SCIENCE
AND ENGINEERING

## VOLUME II:

COLLEGES

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COLLEGES
Introduction ..... 1
Overview ..... 3
Women in Engineering and Applied Sciences ..... 7
Women in Natural Sciences and Primary Industries ..... 11
Women in Health Sciences ..... 15
Women in Social Sciences and Services ..... 19
Technical Notes and Definitions ..... 23
Representative Disciplines within Fields of Study ..... 25
Annex Tables ..... 27

## SYM

The following standard symbols are used in this publication:

- nil or zero.
-- amount too small to be expressed.
NOTE: Some table cells may not sum to the totals shown because of rounding.

CHART ADTREVITHOHS
Eng/Appl Scs - Engineering and Applied Sciences
Nat Scs/Prm Ind - Natural Sciences and Primary Industries
Health - Health Sciences
Social Sciences - Social Sciences and Services
Bus/Commerce - Business and Commerce
Humanities - Humanities
Arts - Arts
Other - Other

This volume is the second in a series of three on women in science and engineering in Canada. It examines the situation of women students, teachers and administrators at public colleges and related institutions. Volume I focused on women students and faculty in universities, and Volume III will explore how women with scientific and engineering backgrounds are participating in the labour force.

Colleges and related institutions offer postsecondary training and career programs, including university transfer programs. These institutions include colleges of applied arts and technology and the Quebec collèges d'enseignement général et professionnel (cégeps), as well as establishments providing training in specialized areas, such as arts, forestry, agriculture, nursing and health technology.

Women's presence in science and engineering career programs in Canada's 204 public colleges is the focus of this volume. Career programs vary widely among institutions and between provinces, as do their entrance requirements and duration. The Statistics Canada data from which this publication was compiled are based on the following definition of a career program:

- high school graduation is normally a prerequisite;
- the program lasts one year or more;
- it leads to a technician's certificate or a technologist's diploma; and
- it is not classified as trade or vocational.

Technicians have one to two years of postsecondary education and apply existing scientific and technical knowledge on the job. Technologists have two or more years of postsecondary education and translate technical designs into working products.

Although women are a majority of career program students and graduates, they accounted for only about $19 \%$ of enrolments in engineering, applied sciences, natural sciences and primary industries technician and technologist programs at Canadian colleges and related institutions in 1989-90, up from $15 \%$ a decade earlier. An almost $25 \%$ drop in overall enrolments in these programs during the 1980s suggests that industry may not be able to find the skills it needs to be competitive, and underlines the importance of making such careers attractive to women.

Women's study and career choices are influenced long before they leave high school. Early sex role stereotyping and the masculine image of science and engineering are largely responsible for the low representation of women in these fields. Lack of information about technician and technologist programs and career opportunities compounds the problem, as does the scarcity of women instructors in science and engineering. Colleges, governments and industry are working to encourage women and men students to enter engineering and natural sciences technician and technologist programs. Parents, teachers and guidance counsellors must do their part by encouraging girls to keep up their science and mathematics. Sustained effort will be needed to ensure that women achieve significant representation in these fields.

## Overview

Just as in the universities, women are now the majority of college career program students in Canada, but still a minority of teaching staff.

In 1989-90, women accounted for 55\% of 214140 college full-time enrolments and 53\% of 626795 university enrolments. The number of women enrolled in colleges full-time increased by $40 \%$ over the period 1977-78 to 1989-90, from 84387 to 118 328. Male full-time enrolment increased by $29 \%$ over the same period, with most of this growth occurring before 1984. They peaked at 108948 in 1984 and declined by $12 \%$ to 95812 in 1989-90. In the fields of engineering, applied sciences, natural sciences and primary industries, total enrolments peaked at 75901 in 1983-84 and declined by $25 \%$ to 57290 in 1989-90.

In 1989, women made up $58 \%$ of the 56732 graduates in college career programs, compared
with $55 \%$ of the 105239 recipients of undergraduate degrees. From 1977 to 1989 , the number of women earning career program diplomas increased by $37 \%$ to a total of 32965 . The number of male graduates grew even faster over the period, by $52 \%$, to a total of 23767 .

Despite their overall majority, women have continued to enrol mainly in traditional female programs. Chart 1 shows that $49 \%$ of female graduates in 1989 were awarded diplomas in the health and social sciences, compared with $17 \%$ of the men. Half of the men, but only $9 \%$ of the women, completed their studies in the engineering and natural sciences/primary industries fields.

In male-dominated fields, women tended to be concentrated in the less technology-intensive programs. For example, in engineering and applied sciences, $52 \%$ of female graduates earned their

Chart 1. Distribution of College Career Program Graduates, by Gender and Program Field, 1989


[^0]Chart 2. Women as a Percentage of Career Program Graduates, by Program Field, 1977 and 1989


Diplomas in mathematics and computer science, compared with $21 \%$ of male graduates. Men were more likely to complete their studies in the engineering technologies ( $43 \%$ ) and the electrical/ electronic technologies (30\%).

In the natural sciences and primary industries field, $67 \%$ of female graduates earned natural sciences diplomas. Male graduates in the field were relatively evenly distributed among the natural sciences ( $31 \%$ ), primary industries ( $34 \%$ ) and environmental and conservation technologies (28\%) (see Annex Tables 1, 2 and 3).

Nonetheless, women have made significant inroads into these fields. Chart 2 shows that between 1977 and 1989, the proportion of women graduating in engineering rose from $11 \%$ to $16 \%$, and in the natural sciences field from $24 \%$ to $32 \%$.

Health (chiefly nursing) was still the most popular field for women in 1989-90, even though female enrolments had declined from $32 \%$ of the total in 1977-78 to $24 \%$. Engineering and applied sciences was the most popular field for men, accounting for $42 \%$ of the total male enrolment. Only 7\% of women chose this field of study in 1989-90.

College career program students were older in 1989-90 than in 1983-84, full-time female students being slightly older than their male counterparts. In $1983-84,81 \%$ of the female and $83 \%$ of the male students were between the ages of 18 and 24. Seven academic years later, the percentage of female and male students in this age bracket had dropped to $71 \%$ and $76 \%$, respectively, while the 25-29 and 30-34 age groups grew. Age breakdowns are not available by field of study.

As in the universities, women were more likely than men to study part-time. In 1989-90, 72700 women were registered in career programs parttime, representing $62 \%$ of these enrolments. Parttime students are not classified to a field of study, since many do not elect a specific program.

Even though women have been the majority of career program students for a decade or more, they held only a third of the teaching and administrative leadership positions in college career programs in 1987-88. That year, $34 \%$ of 14864 full-time teachers and $31 \%$ of 2296 full-time academic administrators were women, an increase from $30 \%$ and $18 \%$, respectively, in 1976-77.

Chart 3. Women as a Proportion of Full-time College Teachers, by Program Field, 1976-77 and 1987-88


A full third of the 5021 female instructors were in the health sciences, compared with $3 \%$ of the 9843 male teaching staff. Conversely, $39 \%$ (3 864) of the men were engineering and applied sciences teachers compared with only $3 \%$ (156) of the women.

Not surprisingly, women in 1987-88 accounted for only $4 \%$ of the 4020 teaching staff in engineering and $14 \%$ of 973 in the natural sciences, but for $86 \%$ of the 1903 health and $48 \%$ of the 6739 social sciences and services teachers.

Chart 4. Engineering and Applied Sciences Career Program Graduates, by Gender, 1989


Source: Annex Tables 1 and 2.

## Trends in Diploma Attainment

The engineering and applied sciences field attracts relatively few female students. In 1989, only $6 \%$ (1931) of the 32965 female college career program graduates completed their studies in this field, a marginal increase from $4 \%$ of the 24052 twelve years earlier. In contrast, $43 \%$ of the 23767 male graduates earned their diplomas in engineering in 1989, about the same proportion as in 1977.

Between 1977 and 1989, the number of female graduates in engineering and the applied sciences increased by $121 \%$, to 1931 . Most of this growth occurred up to 1984, when female graduation peaked at 3210 , thereafter decreasing by $40 \%$. This trend for women was mainly due to the dramatic $456 \%$ increase in the number of female mathematics and computer science graduates over the early years of the period under review, followed by a $55 \%$ decrease between 1984 and 1989.

The number of male graduates in this field also increased over the period, by $50 \%$, to 10116 in 1989. The sharp increase ( $383 \%$ ) in the number of male mathematics and computer science graduates at the beginning of the period was followed by a $23 \%$ decrease between 1985 and 1989. The number of male graduates in the electrical/ electronic technologies and the engineering technologies also decreased substantially over the latter years, by $29 \%$ ( 3817 to 3015 ) and $26 \%$ ( 5817 to 4357 ), respectively.

Within the engineering and applied sciences field, women were less likely than men to have graduated with a diploma in engineering. In 1989, the sciences diploma earners completed their studies in mathematics and computer science, compared with $21 \%$ of the male graduates. Men were more
likely to secure diplomas in engineering technologies ( $43 \%$ ) and electrical/electronic technologies ( $30 \%$ ).

By 1989 , only $16 \%$ of the diploma earners in this field were women, up from $11 \%$ in 1977. Table 2 shows that over the period, technology programs graduated proportionately more women, while the mathematics and computer science programs awarded proportionately fewer diplomas to women. Despite the fact that women were earning more diplomas in the traditionally male-dominated disciplines, it is clear that women were still underrepresented in technology programs.

## Trendis in Enrolment

Enrolment trends in the engineering and applied sciences field mirrored those of the graduates. By 1989-90, women accounted for only $16 \%$ of the 48578 student enrolment in engineering and applied sciences, up from $13 \%$ of 38691 in 1977-78. Even in 1983-84, when the number of women in this field peaked at 64864 , only $18 \%$ of students were women. Between 1977 and 1983, the number of women enrolled in this field increased from 4941 to 11793 , a $139 \%$ increase. Thereafter, their number dropped by $33 \%$ to 7 886. Nonetheless, women's enrolment in the field increased by $60 \%$ over the entire period from 1977-78 to 1989-90.

Chart 5 shows that male enrolment in this field followed the same pattern, increasing by $58 \%$ at the beginning of the period, from 33750 in 1977-78 to 53289 in 1984-85, then dropping by $24 \%$ to 40692 in 1989-90.

Mathematics and computer science was the most popular discipline for women. In 1989-90, $45 \%$ of the 7886 female engineering and applied sciences students were enrolled in this subfield. The second and third most popular disciplines for women were the engineering technologies (chiefly architectural and construction) and the chemical technologies, which attracted $32 \%$ and $13 \%$, respectively, of the female students in this field. Women accounted for $42 \%$ of the 2512 chemical technologies and for $30 \%$ of the 8426 mathematics and computer science students, but for only $12 \%$ of the 20560 engineering technologies students in that academic year.

Table 1. Percentage Distribution of Career Program Graduates in Engineering and Sciences, by Program Field and Gender, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Female | Male | Female | Male |
|  | (percent) |  |  |  |  |  |
| Chemical Technologies | 25 | 5 | 9 | 3 | 15 | 4 |
| Electrical/Electronic Technologies | 4 | 31 | 4 | 30 | 8 | 30 |
| Mathematics and Computer Science | 46 | 8 | 69 | 19 | 52 | 21 |
| Transportation Technologies | 1 | 3 | 1 | 2 | 1 | 2 |
| Engineering Technologies | 25 | 54 | 18 | 45 | 24 | 43 |
| General | 12 | 23 | 8 | 17 | 8 | 13 |
| Mechanical | -- | 13 | 1 | 13 | 3 | 14 |
| Architectural and Construction | 10 | 13 | 7 | - 10 | 11 | 11 |
| Aeronautical | - | - | - |  |  |  |
| Industrial | 1 | 5 | 1 | 5 | 3 | 5 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| Total number | 873 | 6.759 | 3210 | 12815 | 1931 | 10116 |

## College lnstructors

Of all program fields, engineering and applied sciences is the one in which women are the least well represented as teachers. In 1987-88, $39 \%$ of male college teachers but only $3 \%$ of female teachers taught in this field. Four percent of the career program teachers in this field were women, an increase from $1 \%$ in 1976-77. The greatest increase in women's representation was in mathematics and computer science, rising from $4 \%$ of total staff in 1976-77 to $13 \%$ in 1987-88.

Table 2. Women as a Percentage of Engineering and Applied Sciences Career Program Graduates, by Program Field, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (no.) | (\%) | (no.) | (\%) | (no.) |
| Chemical Technologies | 41. | 216 | 39 | 278 | 40 | 286 |
| Electrica//Electronic Technologies | 2 | 33 | 3 | 118 | 5 | 158 |
| Mathematics and Computer Science | 41 | 400 | 47 | 2222 | 33 | 1005 |
| Transportation Technologies | 4 | 9 | 9 | 29 |  | 18 |
| Engineering Technologies | 6 | 215 | 9 | 563 | 10 | 464 |
| General | 6 | 108 | 1.1 | 261 | 10 | 152 |
| Mechanical | - | 4 | 2 | 35 | 4 | 54 |
| Architectural and Construction | 9 | 90 | 16 | 236 | 16 | 207 |
| Aeronautical | - | - | - | - | 2 | 1 |
| Industrial | 4 | 13 | 4 | 31 | 9 | 50 |
| Total | 11 | 873 | 20 | 3210 | 16 | 1931 |

[^1]Chant 5. Full-time Enrolment in College Career Programs in Engineering and Applied Sciences, by Gender, 1977-78 to 1989-90


Table 3. Full-time College Teachers in Engineering and Applied Sciences, by Teaching Field and Gender, 1976-77 and 1987-88

| Teaching field | Total teaching staff |  |  | Academic administrators |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Total | Female | Male | Total |
|  | (number) |  |  |  |  |  |
| 1976.77 |  |  |  |  |  |  |
| Auto Aircraft and Heavy |  |  |  |  |  |  |
| Duty Mechanics | 1 | 549 | 550 | - | 47 | 47 |
| Construction Technologies | - | 264 | 264 | - | 37 | 37 |
| Electronics/Electrical |  |  |  |  |  |  |
| Engineering Technologies | 12 | 1024 | 1036 | 2 | 77 | 79 |
| Mathematics and Computer |  |  |  |  |  |  |
| Total | 25 | 2630 | 2655 | 3 | 230 | 233 |
| 1987.88 |  |  |  |  |  |  |
| Auto Aircraft and Heavy |  |  |  |  |  |  |
| Duty Mechanics | 17 | 819 | 836 | - | 63 | 63 |
| Construction Technologies 2 359 361 1 41 42  <br> Electronics/Electrical        |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Engineering Technologies | 57 | 1506 | 1563 | 4 | 100 | 104 |
| Mathematics and Computer |  |  |  |  |  |  |
| Science | 56 | 362 | 418 | 4 | 30 | 34 |
| Total | 156 | 3864 | 4020 | 9 | 318 | 327 |

Source: Statistics Canada, Education, Culture and Tourism Division.

The average age and experience of female teachers declined in the period under review. In 1976-77, the median ages of male and female teaching staff were 42 and 41 years of age, respectively. By 1987-88, the median age of males had increased to 45 while that of women had decreased to 37 years. The average years of experience of teaching staff increased by 7.5 years to 11.5 years for men between 1976-77 and 1987-88, and decreased slightly for women, from 7.1 years to 6.8 years over this same period (see Annex Tables 10 and 11).

Women academic administrators are also overwhelmingly outnumbered by men in engineering and applied sciences. Women academic administrators in this field accounted for $1 \%$ of the total in 1976-77, and for only $3 \%$ in 1987-88.

## Women in Natural Sciences and Primary Industries

Chart 6. Natural Sciences and Primary Industries Career Program Graduates, by Gender, 1989


Source: Annex Tables 1 and 2.

## Trends in Diploma Attainment

Natural sciences and primary industries was the least popular science field among women. In 1989, only $3 \%$ (863) of the 32965 female career program graduates completed their studies in this field, a marginal increase from $2 \%$ (557) in 1977. However, this field was also attracting fewer men. In $1989,8 \%(1810)$ of the 23767 male graduates earned their diplomas in natural sciences and primary industries, down from $11 \%$ in 1977.

As with engineering and applied sciences, most of the growth in the natural sciences and primary industries field occurred prior to 1984, when an all-time high of 1073 women graduated. In 1989, women were awarded 863 diplomas, an overall increase of $55 \%$ since 1977 but $20 \%$ fewer than in 1984.

Male graduation in this field grew at a much slower pace over the thirteen-year period. In 1989, 1810 men were awarded diplomas, an increase of only $5 \%$ since 1977 . As with women, the number of male diploma recipients peaked in 1984 at 2467 , thereafter declining by $27 \%$ to 1810 in 1989.

Table 4 shows that in 1989, as in 1977, women were concentrated in the natural sciences field, which includes agriculture, biology, plant and animal sciences programs. In 1977, almost half of the men secured a diploma in the primary indus- more evenly distributed among the primary industries, natural sciences and environmental and conservation technologies.

Over the years, growth in the number of diplomas awarded in this field has been greater for women than for men. As shown in Table 5, women comprised close to a third of the total graduates in this field by 1989, compared with a quarter in 1977. Although the field remained male-dominated overall, by 1989 women were earning $50 \%$ of the diplomas in the natural sciences program. Women were also better represented in the resource processing technologies (chiefly food processing), where they constituted $36 \%$ of the graduates by 1989 .

## Tremeds in Enrolment

Enrolments of women in this field have grown more slowly than the number of female graduates. Between 1977-78 and 1989-90, female enrolment increased by $36 \%$, from 1997 to 2719 . Chart 7 shows that throughout the 1980s, the number of female students in this field has been stable, while men's enrolment rose by $33 \%$ between 1977 and 1982-83, to 7940 , then fell back to the 1977 level (5993).

By 1989, women accounted for $31 \%$ of the students in this field, up from $25 \%$ in 1977. Female students enrolments in the natural sciences rose

Table 4. Percentage Distribution of Career Program Graduates in Natural Sciences and Primary Industries, by Program Field and Gender, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Female | Male | Female | Male |
|  | (percent) |  |  |  |  |  |
| Natural Sciences Primary Industries | 6613 | 2945 | 6118 | 3247 | 6711 | 3134 |
|  |  |  |  |  |  |  |
| Resource Processing Technologies | 5 | 4 | 5 | 5 | 8 | 7 |
| Environmental and Conservation Technologies | $\begin{array}{r} 15 \\ 100 \end{array}$ | $\begin{array}{r} 22 \\ 100 \end{array}$ | 15100 | $\begin{array}{r} 16 \\ 100 \end{array}$ | 14.100 | 28100 |
| Total |  |  |  |  |  |  |
| Total number | 557 | 1730 | 1073 | 2467 | 863 | 1810 |
| Source: Annex Tables 1 and 2. |  |  |  |  |  |  |

from $40 \%$ to $50 \%$ over the period, and from $17 \%$ to $24 \%$ in the resource processing technologies, but dropped from $26 \%$ to $20 \%$ in the environmental technologies. The actual number of women in the technology programs was small, as $66 \%$ of the female students in the field were enrolled in the natural sciences (see Annex Table 4).

Chart 7. Full-time Enrolment in College Career Programs in Natural Sciences and Primary Industries, by Gender, 1977-78 to 1989-90


Source: Annex Tables 3, 4 and 5.

Table 5. Women as a Percentage of Natural Sciences and Primary Industries Career Program Graduates, by Program Field, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | (\%) | (no.) | $(\%)$ | (no.) $)$ | $(\%)$ | (no.) |
| Natural Sciences | 42 | 367 | 46 | 656 | 50 | 577 |
| Primary Industries | 9 | 75 | 15 | 1998 | 14 | 99 |
| Resource Processing Technologies | 30 | 29 | 31 | 58 | 36 | 69 |
| Environmental and Conservation | 18 | 86 | 29 | 161 | 19 | 118 |
| $\quad$ Technologies | 24 | 557 | 30 | 1073 | 32 | 863 |
| Total |  |  |  |  |  |  |
| Source: Annex Tables 1 and 3. |  |  |  |  |  |  |

Table 6. Full-time College Teachers in Natural Sciences and Primary Industries, by Teaching Field and Gender, 1976-77 and 1987-88

| Teaching field | Total teaching staff |  |  | Academic administrators |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Total | Female | Male | Total |

(number)

| 1976.77 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Agriculture and other |  |  |  |  |  |  |
| Primary Industries | 18 | 265 | 283 | 1 | 41 | 42 |
| Natural Sciences | 40 | 418 | 458 | 2 | 42 | 44 |
| Processing and Manufacturing |  |  |  |  |  |  |
| Total | 70 | 772 | 842 | 3 | 91 | 94 |
| 1987.88 |  |  |  |  |  |  |
| Agriculture and other |  |  |  |  |  |  |
| Primary Industries | 43 | 329 | 372 | 6 | 61 | 67 |
| Natural Sciences | 73 | 405 | 478 | 6 | 36 | 42 |
| Processing and Manufacturing |  |  |  |  |  |  |
| Total | 134 | 839 | 973 | 14 | 103 | 117 |

[^2]
## College Instructors

In 1987-88, $3 \%$ of all female and $9 \%$ of all male college teaching staff were natural sciences and primary industries instructors (see Annex Table 9). Because the total number of female instructors in the field was considerably smaller than that of men, women made up only $14 \%$ of the natural sciences and primary industries teachers that year, up from $8 \%$ in 1976-77.

Although the teaching staff in this field are aging, female instructors are younger and have less teaching experience than their male counterparts. In 1976-77, the median ages of male and female instructors were 39 and 34 years of age, respectively. By 1987-88, the median ages of male and female staff had increased to 44 and 39 years, respectively. Over this same period, the average years of teaching experience jumped from 8.2 to 12.3 years for men and from 6.5 to 8 years for women.

Women's representation among administrators in the field has also improved over the years. By 1987-88, $12 \%$ of the academic administrators in this field were women, up from $3 \%$ in 1976-77. Although female teachers and administrators are gaining ground, they are very obviously underrepresented in this field. Even in the natural sciences, where women represent $50 \%$ of students, women held only $15 \%$ of the teaching and $14 \%$ of the administrative positions.

## Women in Health Sciences

Chart 8. Health Sciences Career Program Graduates, by Gender, 1989


Source: Annex Tables 1 and 2.

## Trends in Diploma Attainment

Although health has consistently been the most popular field among women, it is losing ground to other college career program fields. In 1989, $29 \%$ of all female graduates earned their diplomas in the health programs, down from $44 \%$ in 1977. On the other hand, consistently more men are completing diplomas in health: $8 \%$ in 1989, representing an increase of three percentage points from the $5 \%$ in 1977.

Women earned 9696 career program diplomas in the health sciences in 1989, a 9\% drop since 1977. Contrary to the trends for graduates in the natural sciences and primary industries and in engineering and applied sciences, the number of female health sciences graduates fell during the early part of the period under review, from 10691 in 1977
to 8444 in 1982. It increased thereafter, but did not recover to the 1977 level because of the fewer women completing studies in nursing: 6892 in 1989 compared with 8071 in 1977.

The number of men graduating in the health sciences, while low, increased by $84 \%$ from 991 in 1977 to 1824 in 1989. Between 1977 and 1989, growth was greatest for male diploma recipients in nursing ( $133 \%$ increase) and medical equipment and prosthetics ( $81 \%$ increase).

As Table 7 shows, there has been little change in the distribution of women among health programs was nursing, which accounted for $71 \%$ of the female diploma recipients, down from $75 \%$ twelve years earlier.

Over the thirteen-year period, the most popular programs for males were diagnostic and treatment medical technologies and nursing, which together accounted for $83 \%$ of the male graduates. The proportion of men graduating with a nursing diploma increased from $32 \%$ in 1977 to $40 \%$ in 1989 at the expense of diagnostic and treatment medical technologies.

The health sciences field is somewhat less femaledominated than it was twelve years earlier. In 1989 , $84 \%$ of all graduates in this field were women, down from $92 \%$ in 1977. Table 8 shows that although male representation in the field has increased, women still accounted for the vast majority of graduates in three of the four programs in the field and are gaining ground in the only male-dominated program, medical equipment and prosthetics technologies. Women's participation in this program increased from $29 \%$ of graduates in 1977 to $44 \%$ in 1989.

## Tremels in Enrolments

From 1977-78 to 1989-90, female and male enrolment in the health sciences increased by $7 \%$ and $84 \%$, respectively. Whereas male enrolment increased steadily to 5593 , female enrolments dipped

Table 7. Percentage Distribution of Career Program Graduates in Heath Sciennces, by Program Field and Gender, 1977, 1984 and 1988

| . Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Female | Male | Female | Male |
|  | (percent) |  |  |  |  |  |
| Nursing | 75 | 32 | 72 | 32 | 71 | 40 |
| Diagnostic and Treatment Medical Technologies | 21 | 50 | 22 | 49 | 23 | 43 |
| Medical Equipment and Prosthetics | - | 9 | 1. | 9 | 1 | 9 |
| Other Health-related Technologies <br> Total | +100 | $\begin{array}{r} 8 \\ 100 \end{array}$ | $\begin{array}{r} 5 \\ 100 \end{array}$ | $\begin{array}{r} 10 \\ 100 \end{array}$ | 100 | 100 |
| Total number | 10691 | 991 | 9406 | 1325 | 9696 | 1824 |
| Source: Annex Tables 1 and 2 |  |  |  |  |  |  |

by $10 \%$ between 1977-78 and 1980-81 to 24273 , then increased to 28831 in 1989-90.

The distribution of women among health programs remained the same over the years. In 1989-90, $73 \%$ of the female students were registered in nursing and $21 \%$ in diagnostic and medical treatment technologies. As in 1977-78, most male students were also enrolled in these two programs in 1989-90.

Chart 9. Full-time Enrolment in College Career Programs in Health Sciences, by Gender, 1977-78 to 1989-90


Source: Annex Tables 3, 4 and 5.

Table 8. Women as a Percentage of Health Sciences Career Program Graduates, by Program Field, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (no.) | (\%) | (no.) | 1\%) | (no.) |
| Nursing | 96 | 8071 | 94 | 6772 | 90 | 6892 |
| Diagnostic and Treatment Medical Technologies | 82 | 2221 | 76 | 2097 | 74 | 2189 |
| Medical Equipment and Prosthetics | 29 | 36 | 43 | 87 | 44 | 126 |
| Other Health-related Technologies | 80 | 363 | 77 | 450 | 76 | 489 |
| Total | 92 | 10691 | 88 | 9406 | 84 | 9696 |

[^3]Nursing attracted relatively more male students by 1989-90: $46 \%$ of those enrolled in the field, up from $30 \%$ twelve years earlier. Proportionately fewer male students were registered in the medical treatment technologies in 1989-90 (39\%) than in 1977-78 (51\%).

Because of the greater number of male nursing and medical treatment technologies students in $1989-90$, women made up $89 \%$ and $73 \%$ of the students in these subfields, down from $96 \%$ and $78 \%$, respectively, in 1977-78.

## College Instructors

Although there have been some shifts over the years in the distribution of female staff among fields, the health sciences still account for most of the female college teachers. In 1987-88, 32\% of all female teachers were health sciences instructors, a decrease of 10 percentage points from $42 \%$ in 1976-77. Only $3 \%$ of total male teachers were health sciences instructors. Consequently, women accounted for $86 \%$ of the health sciences teachers, a percentage comparable with that in 1976-77.

Analysis of the median age and years of experience for health sciences teachers indicates that there has not been much recruitment of younger teachers into the field. In 1976-77, the median age for both male and female teachers was 35 years. By 1987-88 it had risen to 42 years of age. The average years of teaching experience for men and women were 5.4 and 6.1, respectively, at the beginning of the period, and 11.6 and 11.3 years by 1987-88.

Female academic administrators in the health sciences rose from $66 \%$ of the total, or 73 women, in 1976-77 to $76 \%$, or 75 women, in 1987-88. Although this was a substantial increase, women in this field were not as well represented in administrative leadership positions as they were among teaching ones.

Chart 10. Female Health Sciences College Instructors, 1976-77 and 1987-88


Women 1976-77
(100\% = 3 099)


Women 1987-88 ( $100 \%=5021$ )

[^4]
## Women in Social <br> Sciences and Services

Chart 11. Social Sciences and Services Career Program Graduates, by Gender, 1989


Women
$(100 \%=32965)$


Source: Annex Tables 1 and 2.

## Trends in Diploma Attainment

The social sciences and services field is the second most popular field for women after the health sciences. In 1989, 20\% of all 32965 female career program graduates completed their studies in this field, a slight increase from $18 \%$ of 24052 women graduates in 1977. Only 9\% (2 234) of the male graduates secured social sciences diplomas in 1989, the same share as in 1977.

In 1989, this field thus awarded 6509 career program diplomas to women, an increase of $52 \%$ since 1977. Unlike in other fields, the number of female graduates rose fairly steadily over the thirteen-year period. The largest growth in female graduations occurred in protection and correction services ( $221 \%$ increase), followed by social sciences ( $102 \%$ increase), and recreation and sport programs ( $37 \%$ increase).

Between 1977 and 1989, the number of men graduating with a social sciences diploma increased by $54 \%$, from 1454 to 2234 . Growth in male graduations was also greatest in the protection and correction services ( $159 \%$ increase), followed by the social sciences ( $70 \%$ increase). The number of male diploma recipients in educational and counselling services decreased by $48 \%$ from 309 to 160.

There were some shifts in the distribution of women graduates among programs. Although educational and counselling services still graduated the largest share of women, their concentration in this program at $35 \%$ was not as great as in 1977 (44\%). Proportionately more women graduated with a diploma in protection and correction services by $1989,13 \%$, up from $6 \%$ in 1977.

By 1989, male graduates were far more likely to earn their diplomas in the protection and correction services than they were in 1977, at the expense of the educational and counselling services.

Table 10 shows that women have consistently made up the majority of graduates in all subfields of the social sciences and services except for protection and correction services, despite the increase in the number of male graduates in this field.

## Trends in Enrolments

Over the thirteen-year period, female and male enrolment in the social sciences and services field has grown steadily, by $65 \%$ and $54 \%$, respectively.

The most popular subfields for women were educational and counselling services and the social services, which accounted for $35 \%$ and $31 \%$ of all female students in this field. The most popular programs for men were protection and correction services as well as recreation and sport programs, which accounted for $58 \%$ and $19 \%$ of male enrolments, respectively.

Table 9. Percentage Distribution of Career Program Graduates in Social Sciences and Services, by Program Field and Gender, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female | Male | Female | Male | Female | Male |
|  | (percent) |  |  |  |  |  |
| Protection and Correction |  |  |  |  |  |  |
| Services. | 6. | 35 | 12 | 53 | 13 | 59 |
| Social Services | 27 | 17 | 27 | 12 | 31 | 12 |
| Recreation and Sport | 20 | 25 | 20 | 20 | 18 | 20 |
| Educational and Counselling | 44 | 21 | 38 | 13 | 35 | 7 |
| Personal Development | - |  | -- | -- | - | - |
| Social Sciences | 2 | 2 | 2 | 1 | 3 | 2 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |
| Total number | 4292 | 1454 | 5961 |  | . 6509 | 2234 |

Source: Annex Tables 1 and 2.

## College Instructers

In contrast to other fields, close to half (48\%) of the social sciences teaching staff were women in 1987-88, up from 35\% in 1976-77.

Chart 12. Full-time Enrolment in College Career Programs in Social Sciences and Services, by Gender, 1977-78 to 1989-90


Table 10. Wamen as a Percentage of Social Sciences and Services Career Program Graduates, by Program Field, 1977, 1984 and 1989

| Program field | 1977 |  | 1984 |  | 1989 |  | Staff position | Female | Male | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (\%) | (no.) | (\%) | (no.) | (\%) | Ino. 1 |  |  | (number) |  |
| Protection and Correction |  |  |  |  |  |  | 1976.77 |  |  |  |
| Services | 35 | 268 | 40 | 741 | 40 | 861 | Teaching staff | 255 | 475 | 730 |
| Social Services | 83 | 1167 | 87 | 1634 | 88 | 2006 | Administrators | 16 | 50 | 66 |
| Recreation and Sport | 70 | 844 | 74 | 1175 | 73 | 1154 |  |  |  |  |
| Educational and Counselling |  |  |  |  |  |  | 1987.88 |  |  |  |
| Services | 86 | 1908 | 89 | 2284 | 93 | 2298 | Teaching staff | 586 | 643 | 1229 |
| Personal Development | 79 | 11 | 44 | 8 | $\checkmark$ |  | Administrators | 25 | 37 | 62 |
| Social Sciences | 78 | 94 | 82 | 119 | 81 | 190 |  |  |  |  |
| Total | 75 | 4292 | 74 | 5961 | 74 | 6509 | Source: Annex Table 9. |  |  |  |

Source: Annex Tables 1 and 3.

Female social sciences teachers were younger than their male counterparts. On average, the male social sciences teacher was 43 years of age and had 11.3 years of teaching experience in 1987-88. The average female instructor was 39 years old with 8.8 years of teaching experience (see Annex Tables 10 and 11).

Table 11. Full-time College Teachers in Social Services, by Staff Position and Gender, 1976-77 and 1987-88

Women's representation among academic administrators in the social sciences has also improved, from $24 \%$ in 1976-77 to $40 \%$ in 1987-88. However, the numbers are small. Female administrators increased in number from 16 to 25 , while the number of men fell from 50 to 37 over this period.

The analysis in this fact book is based on data obtained from the Education, Culture and Tourism Division of Statistics Canada.

College - includes all institutions providing postsecondary education, apart from the university (degree-granting) system, such as colleges of applied arts and technology, the Quebec collèges d'enseignement général et professionnel (cégeps), technical institutes and other establishments providing training in specialized fields such as agriculture, arts and forestry and/or university transfer programs. Training facilities in hospitals, such as schools of nursing and other health sciences technologies, which provide postsecondary career programs, are also included.

Career Program - prepares a student to enter an occupation upon completion of the program, at an occupational level between that of the university-trained professional and the skilled tradesperson. Secondary school completion or equivalent is a normal prerequisite for entry. These programs require at least one school year of 24 weeks or more, but more commonly last two or three years and sometimes longer. One-year programs usually lead to a certificate whereas the longer programs lead to a diploma. Unless otherwise indicated, hospital-based training in nursing and health technologies is included in this classification.

Teacher - includes both postsecondary and trades teachers, since some teach at both levels. Teachers are classified to postsecondary or trades accord-
ing to the percentage of time spent teaching at each level.

Technician - is an individual who has one to two years of postsecondary education or equivalent in a technical institute or college in a current science or engineering technology. Technicians are the specialists who apply existing technological knowledge.

Technologist - is an individual who has two or more years of postsecondary education or equivalent in a technical institute or college in a current science or engineering technology. Technologists are the specialists who translate designs into working models and provide data for ongoing design and quality control for technology applications.

Full-time/Part-time Student - has no commonly accepted definition, so Statistics Canada reports full-time or part-time registration status as supplied by each respondent. Roughly 75\% of parttime career enrolment is not classified to a field of study or to a gender. Therefore, part-time enrolment trends are not included in this publication.

Foreign Student - is a non-Canadian student who does not have 'permanent resident"' status. Because foreign students account for only $1 \%$ of total student enrolment in Canadian colleges, a further breakdown by program field and gender is not included in this report.

Age Group - is not available for breakdown by program field.

## Engineering and Applied Sciences

Chemical Technologies
Chemical Engineering Technologies
Biochemical Technologies
Metallurgical Chemical Technologies
Industrial Chemical Technologies
Photographic Chemical Technology
Chemistry
Electrical/Electronic Technologies
Electrical/Electronic Engineering Technologies
Avionics Technologies
Marine Electronics Technologies
Electromechanical Technologies
Telecommunications Technologies
Mathematics and Computer Science
Mathematics
Computer Science
Transportation Technologies
Air Transportation
Motor Transportation
Rail Transportation
Marine Transportation
Engineering Technologies
Engineering - General
Engineering - Mechanical
Engineering - Architectural and Construction
Engineering - Aeronautical
Engineering - Industrial

## Natural Sciences and Primary Industries

Natural Sciences
Agriculture
Agricultural Technology/Science/Engineering
Agricultural Business
Biology
Plant Sciences
Animal Sciences

Primary Industries
Forestry Technologies
Mining Technologies
Fishing Technologies
Hunting and Trapping
Petroleum Resources Technology
Resource Processing Technologies
Forest Products Processing
Metal Processing
Petroleum Refining Technologies
Food Processing Technologies
Environmental and Conservation Technologies
Environmental Control/Protection Technologies
Land Resources Technologies
Wildlife and Forest Conservation Technologies
Water Science Technologies
Air Purification Technologies

## Health Sciences

Nursing
Diploma Nursing
Nursing Aide/Orderly
Nursing Refresher
Psychiatric or Mental Health Nursing
Dental Nursing
Diagnostic and Treatment Medical Technologies
Emergency Paramedical Technologies
Chiropractic Technologies
Medical Laboratory Technologies
X-ray/Radiology/Radiotherapy/Nuiclear Medicine
Technologies
Combined Laboratory and X-ray Technology
Physiotherapy
Dental Hygiene/Assistant Technologies
Pharmacy Technologies

Medical Equipment and Prosthetics
Dental Appliances
Optical Prosthetics/Lenses
Orthopedic Prosthetics
Auditory Prosthetics
Other Health-related Technologies
Dietetics/Dietary Technologies
Mental Health Technologies
Speech Therapy
Health Care Support Technologies
Biological Sciences Technologies
Public/Environmental Health
Health Education

Communications Skills Development Life Skills<br>Occupational Skills Development<br>Social Sciences<br>Anthropology<br>Archaeology<br>Economics<br>Geography<br>Political Science<br>Psychology<br>Sociology

## Arts

Fine Arts
Commercial and Promotional Arts
Graphic and Audio-visual Arts
Creative and Design Arts
Personal Arts
Mass Communications
Other Applied Arts

## Humanities

Journalism
Library Science
Religion/Theology
Languages
History
Philosophy
Other Humanities

## Business and Commerce

Secretarial Science
Management and Administration
Merchandising and Sales
Service Industry Technologies
Annex Table 1. Female Graduates of College Career Programs, by Program Field, 1977 to 1989 ..... 28
Annex Table 2. Male Graduates of College Career Programs, by Program Field, 1977 to 1989 ..... 29
Annex Table 3. Total Graduates of College Career Programs, by Program Field, 1977 to 1989 ..... 30
Annex Table 4. Full-time Enrolment of Women in College Career Programs, by Program Field, 1977-78 to 1989-90 ..... 31
Annex Table 5. Full-time Enrolment of Men in College Career Programs, by Program Field, 1977-78 to 1989-90 ..... 32
Annex Table 6. Full-time Total Enrolment in College Career Programs, by Program Field, 1977-78 to 1989-90 ..... 33
Annex Table 7. College Career Program Enrolment, by Age Group, 1983-84 and 1989-90 ..... 34
Annex Table 8. Part-time Enrolment in College Career Programs, 1983, 1986, 1987, 1988 and 1989 ..... 34
Annex Table 9. Full-time College Teachers, by Teaching Field, Staff Position and Gender, 1976-77 to 1987-88 ..... 35
Annex Table 10. Median Age of Full-time College Teachers, by Teaching Field and Gender, 1976-77 to 1987-88 ..... 36
Annex Table 11. Full-time College Teachers, by Average Years of Experience, Teaching Field and Gender, 1976-77 to 1987-88 ..... 37

Annex Table 1. Female Graduates of College Career Programs, by Program Field, 1977 to 1989

| Program field | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | (number) |  |  | . |  |  |  |
| Engineering and Applied Sciences | 873 | 1084 | 1338 | 1336 | 1646 | 2016 | 2363 | 3210 | 3205 | 2789 | 2345 | 2080 | 1931 |
| Chemical Technologies | 216 | 262 | 311 | 274 | 274 | 283 | 282 | 278 | 284 | 311 | 306 | 284 | 286 |
| Electrica/Electronic Technologies | 33 | 45 | 41 | 44 | 54. | 55 | 68 | 118 | 197 | 226 | 206 | 180 | 158 |
| Mathematics. and Computer Science | 400 | 463. | 587 | 576 | 818 | 1125 | 1458 | 2222 | 2105 | 1658 | 1280 | 1091 | 1005 |
| Transportation Technologies | 9 | 14 | 13 | 14 | 11 | 7 | 9 | 29 | 34 | 47 | 24 | 21 | 18 |
| Engineering Technologies | 215 | 300 | 386 | 428 | 489 | 546 | 546 | 563 | 585 | 547 | 529 | 504 | 464 |
| General | 108 | 128 | 177 | 177 | 206 | 211 | 269 | 261 | 243 | 219 | 201 | 162 | 152 |
| Mechanical | 4 | 14 | 12 | 16 | 13 | 26 | 30 | 35 | 34 | 47 | 54 | 41 | 54 |
| Architectural and Construction | 90 | 139 | 169 | 214. | 228 | 275 | 213 | 236 | 250. | 224 | 221. | 238 | 207 |
| Aeronautical. |  | -. | - | - | - | - | - | - | - | - | - | 1 | 1 |
| Industrial | 13 | 19 | 28 | 21 | 42 | 34 | 34 | 31 | 58 | 57 | 53 | 62 | 50 |
| Natural Sciences and Primary Industries | 557 | 696 | 813 | 878 | 999 | 970 | 1072 | 1073 | 1036 | 1054. | 1007 | 795 | 863 |
| Natural Sciences | 367 | 456 | 584 | 556 | 608 | 584 | 665 | 656 | 676 | 709 | 691 | 559 | 577 |
| Primary Industries | 75 | 86 | 82 | 117 | 164 | 159 | 203 | 198 | 145 | 137 | 119 | 88 | 99 |
| Resource Processing Technologies | 29 | 34 | 21 | 39 | 51 | 50 | 33 | 58 | 49 | 51. | 76 | 42 | 69 |
| Environmental and Conservation Technologies | 86 | 120 | 126 | 166. | 176 | 177 | 171 | 161 | 166. | 157 | 121 | $106^{\circ}$ | 118 |
| Health Sciences | 10691 | 9717 | 9327 | 8723 | 8657 | 8444 | 8529 | 9406 | 9677 | 9068 | 9634 | 9466 | 9696 |
| Nursing | 8071 | 7225 | 6791 | 6564 | 6431 | 6179 | 6301 | 6772 | 7056 | 6530 | 6952 | 6778 | 6892 |
| Diagnostic and Treatment Medical Technologies | 2221 | 2150 | 2141 | 1847 | 1906 | 1913 | 1839 | 2097 | 2113 | 2023 | 2108 | 2.132 | 2189 |
| Medical Equipment and Prosthetics | 36 | 30 | 70 | 77 | 82 | 55. | 66 | 87 | 84 | 97 | 115 | 108 | 126 |
| Other Health-related Technologies | 363 | 312 | 325 | 235 | 238 | 297 | 323 | 450 | 424 | 418 | 459 | 448 | 489 |
| Social Sciences and Services | 4292. | 4693 | 4811 | 4803 | 5155 | 5140 | 5421 | 5961 | 5908 | 5815 | 6155 | 6413 | 6509 |
| Protection and Correction Services | 268 | 316 | 446 | . 471 | 488 | 510 | 610 | 741 | 778 | 772 | 861 | 955 | 861 |
| Social Services | 1167 | 1267 | 1299 | 1290 | 1338 | 1273 | 1400 | 1634 | 1616 | 1640 | 1675 | 1887 | 2006 |
| Recreation and Sport | 844 | 932 | 900 | 964 | 1138 | 1208 | 1078 | 1175 | 1104 | 1059 | 1212 | 1257 | 1754 |
| Educational and Counselling Services | 1908 | 2027 | 1990. | 1919 | 2034 | 1982 | 2224 | 2284. | 2260 | 2189 | 2256 | 2.117 | 2298 |
| Personal Development | 11 | 13 | 9 | 17 | 18 | 19 | 14 | 8 | 17 | - | - | - | - |
| Social Sciences | 94 | 138 | 167 | 142 | 139 | 148 | 95 | 119 | 133 | 155 | 151 | 197 | 190 |
| Other | 7639 | 8823 | 10087 | 11580 | 11864 | 12647 | 12731 | 14250 | 13793 | 13622 | 14097 | 13957 | 13966 |
| Arts | 1522 | 1615 | 2183 | 2459 | 2584 | 2768 | 2573 | 2613 | 2526 | 2452 | 2599 | 2684 | 2715 |
| Humanities | 480 | 512 | 559 | 502 | 485 | 495 | 532 | 640 | 618 | 617 | 620 | 646 | 617 |
| Business and Commerce | 5413 | 6453 | 7248 | 8478 | 8656 | 9250 | 9440 | 10807 | 10419 | 10355 | 10646 | 10400 | 10376 |
| Other* | 224 | 243 | 97 | 141 | 139 | 134 | 186 | 190 | 230 | 198 | 232 | 227 | 258 |
| Total, all fields | 24052 | 25013 | 26376 | 27320 | 28321 | 29217 | 30116 | 33900 | 33619 | 32348 | 33238 | 32711 | 32965 |

[^5]Annex Table 2. . Male Graduates of College Career Programs, by Program Field, 1977 to 1989

| Program field | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (number) |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering and Applied Sciences | 6759 | 7609 | 8169 | 8781 | 9366 | 10034 | 10737 | 12815 | 13560 | 13054 | 11692 | 10743 | 10116 |
| Chemical Technologies | 305 | 324 | 375 | 395 | 383 | 473 | 407 | 436 | 382 | 471 | 464 | 439 | 435 |
| Electrical/Electronic Technologies | 2065 | 2361 | 2599 | 2641 | 2721 | 2925 | 2948 | 3817 | 4260 | 4392 | 3741 | 3549 | 3015 |
| Mathematics and Computer Science | 564 | 609 | 625 | 735 | 949 | 1184 | 1609 | 2463 | 2725 | 2604 | 2297 | 2191 | 2087 |
| Transportation Technologies | 200 | 221 | 256 | 243 | 289 | 272 | 334 | 282 | 294 | 237 | 259 | 176 | 222 |
| Engineering Technologies | 3625 | 4094 | 4314 | 4767 | 5024 | 5180 | 5439 | 5817 | 5899 | 5350 | 4931 | 4388 | 4357 |
| General | 1555 | 1788 | 1865 | 1957 | 2079 | 1951 | 2113 | 2168 | 2196 | 1958 | 1672 | 1387 | 1352 |
| Mechanical | 849 | 1037 | 1055 | 1274 | 1241 | 1472 | 1455 | 1706 | 1581 | 1460 | 1390 | 1343 | 1370 |
| Architectural and Construction | 884 | 924 | 1093 | 1161 | 1185 | 1185 | 1238 | 1235 | 1306 | 1188 | 1061 | 1038 | 1087 |
| Aeronautical | 7 | 9 | 6 | 15 | 27 | 10 | 18 | 10 | 23 | 30 | 32 | 40 | 47 |
| Industrial | 330 | 336 | 295 | 360 | 492 | 562 | 615 | 698 | 793 | 714 | 776 | 580 | 501 |
| Natural Sciences and Primary Industries | 1730 | 2017 | 1996 | 2092 | 2200 | 2171 | 2354 | 2467 | 2459 | 2311 | 2120 | 1859 | 1810 |
| Natural Sciences | 498 | 667 | 686 | 745 | 760 | 685 | 745 | 783 | 854 | 805 | 724 | 565 | 566 |
| Primary Industries | 783 | 851 | 847 | 863 | 943 | 967 | 1098 | 1152 | 997 | 905 | 785 | 667 | 612 |
| Resource Processing Technologies | 69 | 117 | 109 | 109 | 119 | 114 | 138 | 131 | 124 | 107 | 117 | 130 | 124 |
| Environmental and Conservation Technologies | 380 | 382 | 354 | 375 | 378 | 405 | 373 | 401 | 484 | 494 | 494 | 497 | 508 |
| Health Sciences | 991 | 992 | 1068 | 953 | 1018 | 1106 | 1126 | 1325 | 1421 | 1522 | 1537 | 1783 | 1824 |
| Nursing | 313 | 250 | 298 | 262 | 306 | 329 | 353 | 426 | 439 | 520 | 569 | 686 | 729 |
| Diagnostic and Treatment Medical Technologies | 498 | 554 | 572 | 500 | 545 | 585 | 590 | 648 | 703 | 764 | 724 | 773 | 785 |
| Medical Equipment and Prosthetics | 88 | 124 | 122 | 113 | 115 | 122 | 117 | 116 | 147 | 136 | 149 | 170 | 159 |
| Other Health-related Technologies | 92 | 64 | 76 | 78 | 52 | 70 | 66 | 135 | 132 | 102 | 95 | 154 | 151 |
| Social Sciences and Services | 1454 | 1504 | 1534 | 1596 | 1708 | 1592 | 1890 | 2101 | 2263 | 2206 | 2421 | 2235 | 2234 |
| Protection and Correction Services | 508 | 571 | 705 | 764 | 920 | 818 | 985 | 1122 | 1240 | 1251 | 1437 | 1284 | 1317 |
| Social Services | 243 | 224 | 208 | 227 | 201 | 203 | 233 | 246 | 286 | 276 | 290 | 271 | 275 |
| Recreation and Sport | 364 | 382 | 325 | 329 | 328 | 318 | 360 | 423 | 425 | 405 | 401 | 432 | 436 |
| Educational and Counselling Services | 309 | 299 | 262 | 238 | 234 | 233 | 272 | 274 | 271 | 236 | 252 | 199 | 160 |
| Personal Development | 3 | 1 | 3 | 4 | 3 | 4 | 11 | 10 | 11 | - | - | - |  |
| Social Sciences. | 27 | 27 | 31 | 34 | 22 | 16 | 29 | 26 | 30 | 38 | 41 | 49 | 46 |
| Other | 4719 | 5001 | 5337 | 5819 | 6081 | 6328 | 6367 | 7081 | 7283 | 7213 | 7613 | 7618 | 7783 |
| Arts | 1229 | 1321 | 1525 | 1554 | 1587 | 1686 | 1685 | 1739 | 1790 | 1832 | 1906 | 1994 | 1912 |
| Humanities | 114 | 149 | 117 | 140 | 122 | 153 | 175 | 164 | 200 | 230 | 208 | 256 | 245 |
| Business and Commerce | 3187 | 3388 | 3621 | 4011 | 4282 | 4371 | 4352 | 5046 | 5205 | 5016 | 5330 | 5228 | 5423 |
| Other* | 189 | 143 | 74 | 114 | 90 | 118 | 155 | 132 | 88 | 135 | 169 | 140 | 203 |
| Total, all fields | 15653 | 17123 | 18104 | 19241 | 20373 | 21231 | 22474 | 25789 | 26986 | 26306 | 25383 | 24238 | 23767 |

[^6]Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 3. Total Graduates of College Career Programs, by Program Field, 1977 to 1989

| Program field | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | (number) |  |  |  |  |  |  |
| Engineering and Applied Sciences | 7632 | 8693 | 9507 | 10117 | 11012 | 12050 | 13100 | 16025 | 16765 | 15843 | 14037 | 12823 | 12047 |
| Chemical Technologies | 521 | 586 | 686 | 669 | 657 | 756 | 689 | 714 | 666 | 782 | 770 | 723 | 721. |
| Electrica//Electronic Technologies | 2098 | 2406 | 2640 | 2685 | 2775 | 2980 | 3016 | 3935 | 4457 | 4618 | 3947 | 3729 | 3173 |
| Mathematics and Computer Science | 964 | 1072 | 1212 | 1311 | 1767 | 2309 | 3067 | 4685 | 4830 | 4262 | 3577 | 3282 | 3092 |
| Transportation Technologies | 209 | 235 | 269 | 257 | 300 | 279 | 343 | 311 | 328 | 284 | 283 | 197 | 240 |
| Engineering Technologies | 3840 | 4394 | 4700 | 5195 | 5513 | 5726 | 5985 | 6380 | 6484 | 5897 | 5460 . | 4892 | 4821 |
| General | 1663 | 1916 | 2042 | 2134 | 2285 | 2162 | 2382 | 2429 | 2439 | 2177 | 1873 | 1549 | 1504 |
| Mechanical | 853 | 1051 | 1067 | 1290 | 1254 | 1498 | 1485 | 1741 | 1615 | 1507 | 1444 | 1384 | 1424 |
| Architectural and Construction | 974 | 1083 | 1262 | 1375 | 1413 | 1460 | 1451 | 1471 | 1556 | 1412 | 1282 | 1276 | 1294 |
| Aeronautical | 7 | 9 | 6 | 15 | 27 | 10 | 18 | 10 | 23 | 30 | 32 | 41. | 48 |
| Industrial | 343 | 355 | 323 | 381 | 534 | 596 | 649 | 729 | 851 | 771 | 829 | 642 | 551 |
| Natural Sciences and Primary Industries | 2287 | 2713 | 2809 | 2970 | 3199 | 3141 | 3426 | 3540 | 3.495 | 3365 | 3127 | 2654 | 2673 |
| Natural Sciences | 865 | 1123 | 1270 | 1301 | 1368 | 1269 | 1410 | 1439 | 1530 | 1514 | 1415 | 1124 | 1143 |
| Primary Industries | 858 | 937 | 929 | 980 | 1107 | 1126 | 1301 | 1350 | 1142 | 1042 | 904 | 755 | 711 |
| Resource Processing Technologies | 98 | 151 | 130 | 148 | 170 | 164 | 171 | 189 | 173 | 158 | 193 | 172 | 193 |
| Environmental and Conservation Technologies | 466 | 502 | 480 | 541 | 554 | 582 | 544 | 562 | 650 | 651 | 615 | 603 | 626 |
| Health Sciences | 11682 | 10709 | 10395 | 9676 | 9675 | 9550 | 9655 | 10731 | 11098 | 10590 | 11171 | 11249 | 11520 |
| Nursing | 8384 | 7475 | 7089 | 6826 | 6737 | 6508 | 6654 | 7198 | 7495 | 7050 | 7521 | 7464 | 7621 |
| Diagnostic and Treatment Medical Technologies | 2719 | 2704 | 2713 | 2347 | 2451 | 2498 | 2429 | 2745 | 2816 | 2787 | 2832 | 2905 | 2974 |
| Medical Equipment and Prosthetics | 124 | 154 | 192 | 190 | 197 | 177 | 183 | 203 | 231 | 233 | 264 | 278 | 285 |
| Other Health-related Technologies | 455 | 376 | 401 | 313 | 290 | 367 | 389 | 585 | 556 | 520 | 554 | 602 | 640 |
| Social Sciences and Services | 5746 | 6197 | 6345 | 6399 | 6863 | 6732 | 7311 | 8062 | 8171 | 8021 | 8576 | 8648 | 8743 |
| Protection and Correction Services | 776 | 887 | 1151 | 1235 | 1408 | 1328 | 1595 | 1863 | 2018 | 2023 | 2298 | 2239 | 2178 |
| Social Services | 1410 | 1491 | 1507 | 1517 | 1539 | 1476 | 1633 | 1880 | 1902 | 1916 | 1965 | 2158 | 2281 |
| Recreation and Sport | 1208 | . 1314 | 1225 | 1293 | 1466 | 1526 | 1438 | 1598 | 1529 | 1464 | 1613 | 1689 | 1590 |
| Educational and Counseling Services | 2217 | 2326 | 2252 | 2157 | 2268 | 2215 | 2496 | 2558 | 2531 | 2425 | 2508 | 2316 | 2458 |
| Personal Development | 14 | 14 | 12 | 21 | 21 | 23 | 25 | 18 | 28 | - | - | - | - |
| Social Sciences | 121 | 165 | 198 | 176 | 161 | 164 | 124 | 145 | 163 | 193 | 192 | 246 | 236 |
| Other | 12358 | 13824 | 15424 | 17399 | 17945 | 18975 | 19098 | 21331 | 21076 | 20835 | 21710 | 21575 | 21749 |
| Arts | 2751 | 2936 | 3708 | 4013 | 4171 | 4454 | 4258 | 4352 | 4316 | 4284 | 4505 | 4678 | 4627 |
| Humanities | 594 | 661 | 676 | 642 | 607 | 648 | 707 | 804 | 818 | 847 | 828 | 902 | 862 |
| Business and Commerce | 8600 | 9841 | 10869 | 12489 | 12938 | 13621 | 13792 | 1.5853 | 15624 | 15371 | 15976 | 15628 | 15799 |
| Other* | 413 | 386 | 171 | 255 | 229 | 252 | 341 | 322 | 318 | 333 | 401 | 367 | 461 |
| Total, all fields | 39705 | 42136 | 44480 | 46561 | 48694 | 50448 | 52590 | 59689 | 60605 | 58654 | 58621 | 56949 | 56732 |

[^7]Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 4. Full-time Enrolment of Women in College Career Programs, by Program Field, 1977-78 to 1989-90

| Program field | 1977.78 | 1978.79 | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (number) |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering and Applied Sciences | 4941 | 5898 | 6180 | 7111 | 8772 | 10895 | 11793 | 11124 | 9569 | 8300 | 7530 | 7557 | 7886 |
| Chemical Technologies | 1050 | 1100 | 1056 | 1032 | 1071 | 1165 | 1174 | 1254 | 1321 | 1309 | 1179 | 1111 | 1049 |
| Electrical/Electronic Technologies | 155 | 266 | 212 | 264 | 334 | 470 | 621 | 741 | 791 | 752 | 660 | 658 | 644 |
| Mathematics and Computer Science | 2080 | 2631 | 2997 | 3901 | 5196 | 6998 | 7725 | 6938 | 5301 | 4031 | 3391 | 3431 | 3556 |
| Transportation Technologies | 63 | 49 | 54 | 72 | 76 | 109 | 145 | 133 | 120 | 87 | 114 | 109 | 121 |
| Engineering Technologies | 1593 | 1852 | 1861 | 1842 | 2095 | 2153 | 2128 | 2058 | 2036 | 2121 | 2186 | 2248 | 2516 |
| General | 518 | 603 | 666 | 752 | 853 | 843 | 848 | 733 | 699 | 681 | 603 | 614 | 637 |
| Mechanical | 55 | 100 | 71 | 92 | 135 | 151 | 149 | 142 | 176 | 222 | 177 | 211 | 235 |
| Architectural and Construction | 717 | 792 | 846 | 906 | 990 | 1004 | 961 | 988 | 937 | 1012 | 1152 | 1209 | 1393 |
| Aeronautical | 7 | 5 | 11 | 12 | 12 | 16 | - |  | 1 | 1 | 53 | 2 | 6 |
| Industrial | 296 | 352 | 267 | 80 | 105 | 139 | 170 | 195 | 223 | 205 | 201 | 212 | 245 |
| Natural Sciences and Primary Industries | 1997 | 2543 | 2770 | 3053 | 3001 | 3210 | 3111 | 3043 | 2979 | 2806 | 2757 | 2719 | 2719 |
| Natural Sciences | 1105 | 1437 | 1626 | 1647 | 1519 | 1608 | 1710 | 1733 | 1755 | 1679 | 1624 | 1832 | 1797 |
| Primary Industries | 241 | 327 | 359 | 470 | 489 | 566 | 473 | 380 | 316 | 298 | 261 | 259 | 277 |
| Resource Processing Technologies | 97 | 142 | 143 | 166 | 201 | 216 | 229 | 247 | 267 | 287 | 254 | 232 | 187 |
| Environmental and Conservation Technologies | 554 | 637 | 642 | 770 | 792 | 820 | 699 | 683 | 641 | 542 | 618 | 396 | 458 |
| Health Sciences | 26897 | 25561 | 24759 | 24273 | 25208 | 26953 | 27638 | 28411 | 28188 | 28749 | 28858 | 28961 | 28831 |
| Nursing | 20301 | 19059 | 18362 | 18293 | 19154 | 20411 | 20706 | 21259 | 20921 | 21344 | 21490 | 21215 | 21123 |
| Diagnostic and Treatment Medical Technologies | 5494 | 5350 | 5269 | 4852 | 4823 | 5181 | 5409 | 5581 | 5572 | 5596 | 5704 | 6042 | 6003 |
| Medical Equipment and Prosthetics | 146 | 246 | 221 | 233 | 211 | 236 | 258 | 290 | 332 | 336 | 329 | 340 | 354 |
| Other Health-related Technologies | 956 | 906 | 907 | 895 | 1020 | 1125 | 1265 | 1281 | 1363 | 1473 | 1335 | 1364 | 1351 |
| Social Sciences and Services | 14465 | 15194 | 15343 | 16013 | 16602 | 17490 | 18535 | 18853 | 19650 | 20729 | 22236 | 23019 | 23978 |
| Protection and Correction Services | 1293 | 1493 | 1593 | 1728 | 1898 | 2139 | 2516 | 2673 | 2759 | 2910 | 3080 | 3252 | 3355 |
| Social Services | 3881 | 4259 | 4232 | 4406 | 4539 | 4898 | 5229 | 5512 | 5535 | 6037 | 6841 | 7133 | 7366 |
| Recreation and Sport | 3028 | 3051 | 3168 | 3407 | 3596 | 3761 | 3795 | 3580 | 4063 | 4328 | 4332 | 4270 | 4191 |
| Educational and Counselling Services | 5402 | 5516 | 5590 | 5744 | 6016 | 6159 | 6459 | 6521 | 6644 | 6882 | 7328 | 7692 | 8442 |
| Personal Development | 27 | 36 | 46 | 78 | 49 | 39 | 39 | 53 | 92 | 6 | 7 | , | - |
| Social Sciences | 834 | 839 | 714 | 650 | 504 | 494 | 497 | 514 | 557 | 572 | 655 | 672 | 624 |
| Other | 36087 | 39292 | 43130 | 45408 | 47177 | 50899 | 54556 | 55492 | 55861 | 55752 | 56008 | 55791 | 54914 |
| Arts | 7907 | 8847 | 9103 | 9471 | 9892 | 10018 | 10582 | 10782 | 10962 | 11191 | 11716 | 11888 | 12169 |
| Humanities | 1616 | 1608 | 1736 | 1773 | 1802 | 1936 | 1957 | 1927 | 1953 | 1898 | 1960 | 1849 | 2102 |
| Business and Commerce | 25060 | 28052 | 31418 | 33155 | 34309 | 37634 | 40035 | 40662 | 40380 | 40474 | 39701 | 39074 | 37756 |
| Other* | 1504 | 785 | 873 | 1009 | 1174 | 1311 | 1982 | 2121 | 2566 | 2189 | 2631 | 2980 | 2887 |
| Total, all fields | 84387 | 88488 | 92182 | 95858 | 100760 | 109447 | 115633 | 116923 | 116247 | 116336 | 117389 | 118047 | 118328 |

[^8]Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 5. Full-time Enrolment of Men in College Career Programs, by Program Field, $1977-78$ to $1989-90$

| Program field | 1977.78 | 1978.79 | 1979-80 | 1980-81 | 1981.82 | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 | $1987-88$ | 1988-89 | 1989-90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (number) |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering and Applied Sciences | 33750 | 36497 | 38005 | 40458 | 43426 | 48610 | 53071 | 53289 | 50899 | 46582 | 43331 | 41486 | 40692 |
| Chemical Technologies | 1361 | 1444 | 1494 | 1561 | 1562 | 1660 | 1783 | 1782 | 1862 | 1819 | 1707 | 1583 | 1463 |
| Electrical/Electronic Technologies | 11684 | 12542 | 12592 | 13252 | 14155 | 16051 | 17931 | 18167 | 17301 | 15422 | 13581 | 12513 | 11900 |
| Mathematics and Computer Science | 2693 | 3164 | 3646 | 4717 | 6067 | 7711 | 9461 | 10739 | 10430 | 9086 | 8279 | 8402 | 8426 |
| Transportation Technologies | 1062 | 1018 | 1164 | 1126 | 1204 | 1205 | 1208 | 1205 | 1066 | 860 | 877 | 874 | 859 |
| Engineering Technologies | 16950 | 18329 | 19109 | 19802 | 20438 | 21983 | 22688 | 21396 | 20240 | 19395 | 18887 | 18114 | 18044 |
| General | 6056 | 6582 | 6582 | 6735 | 6634 | 7016 | 8061 | 7201 | 6568 | 6012 | 5357 | 5239 | 5391 |
| Mechanical | 4165 | 4695 | 5092 | 5445 | 6177 | 6935 | 6051 | 5991 | 5831 | 6034 | 5841 | 5638 | 5514 |
| Architectural and Construction | 5429. | 5537 | 5685 | 5561 | 5590 | 5836 | 5410 | 5190 | 5016 | 4947 | 5369 | 5282 | 5317 |
| Aeronautical | 355 | 413 | 448 | 418 | 321 | 378 | 35 | 35 | 50 | 61 | 542. | 91 | 81 |
| Industrial | 945 | 1102 | 1302 | 1643 | 1716 | 1818 | 3131 | 2979 | 2775 | 2341 | 1778 | 1864 | 1741 |
| Natural Sciences and Primary Industries | 5960 | 6646 | 7208 | 7555 | 7593 | 7940 | 7926 | 7582 | 7277 | 6791 | 6210 | 6022 | 5993 |
| Natural Sciences | 1647 | 2087 | 2421 | 2336 | 2128 | 2327 | 2452 | 2500 | 2315 | 2035 | 1827 | 1862 | 1762 |
| Primary Industries | 2315 | 2420 | 2577 | 2857 | 2994 | 3073 | 2964 | 2568 | 2431 | 2233 | 2008 | 1917 | 1815 |
| Resource Processing Technologies | 460 | 470 | 518 | 550 | 651 | 709 | 586 | 515 | 490 | 534 | 552 | 575 | 597 |
| Environmental and Conservation Technologies | 1538 | 1669 | 1692 | 1812 | 1820 | 1831 | 1924 | 1999 | 2041 | 1989 | 1823 | 1674 | 1819 |
| Health Sciences | 3033 | 3243 | 3359 | 3358 | 3525 | 3767 | 4193 | 4690 | 4998 | 5313 | 5560 | 5645 | 5593 |
| Nursing | 901 | 1020 | 1129 | 1210 | 1374 | 1502 | 1680 | 1952 | 2285 | 2484 | 2604 | 2549 | 2556 |
| Diagnostic and Treatment Medical Technologies | 1555 | 1577 | 1611 | 1571 | 1594 | 1676 | 1805 | 2039 | 2011 | 2058 | 2162 | 2262 | 2189 |
| Medical Equipment and Prosthetics | 371 | 407 | 379 | 388 | 366 | 367 | 402 | 426 | 440 | 414 | 437 | 433 | 458 |
| Other Health-related Technologies | 206 | 239 | 240 | 189 | 191 | 222 | 306 | 273 | 262 | 357 | 357 | 401 | 390 |
| Social Sciences and Services | 5991 | 6313 | 6122 | 6251 | 6299 | 6776 | 7580 | 8038 | 8401 | 8942 | 9105 | 9175 | 9201 |
| Protection and Correction Services | 2791 | 3157 | 3111 | 3268 | 3343 | 3513 | 3917 | 4255 | 4429 | 4873 | 5058 | 5359 | 5305 |
| Social Services | 838 | 833 | 876 | 824 | 823 | 917 | 1032 | 1078 | 1075 | 1085 | 1104 | 1105 | 1128 |
| Recreation and Sport | 1401 | 1353 | 1228 | 1218 | 1225 | 1357 | 1549 | 1562 | 1734 | 1855 | 1839 | 1735 | 1717 |
| Educational and Counselling Services | 754 | 767 | 778 | 775 | 775 | 841 | 933 | 980 | 952 | 956 | 921 | 802 | 879 |
| Personal Development | 15 | 11 | 11 | 31 | 20 | 35 | 35 | 31 | 50 | 73 | 189 | 174 | - |
| Social Sciences | 192 | 192 | 118 | 135 | 113 | 113 | 114 | 132 | 161 | 173 | 183 | 174 | 172 |
| Other | 25675 | 26701 | 28066 | 28892 | 28976 | 31196 | 33951 | 35349 | 36353 | 36519 | 36.485 | 36004 | 34333 |
| Arts | 6806 | 7047 | 6890 | 7180 | 7118 | 7538 | 8283 | 8584 | 8664 | 8666 | 8780 | 8721 | 8722 |
| Humanities | 582 | 524 | 603 | 608 | 643 | 700 | 774 | 867 | 822 | 864 | 855 | 871 | 869 |
| Business and Commerce | 17292 | 18553 | 20002 | 20483 | 20554 | 21880 | 23136 | 23933 | 24663 | 25411 | 24898 | 24355 | 22875 |
| Other* | 995 | 577 | 571 | 621 | 661 | 1078 | 1758 | 1965 | 2204 | 1578 | 1952 | 2057 | 1867 |
| Total, all fields | 74409 | 79400 | 82760 | 86514 | 89819 | 98289 | 106721 | 108948 | 107928 | 104147 | 100691 | 98332 | 95812 |

* Includes General Arts and Science and fields not elsewhere classified

Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 6. Full-time Total Enrolment in College Career Programs, by Program Field, 1977-78 to 1989-90

| Program field | 1977.78 | 1978.79 | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983.84 | $1984-85$ | 1985-86 | 1986.87 | 1987-88 | 1988-89 | 1989-90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (number) |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering and Applied Sciences | 38691 | 42395 | 44185 | 47569 | 52198 | 59505 | 64864 | 64413 | 60468 | 54882 | 50861 | 49043 | 48578 |
| Chemical Technologies | 2411 | 2544 | 2550 | 2593 | 2633 | 2825 | 2957 | 3036 | 3183 | 3128 | 2886 | 2694 | 2512 |
| Electrica/FElectronic Technologies | 11839 | 12808 | 12804 | 13516 | 14489 | 16521 | 18552 | 18908 | 18092 | 16174 | 14241 | 13171 | 12544 |
| Mathematics and Computer Science | 4773 | 5795 | 6643 | 8618 | 11263 | 14709 | 17186 | 17677 | 15731 | 13117 | 11670 | 11833 | 11982 |
| Transportation Technologies | 1125 | 1067 | 1218 | 1198 | 1280 | 1314 | 1353 | 1338 | 1186 | 947 | 991 | 983 | 980 |
| Engineering Technologies | 18543 | 20181 | 20970 | 21644 | 22533 | 24136 | 24816 | 23454 | 22276 | 21516 | 21073 | 20362 | 20560 |
| General | 6574 | 7185 | 7248 | 7487 | 7487 | 7859 | 8909 | 7934 | 7267 | 6693 | 5960 | 5853 | 6028 |
| Mechanical | 4220 | 4795 | 5163 | 5537 | 6312 | 7086 | 6200 | 6133 | 6007 | 6256 | 6018 | 5849 | 5749 |
| Architectural and Construction | 6146 | 6329 | 6531 | 6467 | 6580 | 6840 | 6371 | 6178 | 5953 | 5959 | 6521 | 6491 | 6710 |
| Aeronautical | 362 | 418 | 459 | 430 | 333 | 394 | 35 | 35 | 51 | 62 | 595 | 93 | 87 |
| Industrial | 1241 | 1454 | 1569 | 1723 | 1821 | 1957 | 3301 | 3174 | 2998 | 2546 | 1979 | 2076 | 1986 |
| Natural Sciences and Primary Industries | 7957 | 9189 | 9978 | 10608 | 10594 | 11150 | 11037 | 10625 | 10256 | 9597 | 8967 | 8741 | 8712 |
| Natural Sciences | 2752 | 3524 | 4047 | 3983 | 3647 | 3935 | 4162 | 4233 | 4070 | 3714 | 3451 | 3694 | 3559 |
| Primary Industries | 2556 | 2747 | 2936 | 3327 | 3483 | 3639 | 3437 | 2948 | 2747 | 2531 | 2269 | 2170 | 2092 |
| Resource Processing Technologies | 557 | 612 | 661 | 716 | 852 | 925 | 815 | 762 | 757 | 821 | 806 | 807 | 784 |
| Environmental and Conservation Technologies | 2092 | 2306 | 2334 | 2582 | 2612 | 2651 | 2623 | 2682 | 2682 | 2531 | 2441 | 2070 | 2277 |
| Health Sciences | 29930 | 28804 | 28118 | 27631 | 28733 | 30720 | 31831 | 33101 | 33186 | 34062 | 34418 | 34606 | 34424 |
| Nursing | 21202 | 20079 | 19491 | 19503 | 20528 | 21913 | 22386 | 23211 | 23206 | 23828 | 24094 | 23764 | 23679 |
| Diagnostic and Treatment Medical Technologies | 7049 | 6927 | 6880 | 6423 | 6417 | 6857 | 7214 | 7620 | 7583 | 7654 | 7866 | 8304 | 8192 |
| Medical Equipment and Prosthetics | 517 | 653 | 600 | 621 | 577 | 603 | 660 | 716 | 772 | 750 | 766 | 773 | 812 |
| Other Health-related Technologies | 1162 | 1145 | 1147 | 1084 | 1211 | 1347 | 1571 | 1554 | 1625 | 1830 | 1692 | 1765 | 1741 |
| Social Sciences and Services | 20456 | 21507 | 21465 | 22264 | 22901 | 24266 | 26115 | 26891 | 28051 | 29671 | 31341 | 32194 | 33179 |
| Protection and Correction Services | 4084 | 4650 | 4704 | 4996 | 5241 | 5652 | 6433 | 6928 | 7188 | 7783 | 8138 | 8611 | 8660 |
| Social Services | 4719 | 5092 | 5108 | 5230 | 5362 | 5815 | 6261 | 6590 | 6610 | 7122 | 7945 | 8238 | 8494 |
| Recreation and Sport | 4429 | 4404 | 4396 | 4625 | 4821 | 5118 | 5344 | 5142 | 5797 | 6183 | 6171 | 6005 | 5908 |
| Educational and Counseling Services | 6156 | 6283 | 6368 | 6519 | 6791 | 7000 | 7392 | 7501 | 7596 | 7838 | 8249 | 8494 | 9321 |
| Personal Development | 42 | 47 | 57 | 109 | 69 | 74 | 74 | 84 | 142 |  |  | - | - |
| Social Sciences | 1026 | 1031 | 832 | 785 | 617 | 607 | 611 | 646 | 718 | 745 | 838 | 846 | 796 |
| Other | 61762 | 65993 | 71196 | 74300 | 76153 | 82095 | 88507 | 90841 | 92214 | 92271 | 92493 | 91795 | 89247 |
| Arts | 14713 | 15894 | 15993 | 16651 | 17010 | 17556 | 18865 | 19366 | 19626 | 19857 | 20496 | 20609 | 20891 |
| Humanities | 2198 | 2132 | 2339 | 2381 | 2445 | 2636 | 2731 | 2794 | 2775 | 2762 | 2815 | 2720 | 2971 |
| Business and Commerce | 42352 | 46605 | 51420 | 53638 | 54863 | 59514 | 63171 | 64595 | 65043 | 65885 | 64599 | 63429 | 60631 |
| Other* | 2499 | 1362 | 1444 | 1630 | 1835 | 2389 | 3740 | 4086 | 4770 | 3767 | 4583 | 5037 | 4754 |
| Total, all fields | 158796 | 167888 | 174942 | 182372 | 190579 | 207736 | 222354 | 225871 | 224175 | 220483 | 218080 | 216379 | 214140 |

[^9]Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 7. College Career Program Enrolment, by Age Group, 1983-84 and 1989-90

| Age | 1983 -84 |  |  | 1989-90 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Female | Total |
|  | (number) |  |  |  |  |  |
| 17 and under | 4870 | 7488 | 12358 | 3241 | 5023 | 8264 |
| 18.24 | - 88867 | 93193 | 182060 | 73267 | 84397 | 157664 |
| 25-29 | 8098 | 6796 | 14894 | 10448 | 11487 | 21935 |
| 30-34 | 2684 | 3474 | 6158 | 4292 | 6762 | 11054 |
| 35-39 | 994 | 2446 | 3440 | 2264 | 4459 | 6723 |
| 40-44 | 369 | 1158 | 1527 | 1030 | 2672 | 3702 |
| 45-49 | 120 | 422 | 542 | 305 | 959 | 1264 |
| 50-59 | 105 | 208 | 313 | 186 | 457 | 643 |
| 60 and over | 54 | 62 | 116 | 62 | 99 | 161 |
| Unknown | 560 | 386 | 946 | 717 | 2013 | 2730 |
| Total | 106721 | 115633 | 222354 | 95812 | 118328 | 214140 |

Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 8. Part-time Enrolment in College Career Programs, 1983, 1986; 1987, 1988 and 1989

| Year | Male | Female | Total |
| :--- | :---: | :---: | :---: |
|  |  | Inumberl |  |
| 1983 | 44113 | 56887 | 101000 |
| 1986 | 44425 | 63946 | 108371 |
| 1987 | 45297 | 71748 | 117045 |
| 1988 | 44037 | 73683 | 117720 |
| 1989 | 43716 | 72700 | 116416 |

Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 9. Full-time College Teachers, by Teaching Field, ${ }^{1}$ Staff Position and Gender, 1976-77 to 1987-88

| Teaching field | Total teaching staff ${ }^{2}$ |  |  | Academic administrators |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Female | Total |
|  | (number) |  |  |  |  |  |
| 1976.77 l Chumberl |  |  |  |  |  |  |
| Engineering and Applied Sciences | 2630 | 25 | 2655 | 230 | 3 | 233 |
| Natural Sciences and Primary Industries | 772 | 70 | 842 | 91 | 3 | 94 |
| Health Sciences | 237 | 1298 | 1535 | 37 | 73 | 110 |
| Social Sciences and Services | 475 | 255 | 730 | 50 | 16 | 66 |
| 0 Other | 2951 | 1451 | 4402 | 852 | 173 | 1025 |
| Arts | 731 | 210 | 941 | 80 | 12 | 92 |
| Humanities | 1021 | 498 | 1519 | 79 | 21 | 100 |
| Business and Commerce | 839 | 590 | 1429 | 98 | 22 | 120 |
| Other* | 360 | 153 | 513 | 595 | 118 | 713 |
| Total | 7065 | 3099 | 10.164 | 1260 | 26B | 152 B |
| $1980 \cdot 81$ |  |  |  |  |  |  |
| Engineering and Applied Sciences | 3158 | 52 | 3210 | 211 | 6 | 217 |
| Natural Sciences and Primary Industries | 753 | 83 | 836 | 83 | 2 | 85 |
| Health Sciences | 248 | 1249 | 1497 | 25 | 71 | 96 |
| Social Sciences and Services | 446 | 319 | 765 | 43 | 18 | 61 |
| Other | 3353 | 1745 | 5098 | 998 | 316 | 1314 |
| Arts | 846 | 251 | 1097 | 69 | 16 | 85 |
| Humanities | 1124 | 611 | 1735 | 84 | 30 | 114 |
| Business and Commerce | 982 | 692 | 1674 | 75 | 27 | 102 |
| Other* | 401 | 191 | 592 | 770 | 243 | 1013 |
| Total | 7958 | 3448 | 11406 | 1360 | 413 | 1773 |
| 1984.85 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 3394 | 99 | 3493 | 272 | 5 | 277 |
| Natural Sciences and Primary Industries | 688 | 105 | 793 | 100 | 6 | 106 |
| Health Sciences | 253 | 1265 | 1518 | 19 | 58 | 77 |
| Social Sciences and Services | 471 | 359 | 830 | 30 | 13 | 43 |
| Other | 3406 | 1827 | 5233 | 905 | 334 | 1238 |
| Arts | 800 | 263 | 1063 | 48 | 9 | 57 |
| Humanities | 947 | 556 | 1503 | 55 | 19 | 74 |
| Business and Commerce | 1092 | 663 | 1755 | 75 | 17 | 92 |
| Other* | 567 | 345 | 912 | 727 | 289 | 1016 |
| Total | 8212 | 3655 | 11867 | 1326 | 416 | 1742 |
| 1985.86 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 3804 | 115 | 3919 | 330 | 4 | 334 |
| Natural Sciences and Primary Industries | 799 | 120 | 919 | 108 | 7 | 115 |
| Health Sciences | 272 | 1440 | 1712 | 23 | 84 | 107 |
| Social Sciences and Services | 536 | 455 | 981 | 51 | 24 | 75 |
| Other | 3932 | 2119 | 6051 | 1100 | 461 | 1561 |
| Arts | 947 | 316 | 1263 | 84 | 17 | 101 |
| Humanities | 1147 | 639 | 1786 | 82 | 29 | 111 |
| Business and Commerce | 1226 | 802 | 2028 | 91 | 29 | 120 |
| Other* | 612 | 362 | 974 | 843 | 386 | 1229 |
| Total | 9343 | 4249 | 13592 | 1612 | 580 | 2192 |
| 1986 -87 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 3982 | 155 | 4137 | 347 | 4 | 351 |
| Natural Sciences and Primary Industries | 870 | 131 | 1001 | 112 | 12 | 124 |
| Health Sciences | 283 | 1598 | 1881 | 23 | 85 | 108 |
| Social Sciences and Services | 635 | 557 | 1192 | 36 | 22 | 58 |
| Other | 4258 | 2407 | 6665 | 1109 | 514 | 1623 |
| Arts | 1045 | 390 | 1435 | 92 | 17 | 109 |
| Humanities | 1202 | 738 | 1940 | 79 | 28 | 107 |
| Business and Commerce | 1368 | 918 | - 2286 | 93 | 32 | 125 |
| Other* | 643 | 361 | 1004 | 845 | 437 | 1282 |
| Total | 10028 | 4848 | 14876 | 1627 | 637 | 2264 |
| 1987.88 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 3864 | 156 | 4020 | 318 | 9 | 327 |
| Natural Sciences and Primary Industries | 839 | 134 | 973 | 103 | 14 | 117 |
| Health Sciences | 274 | 1629 | 1903 | 24 | 75 | 99 |
| Social Sciences and Services | 643 | 586 | 1229 | 37 | 25 | 62 |
| Other | 4223 | 2516 | 6739 | 1111 | 580 | 1691 |
| Arts | 1028 | 395 | 1423 | 78 | 20 | 98 |
| Humanities | 1194 | 790 | 1984 | 68 | 31 | 99 |
| Business and Commerce | 1379 | 947 | 2326 | 85 | 37 | 122 |
| Other* | 622 | 384 | 1006 | 880 | 492 | 1372 |
| Total | 9843 | 5021 | 14 B64 | 1593 | 703 | 2296 |

1 Excludes data for Quebec (not available by teaching field).
${ }^{2}$ Includes both postsecondary and trades teachers, since some teach at both levels. Teachers are classified to postsecondary or trades according to the percentage of time spent teaching at each level.

* Includes General Arts and Science fields not elsawhere classified

Source: Statistics Canada, Education, Culture and Tourism Division.

Annex Table 10. Median Age of Full-time College Teachers, ${ }^{1}$ by Teaching Field ${ }^{2}$ and Gender, 1976-77 to $1987-88$

| Teaching field | Male |  | Female |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Median age | Total number | Median age | Total number | Median age | Total number |
| 1976-77 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 42 | 2630 | 41 | 25 | 42 | 2655 |
| Natural Sciences and Primary Industries | 39 | 772 | 34 | 70 | 38 | 842 |
| Health Sciences | 35 | 237 | 35 | 1298 | 35 | 1535 |
| Social Scienices and Services | 37 | 475 | 34 | 255 | 36 | 730 |
| Other | 38 | 2951 | 39 | 1451 | 38 | 4402 |
| Arts | 39 | 731. | 38 | 210 | 39 | 941 |
| Humanities | 37 | 1021 | 37.5 | 498 | 37 | 1519 |
| Business and Commerce | 40 | 839 | 40 | 590 | 40 | 1429 |
| Other* | 39 | 360 | 37 | 153 | 38 | 513 |
| Total | 39 | 7065 | 36 | 3099 | 39 | 10164 |
| 1980.81 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 43 | 3158 | 37 | 52 | 43 | 3210 |
| Natural Sciences and Primary Industries | 41 | 753 | 34 | 83 | 40 | 836 |
| Health Sciences | 37 | 248 | 38 | 1249 | 38 | 1497 |
| Social Sciences and Services | 40 | 446 | 37 | 319 | 39 | 765 |
| Other | 41 | 3353 | 39 | 1745 | 40 | 5098 |
| Arts | 42 | 846 | 40 | 251 | 41 | 1097 |
| Humanities | 40 | 1124 | 39 | 611 | 40 | 1735 |
| Business and Commerce | 41 | 982 | 41 | 692 | 41 | 1674 |
| Other* | 38 | 401 | 37 | 191 | 37 | 592 |
| Total | 42 | 7958 | 39 | 3448 | 41 | 11406 |
| 1984.85 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 44. | 3394 | 35 | 99 | 44 | 3493 |
| Natural Sciences and Primary Industries | 43 | 688 | 36 | 105 | 42 | 793 |
| Health Sciences | 41 | 253 | 41 | 1265 | 41 | 1518 |
| Social Sciences and Services | 42 | 471 | 39 | 359 | 41 | 830 |
| Other | 43 | 3406 | 41 | 1827 | 42 | 5233 |
| Arts | 44 | 800 | 41 | 263 | 44 | 1063 |
| Humanities | 43 | 947 | 42 | 556 | 43 | 1503 |
| Business and Commerce | 43 | 1.092 | 41 | 663 | 43 | 1755 |
| Other* | 41 | 567 | 40 | 345 | 41 | 912 |
| Total | 43 | 8212 | 41 | 3655 | 42 | 11867 |
| 1987.88 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 45 | 3864 | 37 | 156 | 45 | 4020 |
| Natural Sciences and Primary Industries | 44 | 839 | 39 | 134 | 43 | 973 |
| Health Sciences | 42 | 274 | 42 | 1629 | 42 | 1.903 |
| Social Sciences and Services | 43 | 643 | 39 | 586 | 41 | 1229 |
| Other | 45 | 4223 | 42 | 2517 | 44 | 6740 |
| Arts | 45 | 1028 | 41 | 395 | 44 | 1423 |
| Humanities | 45 | 1194 | 43 | 791 | 44 | 1985 |
| Business and Commerce | 45 | 1379 | 42 | 947 | 44 | 2326 |
| Other* | 43 | 622 | 40 | 384 | 42 | 1006 |
| Total | 45 | 9843 | 42 | 5022 | 44 | 14865 |

[^10]Annex Table 11. Full-time College Teachers, ${ }^{1}$ by Average Years of Experience, Teaching Field ${ }^{2}$ and Gender, 1976-77 to 1987-88

| Teaching field | Male |  | Female |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average experience | Total number | Average experience | Total number | Average experience | Total number |
| 1976-77 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 7.5 | 2630 | 7.1 | 25 | 7.5 | 2655 |
| Natural Sciences and Primary Industries | 8.2 | 772 | 6.5 | 70 | 8.1 | 842 |
| Health Sciences | 5.4 | 237 | 6.1 | 1298 | 6 | 1535 |
| Social Sciences and Services | 6.9 | 475 | 6.6 | 255 | 6.8 | 730 |
| Other | 7.9 | 2951 | 8.7 | 1451 | 8.2 | 4402 |
| Arts | 6.3 | 731 | 7.4 | 210 | 6.6 | 941 |
| Humanities | 9.9 | 1021 | 10.8 | 498 | 10.2 | 1519 |
| Business and Commerce | 7 | 839 | 7.5 | 590 | 7.3 | 1429 |
| Other* | 7.9 | 360 | 9.4 | 153 | 8.3 | 513 |
| Total | 7.6 | 7065 | 7.4 | 3099 | 7.5 | 10164 |
| 1980.81 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 9 | 3158 | 6.1 | 52 | 8.9 | 3210 |
| Natural Sciences and Primary Industries | 10.4 | 753 | 8.2 | 83 | 10.2 | 836 |
| Health Sciences | 8.6 | 248 | 8.9 | 1249 | 8.9 | 1497 |
| Social Sciences and Services | 9.2 | 446 | 8.2 | 319 | 8.8 | 765 |
| Other | 10 | 3353 | 10.2 | 1745 | 10.1 | 5098 |
| Arts | 8.5 | 846 | 9.5 | 251 | 8.7 | 1097 |
| Humanities | 12.7 | 1124 | 11.8 | 611 | 12.4 | 1735 |
| Business and Commerce | 8.8 | 982 | 9.2 | 692 | 8.9 | 1674 |
| Other* | 9.1 | 401 | 9.8 | 191 | 9.3 | 592 |
| Total | 9.5 | 7958 | 9.4 | 3448 | 9.5 | 11406 |
| 1984-85 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 9.9 | 3394 | 6.1 | 99 | 9.8 | 3493 |
| Natural Sciences and Primary Industries | 11.3 | 688 | 8.3 | 105 | 10.9 | 793 |
| Health Sciences | 10.6 | 253 | 10.7 | 1265 | 10.7 | 1518 |
| Social Sciences and Services | 11.5 | 471 | 9.3 | 359 | 10.5 | 830 |
| Other | 11.8 | 3406 | 11.5 | 1827 | 11.7 | 5233 |
| Arts | 10.6 | 800 | 10.1 | 263 | 10.4 | 1063 |
| Humanities | 15.2 | 947 | 13.7 | 556 | 14.6 | 1503 |
| Business and Commerce | 10.2 | 1092 | 10.3 | 663 | 10.2 | 1755 |
| Other* | 9.8 | 567 | 10.9 | 345 | 10.1 | 912 |
| Total | 10.9 | 8212 | 10.7 | 3655 | 10.8 | 11867 |
| 1987.88 |  |  |  |  |  |  |
| Engineering and Applied Sciences | 11.5 | 3864 | 6.8 | 156 | 11.3 | 4020 |
| Natural Sciences and Primary Industries | 12.3 | 839 | 8 | 134 | 11.8 | 973 |
| Health Sciences | 11.6 | 274 | 11.3 | 1629 | 11.4 | 1903 |
| Social Sciences and Services | 11.3 | 643 | 8.8 | 586 | 10.1 | 1229 |
| Other | 12.8 | 4223 | 11.7 | 2517 | 12.4 | 6740 |
| Arts | 11.5 | 1028 | 10.2 | 395 | 11.1 | 1423 |
| Humanities | 16.8 | 1194 | 13.9 | 791 | 15.6 | 1985 |
| Business and Commerce | 10.9 | 1379 | 10.9 | 947 | 10.9 | 2326 |
| Other* | 11.7 | 622 | 10.6 | 384 | 11.3 | 1006 |
| Total | 12.1 | 9843 | 11 | 5022 | 11.7 | 14865 |

[^11]
[^0]:    *Other programs not elsewhere classified. Source: Annex Tables 1, 2 and 3.

[^1]:    Source: Annex Tables 1 and 3.

[^2]:    Source: Statistics Canada, Education, Culture and Tourism Division.

[^3]:    Source: Annex Tables 1 and 3.

[^4]:    Source: Annex Table 9.

[^5]:    * Includes General Arts and Science and fields not elsewhere classified.

    Source: Statistics Canada, Education, Culture and Tourism Division.

[^6]:    * Includes General Arts and Science and fields not elsewhere classified

[^7]:    * Includes General Arts and Science and fields not elsewhere classified.

[^8]:    Includes General Arts and Science and fields not elsewhere classified.

[^9]:    Includes General Arts and Science and fields not elsewhere classified

[^10]:    1 Includes both postsecondary and trades teachers, since some teach at both levels. Teachers are classified to postsecondary or trades according to the percentage of time spent teaching at each level.
    2 Excludes data for Ouebec (not available by teaching field.

    * Includes General Arts and Science and fields not elsewhere classified.

    Source: Statistics Canada, Education, Culture and Tourism Division.

[^11]:    1 Includes both postsecondary and trades teachers, since some teach at both levels. Teachers are classified to postsecondary or trades according to the percentage of time spent teaching at each level.
    ${ }^{2}$ Excludes data for Ouebec Inot available by teaching field.

    * Includes General Arts and Science and fields not elsewhere classified.

    Source: Statistics Canada, Education, Culture and Tourism Division.

