47.0201 refrigeration and air conditioning mechanic
47.0201 refrigeration and air conditioning systems mechanic
15.0501 refrigeration engineering technology
47.0201 refrigeration mechanic
47.0201 refrigeration technician
15.0501 refrigeration technologist
53.0104 regents high school diploma
53.0104 regents secondary school diploma
04.0301 regional and urban development
44.0401 regional public administration
51.0601 registered dental assistant (RDA)
51.0602 registered dental hygienist (RDH)
51.3101 registered dietitian (RD)
51.3501 registered massage therapist (RMT)
51.3801 registered nurse
51.3801 registered nursing
51.3901 registered nursing assistant
51.3901 registered practical nurse
51.3823 registered psychiatric nurse
51.3823 registered psychiatric nursing
53.0101 regular high school diploma
28.0801 Regular Officer Training Plan
53.0101 regular secondary school diploma
22.0205 regulatory law (graduate level)
51.0817 rehab assistant
51.2604 rehabilitation aide
51.0817 rehabilitation assistant (RA)
51.2310 rehabilitation counseling
51.2314 rehabilitation science
51.0817 rehabilitation therapist assistant
51.0817 rehabilitation therapy assistant
51.3704 Reiki
48.0509 reinforcing rodworker
48.0509 reinforcing steel erector
38.0201 religion
38.0299 religion and culture
38.0001 religion, culture and ethics
39.0401 religious education (except Bachelor of Education)
13.1399 religious education teacher (Bachelor of Education)
38.0103 religious ethics
39.0501 religious music
38.0201 religious studies
39.9999 religious texts and commentaries
13.1001 remedial instruction
45.0702 remote sensing
30.1301 renaissance studies
14.9999 renewable energy engineering
03.0201 renewable resource management
03.0199 renewable resources
03.0199 renewable resources technology
26.0905 reproductive biology
60.0573 reproductive endocrinology - residency
60.0573 reproductive endocrinology/infertility - residency
60.0573 reproductive infertility - residency
26.0905 reproductive physiology
52.0210 research and development management
45.0102 research methodology and quantitative methods
28.0801 Reserve Entry Scheme Officer
28.0801 Reserve Entry Training Plan
51.2602 resident care aide
51.2602 resident care attendant
46.0401 residential building maintenance worker
46.0415 residential construction
46.0415 residential construction technician
51.1599 residential counselling
19.0605 residential decorator

15.1303 residential drafting and design
28.0801 RESO
52.0906 resort management
03.0207 resource recreation and tourism
51.0908 respiratory therapist
51.0812 respiratory therapist assistant
51.0908 respiratory therapy
51.0812 respiratory therapy technology
12.0504 restaurant culinary management
52.0905 restaurant management
52.0905 restaurant manager
46.0101 restoration stone mason
12.0506 retail butchery
52.1802 retail buyer
52.1803 retail clerk
01.0608 retail floristry
52.0212 retail management
52.1801 retail marketing
12.0506 retail meat cutting
52.1802 retail merchandising
52.1803 retail operations
52.1803 retail sales
52.1801 retail sales and marketing
52.1803 retailing
28.0801 RETP
16.0999 Rhaeto-Romansch
60.0574 rheumatology - residency
01.0507 riding instruction
15.0499 robotics and automation technology
14.4201 robotics engineering
11.0102 robotics programming
15.0405 robotics technician
15.0405 robotics technology
16.0900 Romance language and literature
16.0900 Romance languages
16.0900 Romance languages, literature and linguistics
16.0900 Romance linguistics
16.0900 Romance literature
16.0906 Romanian
16.0906 Romanian language and literature
16.0906 Romanian literature
16.0799 Romany
46.0410 roofer
46.0410 roofing
10.0307 rotary offset press operator
28.0801 ROTP
43.0107 Royal Canadian Mounted Police
51.3901 RPN
46.0413 rug layer
45.1401 rural development studies
01.0103 rural economy
01.0801 rural extension
01.0801 rural extension studies
16.0402 Russian
05.0105 Russian and East European studies
05.0105 Russian and Eurasian studies
54.0103 Russian history
16.0402 Russian language
16.0402 Russian language and literature
16.0402 Russian literature
16.0402 Russian philology
05.0110 Russian studies
47.0618 RV mechanic

S

39.0501 sacred music
39.9999 sacred scripture studies
39.0601 sacred theology
52.1801 sales and marketing
52.1804 sales clerk
52.1804 sales management
52.1907 sales of vehicle parts and accessories
52.1804 sales representative
52.1804 sales techniques
52.1804 salesperson
01.0303 salmon farm technician
16.1299 Samnian
14.9999 sanitary engineering (university)
16.0702 Sanskrit
16.0702 Sanskrit language and literature
16.0702 Sanskrit literature
43.0399 SAR tech
16.0999 Sardinian
16.1001 Saulteaux language studies
48.0507 saw filing
03.0509 sawing
50.0915 saxophone
16.0502 Scandinavian
16.0502 Scandinavian languages and literature
16.0502 Scandinavian languages, literature and linguistics
16.0502 Scandinavian literature
05.0111 Scandinavian studies
50.0502 scene painting
50.0502 scenery and lighting
50.0502 scenography
13.0401 school administration
13.0401 school administration and policies
49.0205 school bus driver
13.1101 school counsellor
13.0401 school leadership
13.1334 school librarian
13.1334 school library media specialist
13.0401 school management
42.2805 school psychology
13.0101 school teacher
13.1316 science education
54.0104 science history
41.0000 science lab technician
41.0000 science lab technology
41.0000 science laboratory technician

41.0000 science laboratory technology
13.1316 science teacher
13.1316 science teaching
30.1501 science, technology and society
22.0201 Scientiae Juridicae Doctor (JSD/SJD)
52.1999 scientific and medical marketing
09.0908 scientific communication
30.3001 scientific computing
50.0504 screenwriting
50.0504 script writing
49.0304 scuba diving
49.0304 scuba diving instructor
50.0709 sculpture
49.0309 sea captain
52.0209 sea mobility
01.0401 seafood processing
19.0999 seamstress
49.0102 seaplane flying
43.0399 search and rescue
43.0399 search and rescue technician
16.1799 second language learning
32.0109 second language learning (not for credit)
13.1499 second language teaching
13.1205 secondary education
13.1311 secondary mathematics education
13.1311 secondary mathematics teacher education
13.0409 secondary school administration
13.1205 secondary school teacher
13.1205 secondary school teacher training
13.1205 secondary teaching
52.0401 secretarial arts
52.0401 secretarial science
52.0401 secretarial studies
52.0401 secretary
52.0401 secretary-receptionist
52.0807 securities
22.0205 securities law (graduate level)
43.0109 security
43.0112 security administration
47.0110 security alarm installation
47.0110 security alarm service technician
47.0110 security alarm technician
47.0110 security and alarm systems technician
28.0801 security and defence management and policy
43.0109 security and loss prevention services
43.0109 security guard
43.0112 security management
43.0109 security officer
43.0109 security services
43.0112 security services administration
43.0112 security services management
47.0110 security system installation and maintenance
47.0110 security system technician
40.0603 seismology
37.0101 self-awareness and personal assessment
37.0104 self-esteem and values clarification
15.0616 semiconductor manufacturing technology
14.1201 semiconductor physics
39.0604 seminary
16.0102 semiology
16.0102 semiotics
16.1100 Semitic languages and literature
13.1205 senior secondary school education
16.0408 Serbian
16.0408 Serbian language and literature
16.0408 Serbian literature
16.0408 Serbo-Croatian
50.0710 serigraphy
12.0502 serving it right
50.0502 set design
50.0502 set dresser
19.0999 sewing
47.9999 sewing-machine mechanic
51.1599 sexology
16.1499 Shan
48.0507 sharpening
48.0506 sheet metal
48.0506 sheet metal fabrication
48.0506 sheet metal technician
48.0506 sheet metal work
48.0506 sheet metal worker
22.0399 sheriff
51.3502 shiatsu
49.0309 ship captain
49.0309 ship pilot
14.2201 shipbuilding engineering
49.0309 shipmaster
47.0616 shipwright
48.0304 shoe making
48.0304 shoe repair
12.0500 short order cooking
52.0408 shorthand typing
16.1601 sign language
16.1603 sign language communicator
16.1603 sign language interpretation
50.0402 sign painting
50.0710 silk screen printing
50.0713 silversmithing
03.0506 silviculture
16.0799 Sindhi
50.0908 singing
16.0799 Sinhalese
15.0508 site assessment, decontamination and restoration
52.0906 ski resort management
52.0906 ski resort operations and management
03.0511 skidder operator
31.0501 skiing coach
12.0409 skin and beauty care
12.0409 skin care
05.0199 Slavic and East European studies
16.0400 Slavic languages
16.0400 Slavic languages and literature

16.0400 Slavic linguistics
16.0400 Slavic literature
16.0400 Slavic philology
05.0118 Slavic studies
60.0575 sleep medicine - residency
51.0917 sleep technology
16.0409 Slovak
16.0409 Slovak language and literature
16.0409 Slovak literature
16.0499 Slovenian
52.0703 small and medium enterprise management
52.0703 small business administration
52.0703 small business management
52.0703 small business management and ownership
47.0606 small engine and equipment mechanic
47.0606 small engine mechanic
47.0606 small engine mechanics
47.0606 small engine repair
47.0606 small engine technician
47.0606 small gas engine repair
47.0606 small motor mechanic
51.2508 small/companion animal surgery and medicine (Cert., MS, MSc, PhD)
12.0502 smart serve
50.0916 snare drum
47.0606 snowmobile mechanics
31.0501 soccer
45.9999 social and political thought
09.0199 social communication
45.0501 social demography
45.0699 social economics
38.0104 social ethics
45.0701 social geography
11.0104 social informatics
42.2707 social psychology
45.0102 social research methods
45.0101 social sciences
13.1317 social sciences education
13.1317 social sciences teacher training
44.0000 social services
44.0000 social services worker
45.0101 social studies
13.1318 social studies education
30.1501 social studies of science
13.1318 social studies teaching
44.0701 social work
45.0204 socio-cultural anthropology
45.1101 sociology
45.1301 sociology and anthropology
13.1317 sociology education
13.0901 sociology in education
13.1317 sociology teaching
11.0201 software design
11.0201 software development
14.0903 software engineering
14.0903 software systems development
01.1202 soil chemistry
01.1299 soil conservation
14.0301 soil engineering
01.1203 soil microbiology
01.1202 soil physics
01.1201 soil science
01.1201 soil science and agronomy
01.1299 soil technology
15.0505 solar energy technology
22.0101 solicitor
40.0808 solid-state physics
51.3503 somatic bodywork
12.0510 sommelier
51.0910 sonography
16.0499 Sorbian languages
10.0203 sound engineering
46.0414 sound insulator
10.0203 sound recording
10.0203 sound technology
12.0503 sous chef
16.0700 South Asian languages
16.0700 South Asian languages and literature
16.0700 South Asian literature
05.0112 South Asian studies
16.1400 Southeast Asian languages
16.1400 Southeast Asian languages and literature
16.1400 Southeast Asian literature
05.0113 Southeast Asian studies
05.0105 Soviet and East European studies
05.0110 Soviet studies
52.0906 spa management
14.0201 space facilities engineering
14.0201 space systems engineering
16.0905 Spanish
16.1799 Spanish as a second language
13.1330 Spanish education
16.0905 Spanish language
16.0905 Spanish language and literature
16.0905 Spanish literature
05.0130 Spanish studies
13.1330 Spanish teacher
51.2602 special care aide
13.1001 special education
13.1501 special education assistant
13.1501 special education teacher assistant/aide
13.1001 special education teaching
52.0907 special event management
13.1001 special needs education
13.1501 special needs teacher assistant
52.1909 special products marketing operations
40.9999 spectroscopy
09.0101 speech communication
51.0203 speech language pathologist
51.0203 speech pathologist
51.0203 speech pathology
51.0204 speech pathology and audiology
13.1331 speech teacher education
51.0203 speech therapy

51.0204 speech therapy and audiology
51.0203 speech-language pathology
51.0816 speech-language pathology assistant
51.0816 speech-language therapy assistant
60.0576 spinal cord injury medicine - residency
39.9999 spiritual formation
39.9999 spirituality
52.1910 sport and event marketing
31.0501 sport and exercise studies
31.0501 sport coach
42.9999 sport psychology
31.0504 sports administration
36.0108 sports and exercise (not for credit)
31.0504 sports and fitness management
31.0301 sports centre management
09.0906 sports communication
47.0499 sports equipment fabrication and repair technician
31.0599 sports equipment specialist
51.0913 sports injury therapist
31.0504 sports management
52.1910 sports marketing
60.0577 sports medicine - residency
31.0508 sports studies
46.0502 sprinkler and fire protection installer
46.0502 sprinkler fitter
46.0502 sprinkler installation
46.0502 sprinkler systems installer
50.0506 stage acting
50.0507 stage direction
47.0605 stationary diesel mechanics
47.0501 stationary engineer
47.0501 stationary engineering
27.0501 statistics
47.0501 steam engineering
46.0502 steamfitter
46.0502 steamfitter-pipefitter
46.0502 steamfitting
48.0511 steel fabricator
48.0511 steel fabricator (fitter)
48.0511 steel frame assembler
15.1304 steel structure drafting
13.1208 steiner teacher education
52.0408 stenographer-typist
51.1012 sterile processing
51.1012 sterile processing and distribution
51.1012 sterile supply technician
51.1012 sterile technician
51.1012 sterilization technician
52.0807 stockbroker
46.0101 stone masonry
37.0102 stress management and coping skills
26.0207 structural biology
15.1304 structural CAD technology
15.1304 structural drafting
14.0803 structural engineering
15.0201 structural engineering technology
48.0511 structural steel and plate fitter
48.0509 structural steel erector
15.0201 structural technology
50.0702 studio arts
50.1002 studio arts management
51.1501 substance abuse counselling
51.1508 suicide prevention
11.0203 Sun certified Java programmer
16.1499 Sundan
52.0203 supply chain management
52.0202 supply management
40.0808 supra-conductivity physics
46.0505 surface blaster
15.0901 surface mining
60.0578 surgery of the hand - residency
60.0579 surgical critical care - residency
51.3812 surgical nursing
51.0909 surgical technician
14.3801 survey engineering
15.1102 survey technician
15.1102 survey technologist
15.1102 survey technology
15.1102 surveying
14.3801 surveying engineering
15.1102 surveyor
43.0121 suspension and debarment investigation
30.3301 sustainability studies
01.0308 sustainable agriculture
01.0303 sustainable aquaculture
14.9999 sustainable energy engineering
30.3301 sustainable living
03.0506 sustainable management of forest resources
03.0207 sustainable outdoor recreation
50.0912 Suzuki method
50.0912 Suzuki piano pedagogy
16.0506 Swedish
16.0506 Swedish language
16.0506 Swedish language and literature
16.0506 Swedish literature
31.0501 swimming
01.0302 swine production
01.0302 swine technician
01.0302 swine technology
52.0406 switchboard operator
03.0506 sylviculture
26.1308 systematic biology
11.1001 systems administration
11.1001 systems administrator
14.2701 systems design engineering
14.2701 systems engineering
26.1501 systems neuroscience
30.0601 systems science
30.0601 systems science and theory

T

16.1404 Tagalog
16.1404 Tagalog language and literature
19.0999 tailor
19.0999 tailoring
39.0606 Talmud
39.0606 Talmudic law
39.0606 Talmudic studies
16.0706 Tamil
16.0706 Tamil language
16.0706 Tamil language and literature
16.0706 Tamil literature
38.0299 Taoism
38.0299 Taoist philosophy
16.1599 Tatar
12.0411 tattooing
22.0101 tax law (except graduate level)
22.0211 tax law (graduate level)
52.1601 tax planning
52.1601 taxation
49.0205 taxi driver
01.0508 taxidermist
01.0508 taxidermy
13.0101 teacher
13.1501 teacher aide
13.0101 teacher development
13.0101 teacher education
13.1334 teacher librarian
13.1003 teacher of the deaf
13.0101 teacher training
13.0101 teaching
13.1303 teaching accounting
13.1303 teaching administration
13.1302 teaching art
13.1501 teaching assistant
13.1320 teaching cooking
13.1015 teaching early childhood special education programs
13.1202 teaching elementary school
13.1305 teaching English
13.1401 teaching English as a second language
13.1401 teaching English to Speakers of Other Languages
13.1401 teaching ESL
13.1306 teaching foreign languages
13.1325 teaching French
13.1402 teaching French as a second language
13.1332 teaching geography
13.1326 teaching German
13.1004 teaching gifted and talented individuals
13.1328 teaching history
13.1333 teaching Latin
13.1310 teaching marketing
13.1311 teaching mathematics
13.1202 teaching normal school
51.3817 teaching nursing
13.1017 teaching of individuals in elementary special education programs
13.1018 teaching of individuals in intermediate school special education programs
13.1018 teaching of individuals in junior high school special education programs
13.1018 teaching of individuals in middle school special education programs
13.1019 teaching of individuals in secondary special education programs
13.1014 teaching of individuals who are developmentally delayed
13.1013 teaching of individuals with autism
13.1005 teaching of individuals with emotional disturbances
13.1007 teaching of individuals with multiple disabilities
13.1008 teaching of individuals with orthopedic and other physical health impairments
13.1011 teaching of individuals with specific learning disabilities
13.1012 teaching of individuals with speech or language impairments
13.1016 teaching of individuals with traumatic brain injuries
13.1009 teaching of individuals with vision impairments
13.1006 teaching of intellectually-impaired individuals
13.1329 teaching physics
13.1303 teaching secretarial skills
13.1330 teaching Spanish
13.1001 teaching special education
09.0908 technical and scientific communication
09.0908 technical communication
10.0105 technical communications assistant
15.1301 technical drafting
15.1301 technical drawing
13.1319 technical education
50.0410 technical illustration
50.0502 technical scenography
13.1319 technical teacher
50.0502 technical theatre
13.1309 technology education
22.0101 technology law (except graduate level)
22.0212 technology law (graduate level)
14.1004 telecommunication engineering
15.0305 telecommunications engineering technician
15.0305 telecommunications engineering technology
52.2101 telecommunications management
15.0305 telecommunications technician
15.0305 telecommunications technology
52.1804 telemarketing
14.0999 telematics and networking engineering
47.0103 telephone installation
46.0303 telephone line installation
46.0303 telephone line repair

46.0303 telephone lineman/linewoman
52.0406 telephone operator
47.0103 telephone repair
52.0411 teleservice
52.0411 teleservice customer representative
10.0202 television and new media production
10.0202 television broadcast technology
10.0202 television broadcasting technician
10.0202 television production technology
16.0799 Telugu
16.0199 terminology and translation
46.0413 terrazzo, tile and marble setter
43.0399 terrorism and counterterrorism operations
13.1401 TESL
13.1401 TESOL
50.0712 textile arts
19.0904 textile chemist
19.0904 textile chemistry
19.0902 textile design
14.2801 textile engineering
19.0902 textile manufacturing
19.0902 textile production
19.0904 textile science
50.0712 textile studies
19.0904 textile technology
16.1407 Thai
16.1407 Thai language and literature
16.1407 Thai literature
38.9999 thanatology
50.0501 theatre
36.0117 theatre (not for credit)
50.0501 theatre arts
50.1004 theatre arts management
50.0501 theatre arts studies
50.0505 theatre criticism
50.0507 theatre directing
50.0505 theatre history
50.0505 theatre history and analysis
50.0505 theatre literature
50.0505 theatre literature, history and criticism
50.0506 theatre performance
50.0507 theatre production
50.0501 theatre studies
50.0502 theatre technical production
50.0502 theatre technician
50.0502 theatrical design
50.1004 theatrical management
39.0601 theological studies
39.0601 theology
40.0511 theoretical chemistry
40.0810 theoretical physics
27.0502 theoretical statistics
38.0199 theory and criticism
51.3501 therapeutic massage
60.0580 therapeutic radiologic physics - residency
51.2309 therapeutic recreation
51.0817 therapy assistant - occupational therapy and physiotherapy
60.0315 theriogenology - residency
46.0414 thermal insulation installer
60.0432 thoracic surgery - residency
38.0202 Tibetan Buddhism
16.0304 Tibetan language and literature
05.0131 Tibetan studies
46.0413 tile layer
46.0413 tilesetter
46.0413 tiling
46.0413 tiling and flooring technician
50.0916 timpani
48.0506 tinsmith
48.0506 tinsmithing
47.0699 tire repair
47.0699 tire specialist
48.0507 tool and die
48.0507 tool and die maker
48.0507 tool and die technician
14.9999 tool engineering
48.0507 tool maker
48.0507 tool making
48.0507 toolmaker
45.0702 topography
27.0105 topology
27.0105 topology and foundations
14.1001 total ship systems engineering
52.0999 tourism and hotel management
52.1905 tourism and travel
52.0903 tourism and travel management
52.0903 tourism and travel services management
52.1906 tourism development
52.1905 tourism marketing
52.1905 tourism marketing management
52.1906 tourism products promotion
52.1906 tourist product development
04.0301 town planning
26.1004 toxicology
49.0205 tractor trailer driver
49.0205 tractor trailer operation
50.0201 traditional arts and crafts
51.3302 traditional Chinese medicine
49.0207 traffic control - flagging
14.0804 traffic engineering
52.0410 traffic technician
49.0208 train conductor
49.0208 train dispatcher
13.0203 training for teachers of Aboriginals
39.0301 trans-cultural mission
16.0103 translation
16.0103 translation and interpretation
60.0581 transplant hepatology - residency
47.0201 transport refrigeration mechanic
47.0201 transport refrigeration service technician
47.0201 transport refrigeration systems technician
47.0201 transport refrigeration technician

47.0613 transport trailer mechanic
47.0613 transport trailer technician
49.0205 transport truck driver
52.0209 transportation administration
52.0410 transportation clerk
14.0804 transportation engineering
52.0209 transportation logistics
52.0209 transportation management
52.0209 transportation/mobility management
03.9999 trapping
51.3816 trauma nursing
52.1905 travel agent
36.0109 travel and exploration (not for credit)
52.1905 travel consultant
52.1905 travel counsellor
52.0903 travel industry management
52.1905 travel marketing
52.1905 travel merchandising
43.0107 tribal police
50.0914 trombone
47.0613 truck and coach mechanic
47.0613 truck and coach technician
47.0613 truck and trailer mechanic
47.0613 truck and transport mechanic
47.0613 truck and transport service technician
47.0613 truck and transport technician
49.0205 truck driver
49.0205 truck driving
49.0205 truck driving instructor
47.0613 truck mechanic
47.0613 truck service technician
49.0205 trucking
47.0613 truck-trailer service technician
50.0914 trumpet
50.0914 tuba
49.0309 tugboat master
01.0607 turf and turfgrass
01.0607 turf maintenance
01.0607 turf management
01.0607 turf science
01.0607 turf technician
01.0607 turfgrass management
01.0607 turfgrass technology
16.1501 Turkish
16.1501 Turkish language and literature
16.1501 Turkish literature
16.1599 Turkmen
47.0101 TV and VCR repair
10.0308 typesetting
52.0408 typing
52.0408 typist
10.0308 typography

U

54.0102 U.S. history
16.1599 Uighur
16.0410 Ukrainian
16.0410 Ukrainian language and literature
16.0410 Ukrainian literature
05.0132 Ukrainian studies
51.0910 ultrasonography
51.0910 ultrasound technician
51.0910 ultrasound technology
15.0901 underground mining
60.0582 undersea and hyperbaric medicine - residency
60.0582 undersea medicine - residency
48.0508 underwater welding
12.0407 unisex hairdressing
53.0102 university preparatory program
48.0303 upholstering
48.0303 upholstery
45.1201 urban affairs
04.0301 urban and regional planning
04.0301 urban and rural planning
01.0699 urban arboriculture
04.0301 urban design
13.0410 urban education and leadership
03.0508 urban forestry
44.0401 urban management
44.0401 urban management and analysis
39.0703 urban ministry
04.0301 urban planning
45.1201 urban studies
04.0301 urban transportation planning
16.0707 Urdu
16.0707 Urdu language and literature
16.0707 Urdu literature
46.0414 urea formaldehyde removal
60.0433 urology - residency
01.0699 utility arborist
16.1599 Uzbek

V

38.0104 value theory and applied ethics
60.0583 vascular and interventional radiology - residency
60.0584 vascular neurology - residency
60.0583 vascular radiology - residency
51.0910 vascular sonography
60.0434 vascular surgery - residency
47.0612 vehicle emissions technician
47.0600 vehicle maintenance
47.0600 vehicle repair
47.9999 vending machine electromechanics
51.2502 veterinary anatomy
60.0301 veterinary anesthesiology - residency
51.0808 veterinary assistant
60.0319 veterinary behaviourist - residency
60.0320 veterinary clinical pharmacology - residency

51.2501 veterinary clinical science (Cert., MS, MSc, PhD)
60.0302 veterinary dentistry - residency
60.0303 veterinary dermatology - residency
60.0304 veterinary emergency and critical care medicine - residency
51.2510 veterinary epidemiology
51.2511 veterinary infectious diseases (Cert., MS, MSc, PhD)
60.0305 veterinary internal medicine - residency
51.2501 veterinary medical science (Cert., MS, MSc, PhD)
51.2401 veterinary medicine (DVM)
60.0307 veterinary microbiology - residency
51.2504 veterinary microbiology and immunobiology (Cert., MS, MSc, PhD)
60.0308 veterinary nutrition - residency
51.0716 veterinary office administration
60.0309 veterinary ophthalmology - residency
51.2511 veterinary parasitology (Cert., MS, MSc, PhD)
60.0310 veterinary pathology - residency
51.2505 veterinary pathology and pathobiology (Cert., MS, MSc, PhD)
51.2503 veterinary physiology (Cert., MS, MSc., PhD)
60.0311 veterinary practice - residency
51.2510 veterinary preventive medecine, epidemiology and public health (Cert., MS, MSc, PhD)
60.0312 veterinary preventive medicine - residency
60.0313 veterinary radiology - residency
51.0712 veterinary receptionist
51.2501 veterinary sciences (Cert., MS, MSc, PhD)
51.0716 veterinary secretary
60.0314 veterinary surgery - residency
51.0808 veterinary technician
51.0808 veterinary technology
60.0316 veterinary toxicology - residency
51.2506 veterinary toxicology and pharmacology (Cert., MS, MSc, PhD)
50.0916 vibraphone
16.1408 Vietnamese
16.1408 Vietnamese language and literature
16.1408 Vietnamese literature
50.0911 viola
50.0911 violin
47.0404 violin maker
47.0404 violin making
50.0911 violin performance
26.0504 virology
26.0909 vision science
50.0101 visual and creative arts
50.0101 visual and performing arts
50.0101 visual arts
13.1302 visual arts education
50.1002 visual arts management
50.0401 visual communications
01.0309 viticulture
50.0908 vocal performance
13.0407 vocational college administration
53.0103 vocational high school diploma
51.2310 vocational rehabilitation counselling
51.2310 vocational rehabilitation counsellor
53.0103 vocational secondary school diploma
13.1319 vocational technical education
50.0908 voice
52.0206 voluntary sector management
52.0206 volunteer management

W

12.0507 waiter/waitress
13.1208 Waldorf teacher education
13.1208 Waldorf/Steiner teacher education
46.0404 wall and ceiling installation
46.0408 wallpaper hanger
11.1002 WAN management
11.1002 WAN manager
28.0801 war studies
51.0703 ward clerk
51.0704 ward supervisor
52.0409 warehouse management
47.0409 warehouse operations
47.0409 warehouse technician
15.0506 waste water treatment
47.0408 watch repair
49.0309 watchkeeping mate
49.0309 watchkeeping officer
47.0408 watchmaking
15.0506 water and waste water treatment
14.0805 water engineering
15.0506 water purification
15.0506 water quality technology
14.0805 water resources engineering
15.0506 water resources engineering technology
40.0605 water resources science
03.0205 water resources technology
15.0506 water systems maintenance
15.0506 water technician
15.0506 water treatment
46.0504 water wells drilling
12.0409 waxing (hair removal)
41.0399 weather observation
41.0399 weather observer
50.0712 weaving
11.0801 web design
11.0801 web design and development
11.1004 web developer
11.1004 web development
11.0801 web page design
11.1004 web site administration
11.0801 web site design
11.1004 web site management

11.1004 webmaster
11.1004 website development
52.0907 wedding planning
48.0508 welder
48.0511 welder-fitter
48.0508 welding
14.9999 welding engineering (university)
15.0614 welding engineering technician
15.0614 welding engineering technologist
15.0614 welding engineering technology
13.1320 welding teacher
48.0508 welding technician
48.0508 welding technology
46.0504 well driller
46.0504 well drilling
51.0001 wellness, health promotion and injury prevention
16.1301 Welsh
16.0499 Wendish
05.0114 West European studies
05.0114 Western European studies
38.0299 Western religions
38.0299 Western religious traditions
15.0704 WHMIS training
11.1002 wide area network management
11.1002 wide area network manager
43.0206 wildland arson investigation and prevention
43.0206 wildland fire investigation and prevention
43.0206 wildland firefighter
03.0207 wildland recreation
03.0601 wildlife and habitat management
26.0709 wildlife biology
03.0208 wildlife conservation officer
26.1301 wildlife ecology
03.0601 wildlife management
03.0601 wildlife management technology
03.0208 wildlife officer
03.0601 wildlife studies
03.0601 wildlife technician
03.0601 wildlife technology
47.0501 wind turbine maintenance technician
47.0501 wind turbine technician
47.0101 winder electrician
12.0510 wine steward
12.0510 wine stewardship
01.0309 wine technology
15.0305 wireless communications technician
15.0305 wireless communications technology
38.0299 women in religion
05.0207 women's and gender studies
12.0407 women's hairdressing
51.3822 women's health nurse
51.3822 women's health nurse practitioner
51.3822 women's health nursing
39.0704 women's ministry
05.0207 women's studies
05.0299 women's, gay and lesbian studies, integrated
14.4001 wood and paper science
03.0599 wood cutting and processing
14.0803 wood engineering
03.0509 wood products processing
03.0509 wood science
03.0509 wood science and technology
47.0616 wooden boat rebuilder/repairer
50.0915 woodwind
48.0701 woodworking
48.0701 woodworking technician
48.0701 woodworking technology
11.0602 word processing
32.0111 workforce development and training
15.0704 workplace hazardous materials information systems training
15.0701 workplace health and safety
48.0701 workshop joiner
48.0701 workshop joinery
54.0199 world history
39.0301 world missions
38.0201 world religions
39.0699 worship and liturgy
39.0699 worship studies
36.0118 writing (not for credit)
50.0504 writing for screen and television

X

51.0911 X-ray technician
51.0911 X-ray technology

Y

16.0599 Yiddish
51.3602 yoga instructor
51.3602 yoga teacher
25.0102 young adult library services
39.0702 youth and family ministry
44.0702 youth care worker
43.0110 youth corrections
44.0702 youth counsellor
43.0110 youth justice
25.0102 youth library services
39.0702 youth ministry
39.0702 youth pastor
44.0702 youth services worker
16.0399 Yuan

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38.0202 Zen Buddhism
60.0317 zoological medicine - residency
26.0701 zoology