Women

IN SCIENCE AND ENGINEERING

VOLUME I: UNIVERSITIES

Industry, Science and Technology Canada
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Canada

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CHART ABBREVIATIONS

Ag/Bio Scs – Agricultural and Biological Sciences

Educ – Education

Eng/Appl Scs – Engineering and Applied Sciences

Gen Arts/Scs – General Arts and Sciences

Health – Health Sciences

Hum – Humanities

Math/Phys Scs – Mathematics and Physical Sciences

Social Scs – Social Sciences

Introduction

Concern over the low representation of women in the natural sciences and engineering has increased over the last few years, motivated both by employment equity considerations and by expected shortages of Canadian scientists and engineers[1]. Moreover, industry is realizing that the skills and creativity of a diverse work force are essential for gaining and maintaining a competitive edge. Companies are now moving past imposed hiring goals and targets and are recruiting women for the valuable contributions they can make in the fields of science, engineering and technology.

The flow of graduates from universities is the largest and fastest-growing source of new science and engineering talent. Over the past few decades, there has been a phenomenal rise in the number of women enroling in universities: in 1989-90, more than 50% of the students in Canadian universities were women, compared to 37% in 1970-71[2]. Even though women were pursuing a university education in ever increasing numbers, they were still concentrated in fields conventionally dominated by women: the social sciences, education, and the humanities. Although women have made significant inroads into historically male-dominated fields such as medicine and law, they have made much less progress in the natural sciences and engineering.

Factors influencing study and career choices among women occur long before entry into university. Early sex-role stereotyping and the masculine image of science and engineering are largely responsible for the low representation of women in these fields. Educators at every level have recognized the problem and are beginning to take action. Elementary and secondary schools are undertaking or exploring ways to increase the hands-on participation of girls in science classes; to include women in illustrations in science texts; to explain scientific principles in terms of greater interest to girls; and to sensitize teachers, parents and guidance counsellors about their important role in encouraging girls to pursue math and science.

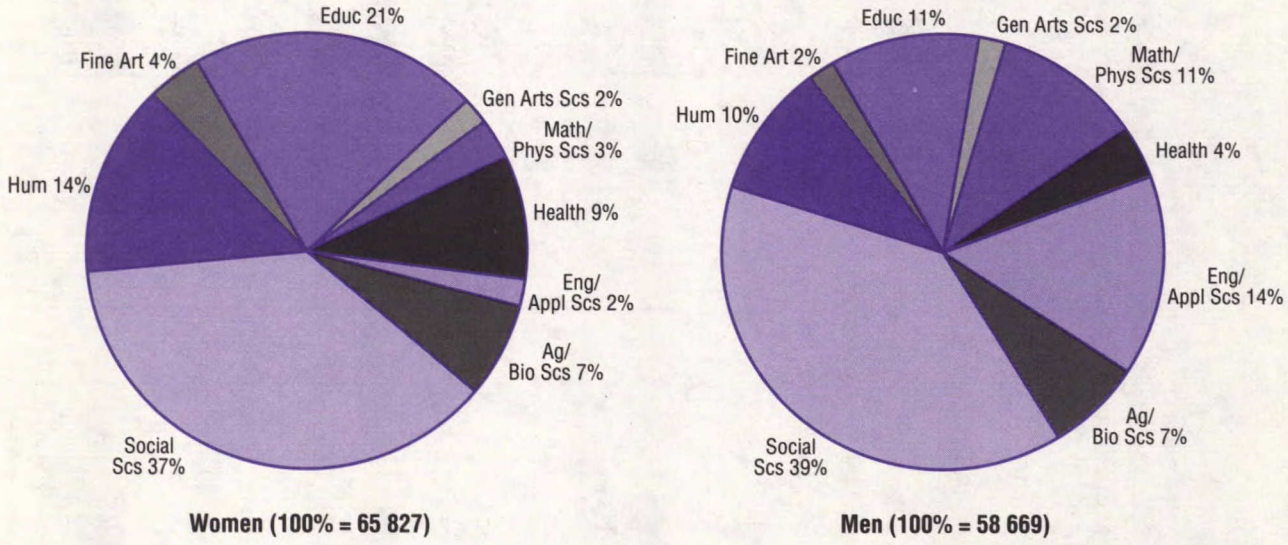
Yet, even those women with the necessary background in science and mathematics often do not opt for these fields in university. Recently, universities, industry and government have developed recruitment and outreach programs aimed at high school students, to display math and science as feasible, rewarding and receptive to women. Universities are developing bridging and re-entry programs, and governments and industry are providing financial aid and awards, to try to encourage students to undertake university studies in the natural sciences and engineering.

Active recruitment only goes so far. Universities must also ensure that science and engineering faculties provide a hospitable and supportive environment for women. A variety of critical mass theories propose that the higher drop-out rates among women in courses in natural science and engineering fields will persist until 15% to 30% of students and faculty are women. The interpersonal dynamics of the classroom will then change. Women would no longer feel isolated or overly visible, and could be effective role models for the next generation of women in science and engineering[3].

1. Ruskai, Mary Beth. "Why Women are Discouraged from Becoming Scientists." *The Scientist*, 3:3 (1990): 17.
2. Statistics Canada. *Women in Canada: A Statistical Approach*, 2nd ed. February 1990: 52.
3. Schmitz, Dr. Betty. "Women in Science, Mathematics, and Engineering: Strategies for the Future." *Conference Report*, 22.2 (1989): 13.

The data in this publication clearly show that the participation of women in many science and engineering disciplines has not increased significantly over time. This need not continue to be the case. A strong commitment from policy makers, industry and educators at all levels will ensure that the strides women have made in medicine and law will also be made in engineering, physics and other disciplines.

Chart 1. Percentage Distribution of Degree Recipients by Field of Study and Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

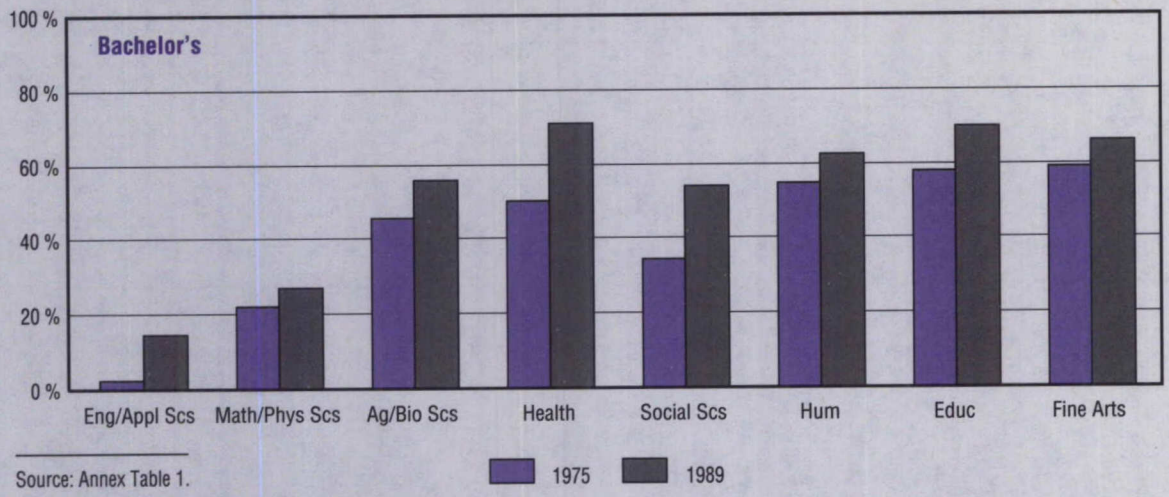
Women are attending Canadian universities in unprecedented numbers. In 1989, they earned 53% (65 827) of all degrees awarded, up from 42% (39 265) in 1975. Since 1981, women have received more than 50% of all bachelor's degrees awarded each year.

While the number of women pursuing degrees in non-traditional areas of study is growing, women continue to express a strong preference for traditionally female fields. For example, in 1989, thirty-eight percent of the bachelor degrees awarded to women were in the social sciences, but proportionately fewer received bachelor's degrees in any of the engineering or natural science fields. In fact, relatively more women graduated with a bachelor's degree in the humanities in 1989 than in all of the natural science and engineering fields combined (14%, versus 12%).

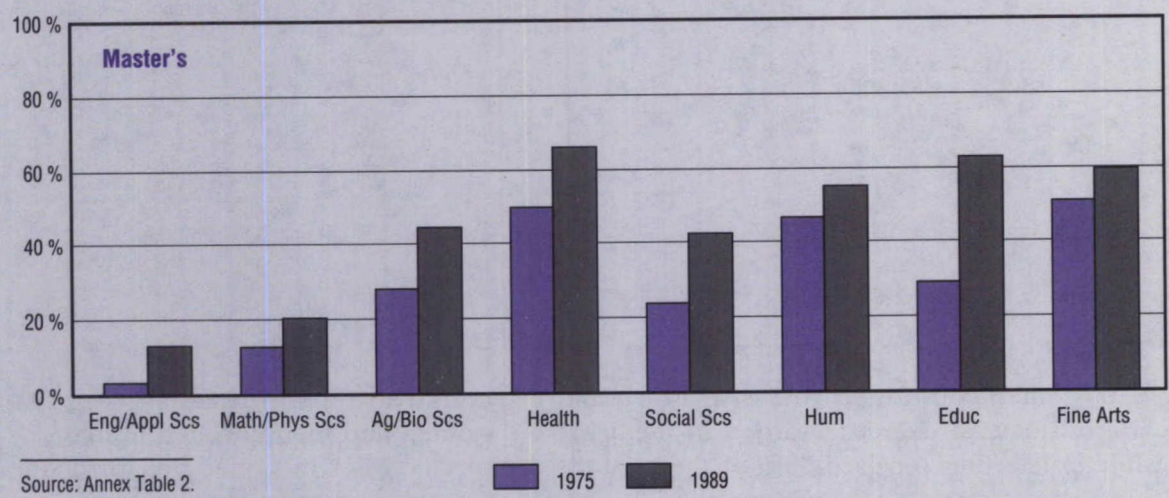
Although women constituted 56% of bachelor's degree recipients in the agricultural and biological sciences in 1989, and a full 71% of those awarded a bachelors' or first professional degree in a health profession or occupation, their representation in certain fields remains conspicuously low. In 1989, women earned 13% of the bachelor's degrees in engineering and the applied sciences, and 28% of those in mathematics and the physical sciences. Over the last 15 years the proportion of women in these two fields has increased by 10% and 6% respectively. It will be another 20 years before women achieve equal representation in engineering and applied sciences, and mathematics and physical sciences if the less-than-1-percent share per year increase does not accelerate.

In 1975, women received 28% of master's degrees and only 16% of doctoral degrees. By 1989 the percentage of master's degrees

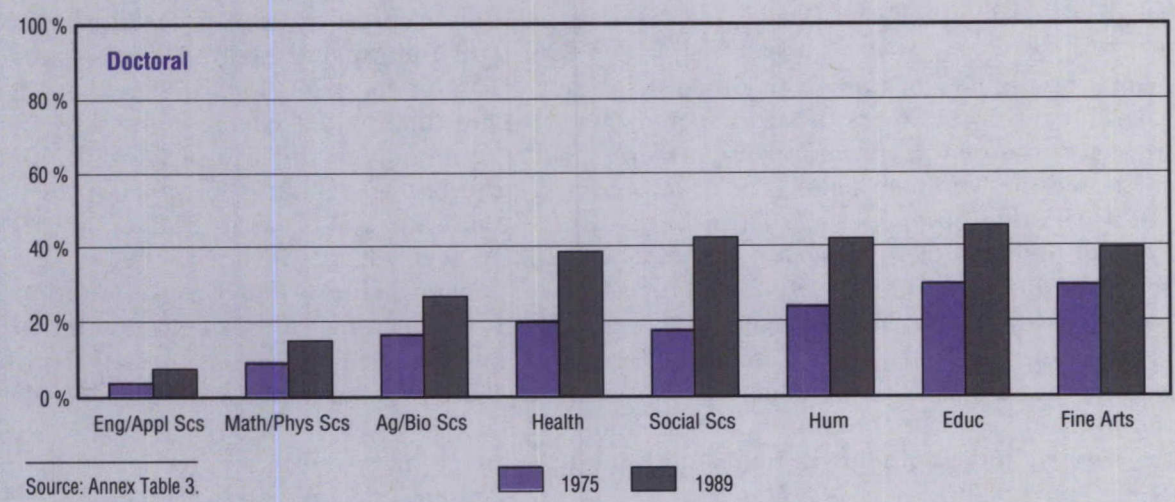
Chart 2. Women as a Proportion of Degree Recipients by Level and Field of Study, 1975 and 1989



Source: Annex Table 1.



Source: Annex Table 2.



Source: Annex Table 3.

awarded to women had increased to 45%, and the percentage of doctoral degrees had jumped to 30%.

Although the percentage of women earning graduate degrees has increased overall since 1975, it is apparent from Chart 2 that the more advanced the degree, the smaller the proportion of female recipients. This is particularly problematic in the natural sciences and engineering. Relatively few women are attaining the level of expertise necessary for many science and engineering occupations, particularly faculty positions.

It is important to recognize that women have made significant inroads into certain non-traditional disciplines within fields. In medicine, for example, the share of first professional degrees earned by women increased from 24% in 1975 to 45% in 1989. In 1989, women earned 48% of the bachelor's or first professional degrees in law, a dramatic increase from 21% in 1975. By 1989-90, fifty percent of law students and 44% of medical students enrolled at the bachelor's and first professional degree levels were women.

Even at the graduate level the proportion of women in these disciplines is much higher than in other non-traditional areas of study. In 1989, women constituted 46% of master's and 39% of doctoral degrees awarded in medicine while in law, they received 39% of the master's degrees, and 20% of the doctoral degrees that same year.

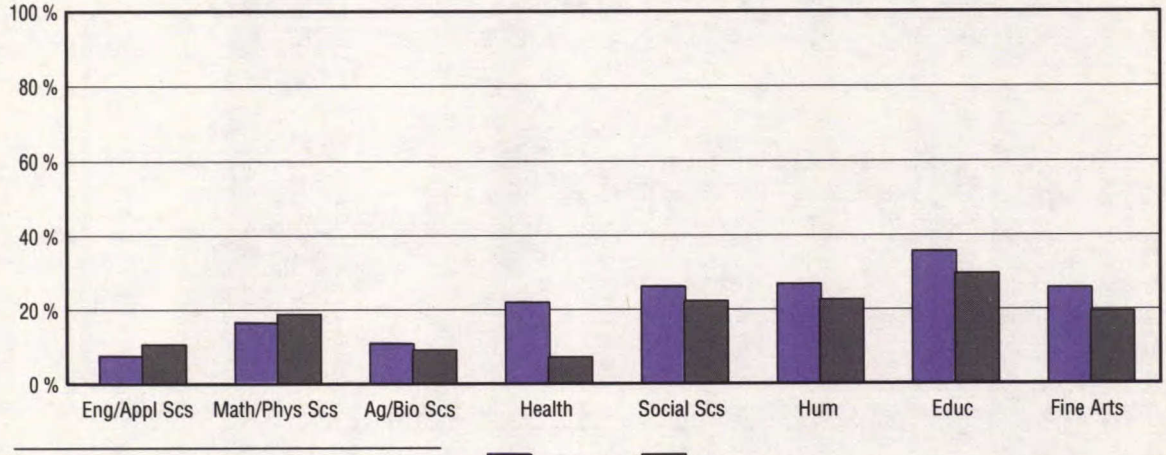
The number of women enrolled in degree granting programs increased from 208 132 in 1975-76 to 333 975 in 1989-90, from 45% to 53% of all students. The female majority in total enrolment is partially due to the large number of women enrolled part-time. Women accounted for over 61% of part-time students in 1989-90, up from 54% in 1975-76.

Chart 3 shows that, relative to men, more women were enrolled part-time in all fields except engineering and applied sciences, and mathematics and physical sciences, whereas the proportion of female and male students in the agriculture and biological sciences is about the same. Moreover, both male and female students in natural science and engineering fields and men in the health professions are less likely than others to be studying on a part-time basis.

Of the 27 326 foreign students enrolled in degree granting programs at Canadian universities in 1989-90, approximately 36% were women. By comparison, 54% of Canadian students were women.

As is evident from Table 1, foreign students constitute a significant proportion of the women and men enrolled in master's and doctoral studies in Canadian universities both in

Chart 3. Part-time Enrolment as a Proportion of Total Enrolment, by Field of Study and Gender, 1989-90



Enrolment in bachelor's, master's and doctoral programs
Source: Annex Tables 4, 5, 6 and 7.

engineering and applied sciences, and in mathematics and physical sciences.

Because most foreign students are expected to return to their countries of origin upon completion of their studies, the number of female engineers, mathematicians and physical scientists available to the Canadian labour market is considerably smaller than might be expected from a first look at the total number of female degree earners in these fields.

There were fewer women than men among faculty in all fields, particularly in the higher ranks and specifically in the fields of engineering and applied sciences, and mathematics and physical sciences. In 1987-88, the latest year for which data are available, 18% of full-time faculty members in Canadian universities were women, up from 14% in 1976-77.

In 1987-88, some 13% of all full-time female faculty were full professors, an increase from 7% in 1976-77. By comparison, 41% of the full-time male faculty were at this senior level, up from 28% in 1976-77.

Because of the much larger number of male faculty at this level, women made up a mere 7% of all full-time professors in 1987-88.

Table 1. Foreign Students as a Proportion of Enrolment by Field of Study, by Level and Gender, 1989-90.

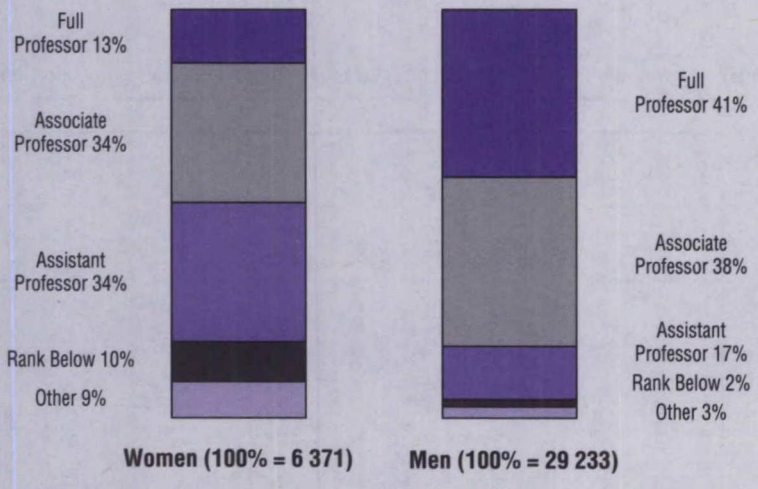
Field of Study	Bachelor's		Master's		Doctoral	
	Male	Female	Male	Female	Male	Female
	percent					
Engineering and Applied Sciences	5	4	29	27	48	45
Mathematics and Physical Sciences	8	8	27	25	40	35
Agriculture and Biological Sciences	2	2	20	15	32	23
Health Professions	1	1	15	8	26	18
Social Sciences	3	3	9	6	24	10
Humanities	2	2	9	6	19	15
Education	1	1	5	3	18	10
Fine Arts	2	2	6	4	8	6

Source: Annex Table 8.

The highest representation of women within ranks (48%) is found at the lecturer level (rank below assistant professor).

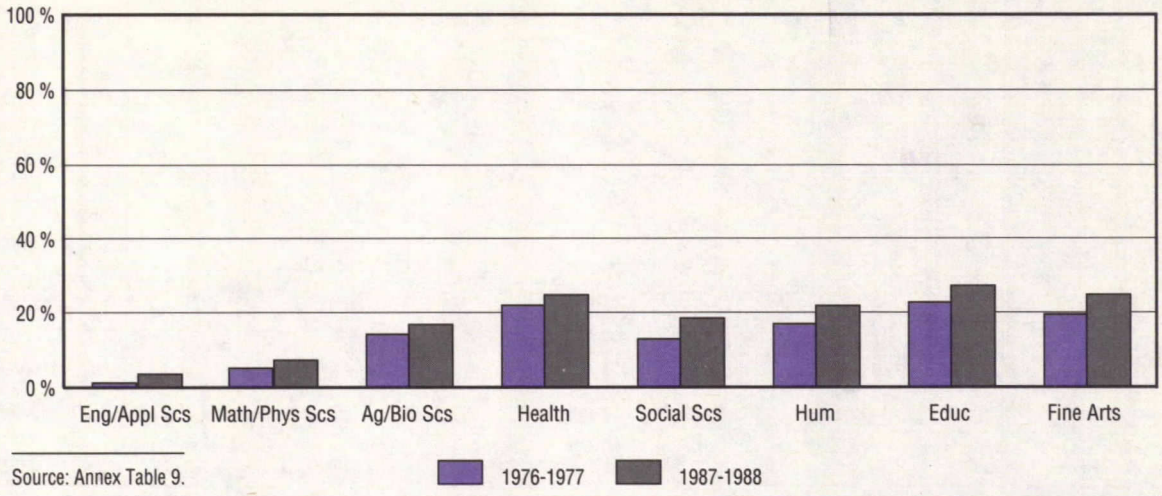
Chart 5 shows that women were under-represented in all full-time faculty positions, but particularly so in engineering and applied sciences, and mathematics and physical sciences. In 1987-88, women represented only 2% and 6% respectively of all full-time faculty in these fields.

Chart 4. Percentage Distribution of Full-time Faculty by Gender and Rank, 1987-88



Source: Annex Table 9.

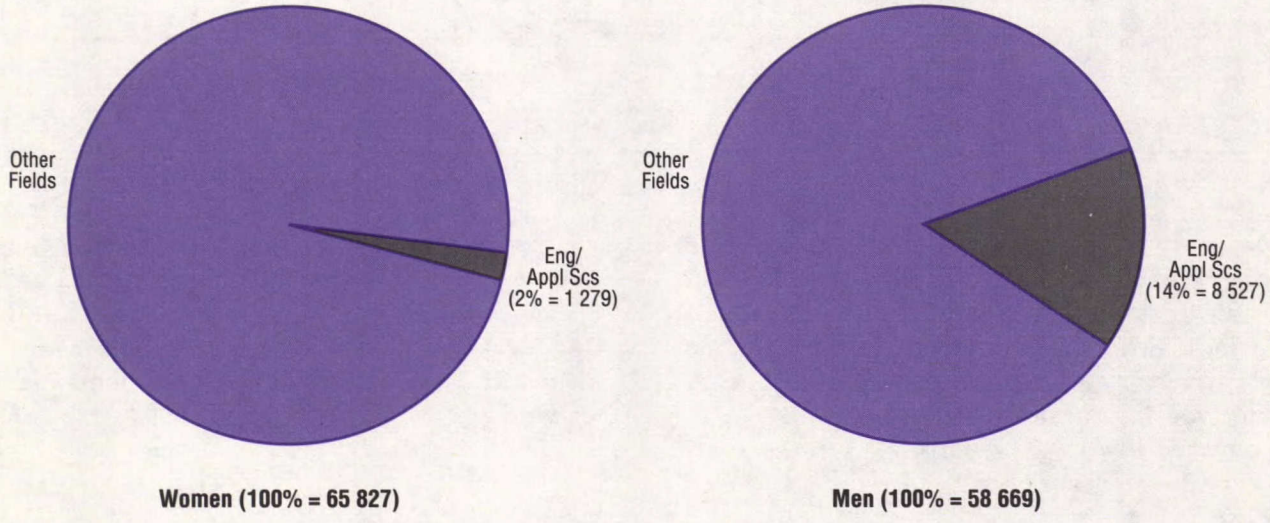
Chart 5. Women as a Proportion of Full-time Faculty Members by Field of Study, 1976-77 and 1987-88



Source: Annex Table 9.

Women in Engineering and the Applied Sciences

Chart 6. Engineering and Applied Science Degree Recipients by Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

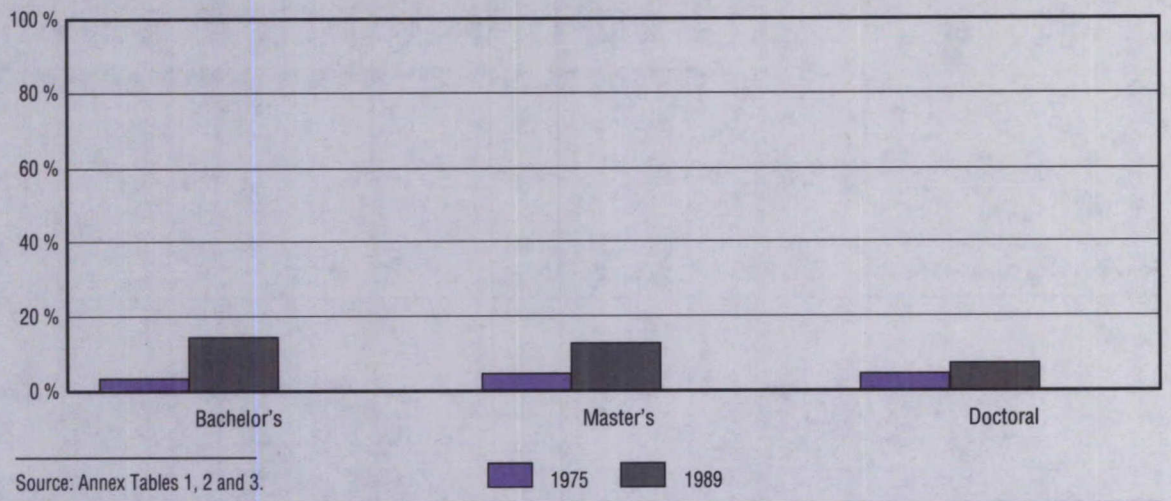
The engineering and applied sciences is the least popular field of study among women. Fourteen percent (8 527) of all men who earned a university degree in 1989 studied engineering and applied sciences, compared to only 2% (1 279) of the female degree earners. Out of all the students who were enrolled in engineering or applied sciences in 1989-90, less than 14% were women.

It is true that more women are earning these degrees now than in the past, but they still do not represent a large portion of the engineering and applied sciences degree earners. Hence very few of the engineering and applied science faculty are women.

Trends in Degree Attainment

In 1975, one hundred and twenty-eight bachelor's degrees in engineering and applied sciences, representing 3% of the total, were earned by women. Since then the number of women receiving these degrees has increased eightfold. Because the increase in the number of men during this same period was more than twice that of the women, they still made up only 13% of all bachelor's degree recipients in this field in 1989. In this same year, the proportion of master's degrees awarded to women had reached 12%, up from 4% in 1975. Among the doctoral degree earners only 6% were women, a slight improvement over the 4% in 1975.

Chart 7. Women as a Proportion of Engineering and Applied Science Degree Recipients by Level, 1975 and 1989



Source: Annex Tables 1, 2 and 3.

As shown in Table 2, the women who enter the engineering and applied sciences field are likely to choose any one of the areas of specialization, although those who go on to earn master's degrees tend to be concentrated in civil engineering. Male degree recipients, on the other hand, prefer electrical engineering at every degree level.

Because of the differences in female and male preference of specialization, the under-representation of women is more severe in some disciplines than in others. Table 3 shows that at the bachelor level only 8% of the degree recipients in both electrical and mechanical engineering were women, and that at the highest degree level 4% of electrical, and 2% of mechanical engineering doctoral students were women.

Enrolment Trends

In general, the number of engineering and applied science students has been increasing, although not at a steady rate. At all levels there

Table 2. Percentage Distribution of Engineering and Applied Science Degree Recipients by Discipline, Gender and Level of Study, 1989

Discipline	Bachelor's		Master's		Doctoral	
	Women	Men	Women	Men	Women[1]	Men
	percent					
Architecture	16	4	6	3	—	1
Engineering						
• Chemical	14	7	12	9	•	14
• Civil	14	12	21	17	•	14
• Electrical	14	27	14	29	•	26
• Mechanical	13	24	11	14	•	14
• Other	21	21	23	24	•	26
Forestry	4	4	9	4	•	5
Landscape Architecture	4	1	3	—	—	—
Total	100	100	100	100	100	100
Total number	1 064	6 852	196	1 366	19	309

[1] Cautionary Note: Actual numbers too low to be meaningful in percentages.
Source: Annex Tables 1, 2 and 3.

Table 3. Women as a Percentage of Engineering and Applied Science Degree Recipients by Discipline, and Level of Study, 1989

Discipline	Bachelor's		Master's		Doctoral	
	%	no.	%	no.	%	no.
Architecture	35	167	24	12	0	0
Engineering						
• Chemical	24	152	17	24	5	2
• Civil	15	148	15	41	4	2
• Electrical	8	152	7	28	4	3
• Mechanical	8	143	10	21	2	1
• Other	13	220	12	46	8	7
Forestry	15	43	26	18	20	4
Landscape Architecture	49	39	50	6	—	—
Total	13	1 064	12	196	6	19

Source: Annex Tables 1, 2 and 3.

have been consistent increases in the number of female students. In 1975-76, six percent (1 708) of students at the bachelor level in engineering and applied sciences were women: by 1989-90, fifteen percent (6 097) were women. On the other hand, the number of undergraduate men in this field peaked at 37 035 in 1985-86 and has since declined to 35 354 in 1989-90. The number of female graduate students increased from 229 in 1975-76 to 1 202 in 1989-90, from 4% to 13% of the graduate students in this field. The number of male graduate students fluctuated over the 15-year period, peaking at 8 070 in 1987-88 then falling to 7 753 in 1989-90 *(See Annex Tables 4-7)*.

Table 4. Canadian and Permanent Resident Students as a Proportion of Total Enrolment in Engineering and Applied Sciences by Level and by Gender, 1978-79 and 1989-90

Level	Women		Men	
	1978-79	1989-90	1978-79	1989-90
	percentage Canadian[1]		percentage Canadian[1]	
Bachelor's	94	96	90	95
Master's	82	73	80	71
Doctoral	69	55	72	52

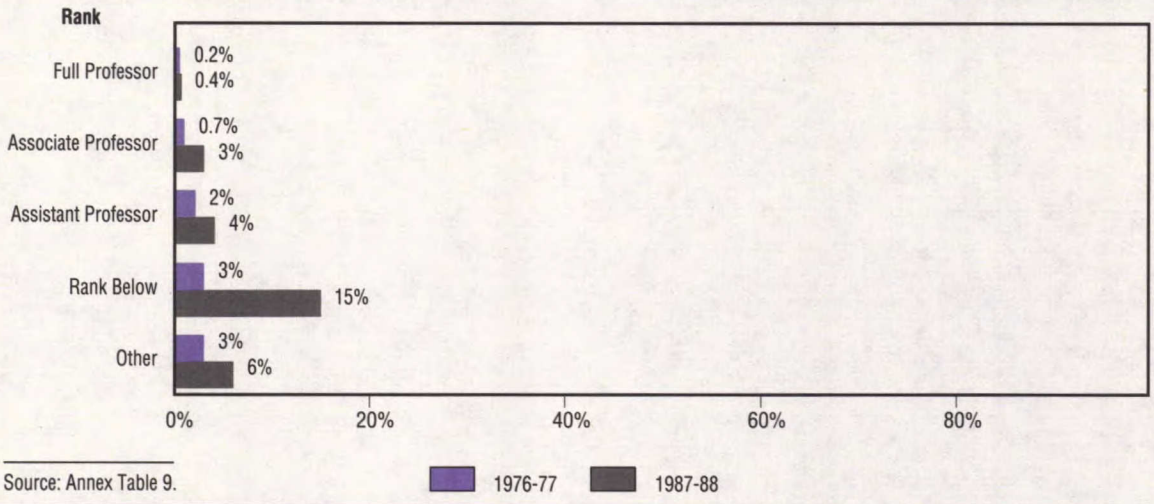
[1] Includes permanent residents.
Source: Annex Table 8.

In 1989-90, ninety-six percent of the women and 95% of the men enrolled at the bachelor's level were Canadian citizens or permanent residents. However, at the graduate levels the proportion of Canadian students is significantly smaller. Canadian citizens and permanent residents made up about 73% and 71% respectively of female and male master's students that year and 50% of the doctoral students (55% and 52% respectively). Upon completion of their degrees, approximately 25% of the master's degree recipients and 50% of the doctoral degree recipients in this field may not be available to the Canadian labour market.

Female Faculty

Female faculty members who might serve as role models to female students are few in engineering and applied sciences. In fact this field has a smaller proportion of women in full-time teaching positions than any other field; only 2% of the full-time faculty in 1987-88 were female. Between 1976-77 and 1987-88, the representation of women in engineering and applied science faculties increased by only a 1% share. As shown in Chart 8, the rank with the largest representation of women, 15% in 1987-88, is the lecturer level (one rank below assistant professor). Less than 1% of full-professors were women.

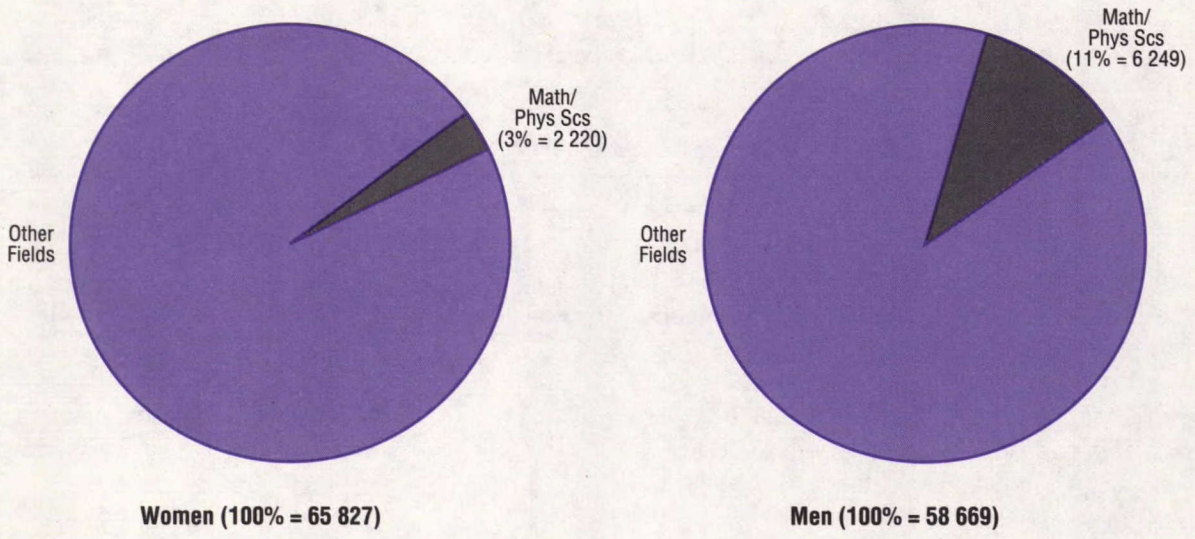
Chart 8. Women as a Percentage of Engineering and Applied Science Full-time Faculty Members by Rank, 1976-77 and 1987-88



Source: Annex Table 9.

Women in Mathematics and the Physical Sciences

Chart 9. Mathematics and Physical Science Degree Recipients by Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

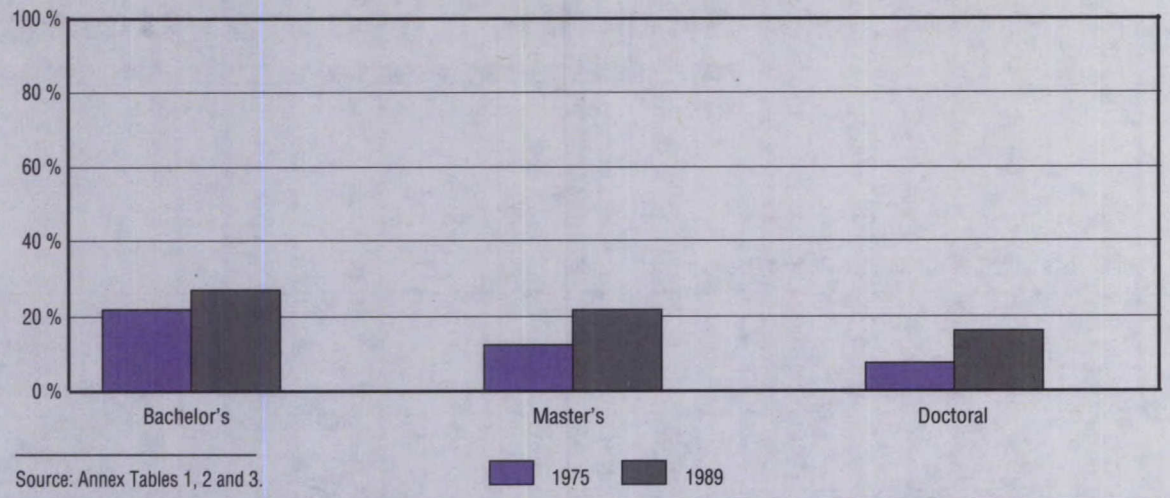
The participation of women in the fields of mathematics and the physical sciences is only slightly higher than their participation in the engineering and applied sciences fields. In 1989, only 3% (2 220) of the total number of female degree recipients earned degrees in this field, compared to 11% (6 249) of the male degree earners. Women make up a much smaller percentage of the students enrolled in mathematics and physical sciences. In 1989-90, twenty-seven percent (9 994) of students in this field were women. As with the engineering and applied sciences field, women's under-representation increases with the degree level. Among the full-time faculty members the numbers of women are smaller still.

Trends in Degree Attainment

In 1989, twenty-eight percent of bachelor's degree earners in the field were women, up from 22% in 1975. At the higher degree levels the representation of women becomes even smaller. In 1989, twenty-one percent of the master's degree recipients were women, and at the doctoral level women constituted a mere 16% of degree recipients.

Forty-three percent of the women who received bachelor's degrees in this field in 1989 earned mathematics degrees, and another 27% received computer science degrees. Few women specialized in geology or physics. Table 5 shows that men in this field also tend to specialize in mathematics and computer science.

Chart 10. Women as a Proportion of Mathematics and Physical Science Degree Recipients by Level, 1975 and 1989



Source: Annex Tables 1, 2 and 3.

In 1989, female degree recipients tended to specialize in mathematics at both the bachelor's and the master's level, yet it is in chemistry that the majority of women earn doctoral degrees. Male master's degree recipients were more often computer science graduates, but at the doctoral level men also earned more degrees in chemistry.

Within disciplines, mathematics and chemistry have the largest representation of female degree earners, 39% and 37% respectively at the bachelor's level. In contrast, a relatively small percentage of the physics and computer science degrees awarded in 1989 were earned by women, as is evident in Table 6. At the doctoral degree level, women made up only 6% of the physics and 7% of the computer science graduates.

Enrolment Trends

Graduate students, both female and male, have generally been increasing in number since 1975-76. However, recent trends at the bachelor's level are disturbing. The number of female bachelor's students in the field decreased from 9 224 in 1985-86 to 8 446 in 1989-90. Over this same five-year period, the number of male undergraduate students dropped from 24 592 to 21 324. The proportion of undergraduate students who are women has held at 28% during this five-year period, up from 24% in 1975-76. *(See Annex Tables 4-7)*

Table 5. Percentage Distribution of Mathematics and Physical Science Degree Recipients by Gender and Level, 1989

Discipline	Bachelor's		Master's		Doctoral	
	Women	Men	Women	Men	Women	Men
	percent					
Chemistry	19	13	21	14	57	34
Computer Science	27	42	21	28	4	10
Geology	6	7	19	15	10	11
Mathematics	43	26	24	21	15	16
Physics	5	12	10	18	9	24
Other	0	0	5	4	5	4
Total	100	100	100	100	100	100
Total number	1 894	4 890	247	938	79	421

Source: Annex Tables 1, 2 and 3.

Table 6. Women as a Percentage of Mathematics and Physical Science Degree Recipients by Discipline and Level, 1989

Discipline	Bachelor's		Master's		Doctoral	
	%	no.	%	no.	%	no.
Chemistry	37	629	28	52	24	45
Computer Science	20	2 051	16	52	7	3
Geology	24	336	24	46	14	8
Mathematics	39	1 253	24	60	15	12
Physics	14	602	13	25	6	7
Other	24	19	27	12	20	4
Total	28	4 890	21	247	16	79

Source: Annex Tables 1, 2 and 3.

Table 7. Canadian and Permanent Resident Students as a Proportion of Total Enrolment in Mathematics and Physical Sciences by Level and Gender, 1978-79 and 1989-90

Level	Women		Men	
	1978-79	1989-90	1978-79	1989-90
	percentage Canadian[1]		percentage Canadian[1]	
Bachelor's	91	92	91	92
Master's	79	75	81	73
Doctoral	73	65	70	60

[1] Includes permanent residents.
Source: Annex Table 8.

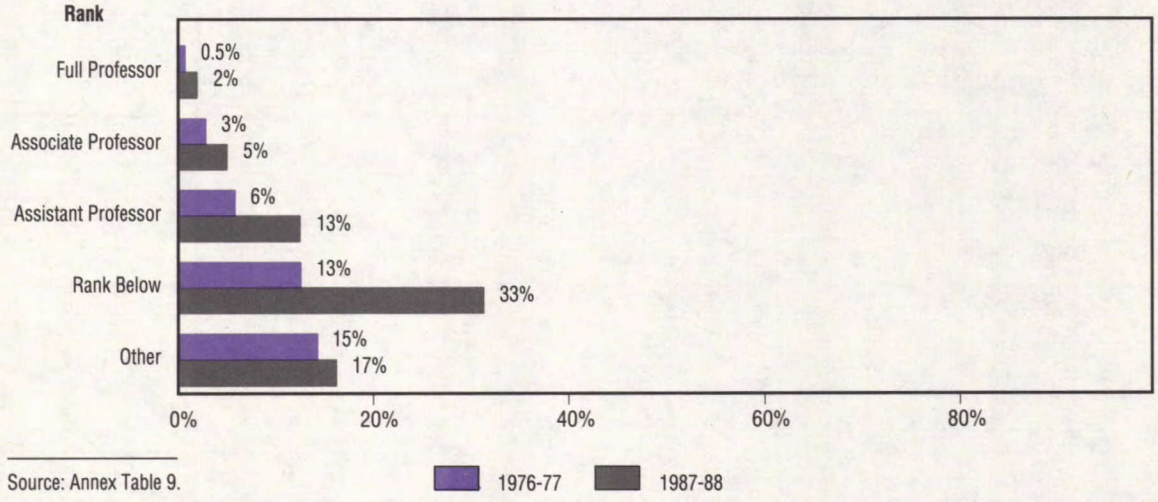
In 1989-90, ninety-two percent of the students, both female and male, were Canadian citizens or permanent residents at the bachelor's level. That proportion falls to about 75% among master's students, and to less than 65% of the students at the doctoral level. This field is the second most popular choice for female foreign students after the social sciences, and the third most popular choice for male foreign students after both the engineering and applied sciences, and the social sciences fields.

Female Faculty

As in engineering and applied sciences, there are few full-time female faculty members in the mathematics and physical sciences field. In 1976-77, only 4% (147) of all full-time faculty in this field were women. Although their numbers have increased by 142 since then, the number of male professors in the field also grew, so that by 1987-88, only 6% of full-time faculty were women. While still concentrated in the lower levels, female faculty members are moving up in rank. In 1976-77, less than 5% of all full-time female university teachers in the field were full professors. By 1987-88, that proportion had risen to 15%. By comparison, 49% of the male faculty were at the full professor level. The majority (33%) of female faculty were assistant professors.

Chart 11 shows that the highest representation of women within ranks is found at the lecturer level (the rank below assistant professor), although they make up only about 33% of instructors at that level. Their representation was lowest at the full-professor level where only 2% were women.

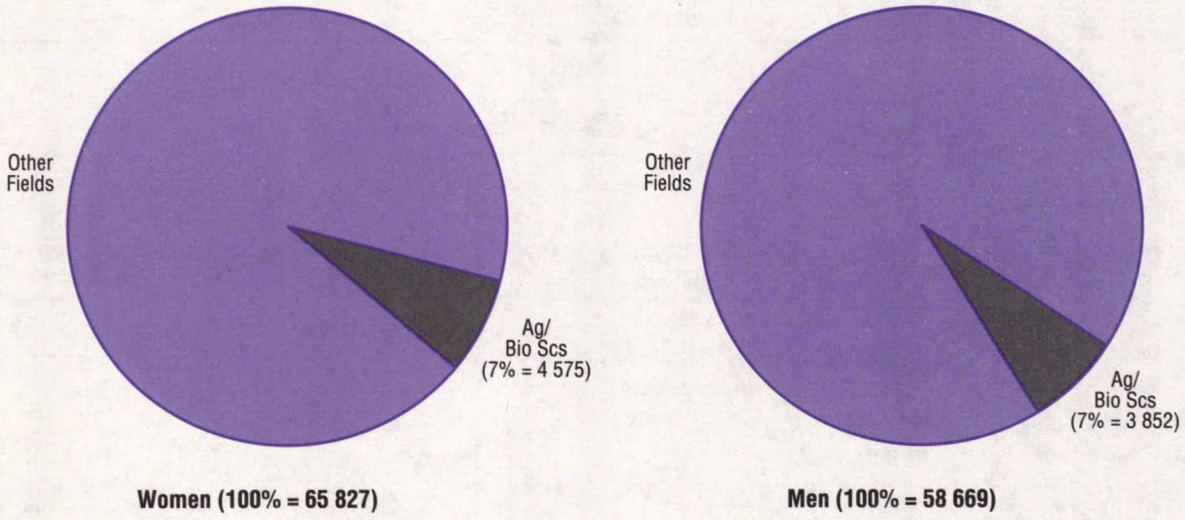
Chart 11. Women as a Percentage of Mathematics and Physical Science Full-time Faculty Members by Rank, 1976-1977 and 1987-88



Source: Annex Table 9.

Women in Agriculture and the Biological Sciences

Chart 12. Agriculture and Biological Science Degree Recipients by Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

Unlike the other science fields, an equal proportion of women and men receive degrees in agriculture and the biological sciences. Women constituted more than 50% (20 165) of the students enrolled and comprised 7% of female university degree earners in 1989. In many of the disciplines, however, they are still slightly outnumbered by men and parity has not been reached for graduate students and faculty.

Table 8. Percentage Distribution of Agriculture and Biological Science Degree Recipients by Level and Gender, 1989

Discipline	Bachelor's		Master's		Doctoral	
	Women	Men	Women	Men	Women	Men
	percent					
Agriculture	7	14	22	32	25	30
Biochemistry	9	14	4	5	11	11
Biology	51	60	35	39	29	31
Botany	0	1	4	2	2	6
Household Sciences	24	2	20	2	13	1
Veterinary Medicine	4	4	8	5	11	6
Zoology	3	4	6	12	9	12
Other	1	1	1	3	0	30
Total	100	100	100	100	100	100
Total number	4 115	3 167	375	458	85	227

Source: Annex Tables 1, 2 and 3.

Trends in Degree Attainment

In 1989, women earned 56% of the bachelor's degrees awarded in agriculture and the biological sciences, up from 46% in 1975. At the higher degree levels, however, women still represent less than 50% of the graduates. In 1975, 28% of the master's degrees and 17% of the doctoral degrees were awarded to women. By 1989, women were earning 45% of the master's and 27% of the doctoral degrees.

Chart 13. Women as a Proportion of Agriculture and Biological Science Degree Recipients by Level, 1975 and 1989

Source: Annex Tables 1, 2 and 3.

By far the most popular discipline at all degree levels within the field is biology. Fifty-one percent of all women and 60% of all men graduating with a bachelor's degree in agriculture and the biological sciences in 1989 received degrees in biology. A further 24% of women, but only 2% of men, received degrees in household sciences. The distribution of women and men among the other disciplines is roughly the same.

The most severe disparity in representation at the bachelor's level is that of men in the household sciences, where women accounted for 95% of the degree recipients in 1989. In both veterinary medicine and biology, women earned more than 50% of the degrees. The representation of women is lower at the graduate degree levels. For example, 53% of the bachelor's degrees and 42% of master's degrees in biology were earned by women, but women received only 26% of doctoral degrees.

Table 9. Women as a Percentage of Agriculture and Biological Science Degree Recipients by Discipline and Level, 1989

Discipline	Bachelor's		Master's		Doctoral	
	%	no.	%	no.	%	no.
Agriculture	40	302	37	84	24	21
Biochemistry	46	388	38	15	27	9
Biology	53	2 090	42	131	26	25
Botany	35	11	67	16	13	2
Household Sciences	95	1 002	88	75	79	11
Veterinary Medicine	58	154	55	28	39	9
Zoology	48	138	31	24	22	8
Other	45	30	13	2	0	0
Total	56	4 115	45	375	27	85

Source: Annex Tables 1, 2 and 3.

Enrolment Trends

The number of male undergraduate students in agriculture and the biological sciences fluctuated over the 15-year period. In 1989-90, there were 12 963 male students at the bachelor's level in the field, only 594 more than in 1975-76. On the other hand, the number of female undergraduates increased steadily over the same period, from 11 248 in 1975-76 to 18 047 in 1989-90. Women constituted 58% of the undergraduate student population in the field in 1989-90, up from 48% in 1975-76. Women are also making inroads at the graduate levels. In 1989-90, women accounted for 41% (2 118) of the masters and doctoral students, up from 27% (966) in 1975-76. *(See Annex Tables 4-7)*

The proportion of foreign students in agriculture and biological sciences is smaller than in either the engineering and applied sciences or mathematics and physical sciences fields; 98% of both female and male bachelor's students were Canadian citizens or permanent residents in 1989-90, up from 97% and 96% respectively in 1978-79.

Table 10. Canadian and Permanent Resident Students as a Proportion of Total Enrolment in Agriculture and Biological Sciences by Level, 1978-79 and 1989-90

Level	Women		Men	
	1978-79	1989-90	1978-79	1989-90
	percentage Canadian[1]		percentage Canadian[1]	
Bachelor's	97	98	96	98
Master's	90	85	86	80
Doctoral	82	77	75	68

[1] Includes permanent residents
Source: Annex Table 8.

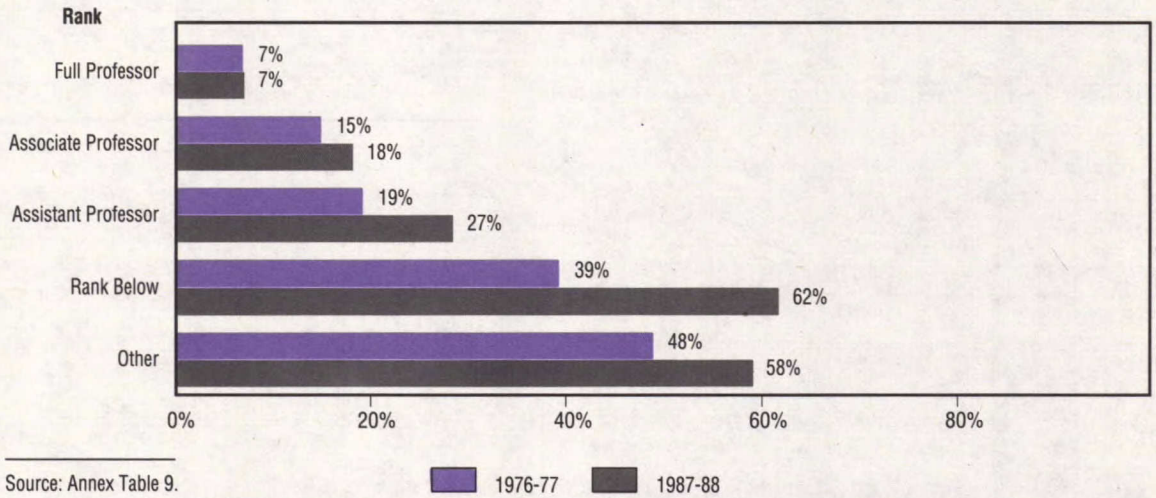
As in other fields, the proportion of Canadian students drops as the degree level increases. Table 10 shows that the proportion of graduate students who are Canadian citizens was smaller in 1989-90 than in 1978-79. It is important to note, however, that the actual number of Canadian graduate students, both female and male, has been increasing over the same period.

In 1987-88, seven percent of female (433) and 7% of male full-time faculty (2 110) were teaching agriculture and the biological sciences. However, because the total number of female faculty members is considerably smaller than that of men, women still made up only 17% of the full-time faculty members that year, a slight increase from 16% in 1976-77. In 1987-88, nineteen percent of all full-time faculty were full-professors, up from 15% in 1976-77. This compares to 51% of the male faculty who were full professors in 1987-88, an increase from 37% in 1976-77. About an equal proportion of female and male faculty were associate professors, 32% and 30% respectively.

Although female faculty members' representation within ranks is greater than in the engineering and applied sciences, and mathematics and physical sciences fields, the same pattern emerges. Chart 14 shows that the proportion of women within the lower ranks is greater than the proportion in the more senior ranks.

Female Faculty

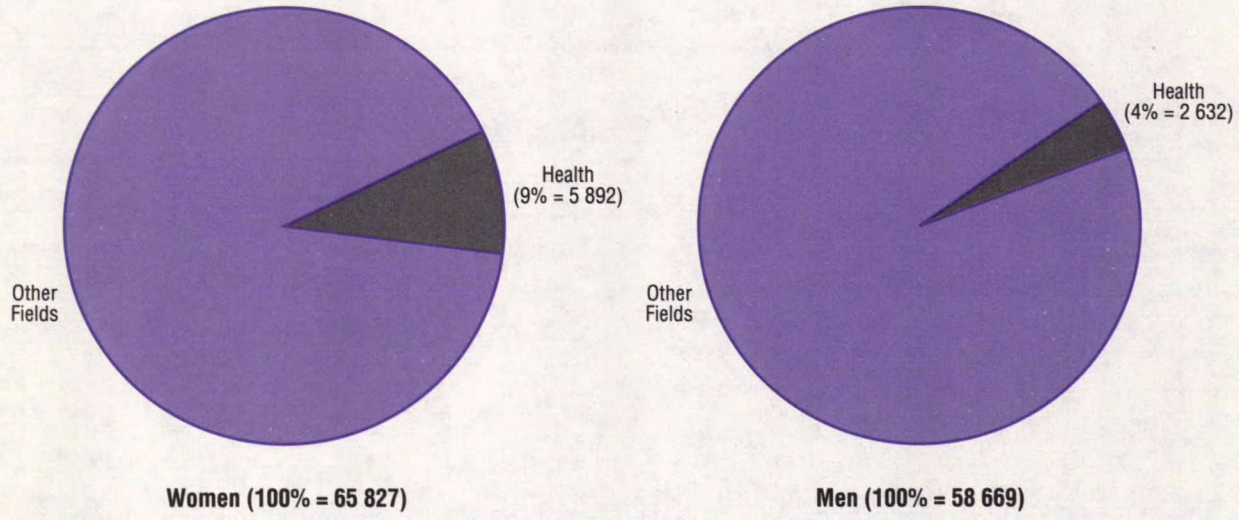
Chart 14. Women as a Percentage of Agriculture and Biological Science Full-time Faculty Members by Rank, 1976-77 and 1987-88



Source: Annex Table 9.

Women in Health Professions and Occupations

Chart 15. Degree Recipients in Health Professions and Occupations by Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

Gender representation is particularly interesting in the health sciences because the field is composed of both traditionally male- and traditionally female-dominated disciplines. As in agriculture and the biological sciences field, proportionally more women than men receive degrees in this field. In 1989, four percent of all male, and 9% of all female graduates earned degrees in health professions or occupations. On the whole, there were more women in this field than men. Although women made up 69% (24 321) of all students in 1989-90, their representation varied greatly from one discipline to the next. There were also more female full-time university teachers within this field, 24% in 1987-88, a marginal increase over their 22% share in 1976-77.

Table 11. Percentage Distribution of Health Profession and Occupations Degree Recipients by Gender and Level, 1989

Discipline	Bachelor's		Master's		Doctoral	
	Women	Men	Women	Men	Women	Men
	percent					
Dentistry	3	15	1	3	1	0
Medicine	19	57	33	74	86	85
Nursing	49	5	26	3	—	—
Pharmacy	9	11	1	3	3	6
Rehabilitation	16	6	21	6	0	0
Other	3	6	18	11	9	9
Total	100	100	100	100	100	100
Total number	5 174	2 135	601	314	117	183

Source: Annex Tables 1, 2 and 3.

Trends in Degree Attainment

Extraordinary growth has occurred in the number of women receiving degrees in the health professions and occupations between 1975 and 1989. The number of degrees earned by women at the bachelor's and first professional

Chart 16. Women as a Proportion of Degree Recipients in Health Professions and Occupations by Level, 1975 and 1989

Source: Annex Tables 1.2 and 3.

degree levels nearly doubled, while it almost quadrupled at the master's level, and increased by 4 1/2 times at the doctoral level. In 1975, more men than women received degrees in this field at every degree level. By 1989 this was the case only at the doctoral level where women earned 39% of the degrees, up from 20% in 1975. The representation of women among degree recipients increased from 53% to 71% at the bachelor's level, and from 51% to 66% at the master's level.

The over-representation of women at the bachelor's and master's degree levels in the health sciences field is due to two factors: the continued over-representation of women in the female-dominated disciplines of nursing and rehabilitation, and the significant gains women have made in the traditionally male-dominated disciplines of medicine and dentistry.

In 1989 nearly half of the women in this field (49%) earned degrees in nursing, compared to 5% of men, the result being that almost 96% of the bachelor's and first professional degree recipients in this discipline were women. Similarly, 86% of those receiving bachelor's degrees in rehabilitation were women, and at the master's level 95% of nursing and 86% of rehabilitation graduates were women. Doctoral programs in nursing do not exist in Canada, and no doctoral degrees in rehabilitation were granted in 1989.

Table 12. Women as a Percentage of Health Professions Degree Recipients by Discipline and Level, 1989

Discipline	Bachelor's		Master's		Doctoral	
	%	no.	%	no.	%	no.
Dentistry	34	158	27	3	100	1
Medicine	45	1 000	46	201	39	101
Nursing	96	2 510	95	156	—	—
Pharmacy	68	487	36	5	27	4
Rehabilitation	86	851	86	128	—	—
Other	55	168	75	108	41	11
Total	71	5 174	66	601	39	117

Source: Annex Tables 1, 2 and 3.

Medicine is the most popular discipline among men. In 1989, fifty-seven percent of all men in this field were granted first professional degrees in medicine, compared to 19% of all women.

However, the representation of women in medicine and dentistry has increased dramatically at the bachelor's level. In 1975, twenty-four percent of medicine and 10% of dentistry graduates were women. By 1989, women earned 45% of the degrees in medicine and 34% of the dentistry degrees.

Enrolment Trends

The number of female students enrolled in the health field has been increasing steadily at every degree level since 1975-76. In 1989-90,

there were 21 032 female students at the bachelor's level, up from 12 557 in 1975-76 while the number of male undergraduate students has decreased since 1975-76. Fourteen years later, 8 712 male students were enrolled at the bachelor's level, down from 9 405 in 1975-76. At the undergraduate level, the representation of women in the health field increased from 57% in 1975-76 to 71% in 1989-90. At the graduate level, the numbers of students have increased almost every year between 1975-76 and 1989-90. Women now comprise approximately 58% (3 289) of the graduate students in this field, up from 44% (814) in 1975-76. *(See Annex Tables 4-7).*

The proportion of students in the health field that are Canadian citizens or permanent residents and therefore able to enter the Canadian labour force upon completion of their degrees is relatively high compared to other science fields. While the proportion of Canadian undergraduate students both female and male has increased slightly between 1978-79 and 1989-90, the share of graduate students who were Canadian citizens or permanent residents had fallen. At both the master's and doctoral level, proportionally more female than male students are Canadian.

Table 13. Canadian and Permanent Resident Students as a Proportion of Total Enrolments in Health Professions by Level, 1978-79, 1989-90

Level	Women		Men	
	1978-79	1989-90	1978-79	1989-90
	percentage Canadian[1]		percentage Canadian[1]	
Bachelor's	98	99	98	99
Master's	94	92	88	85
Doctoral	90	82	87	74

[1] Includes permanent residents.
Source: Annex Table 8.

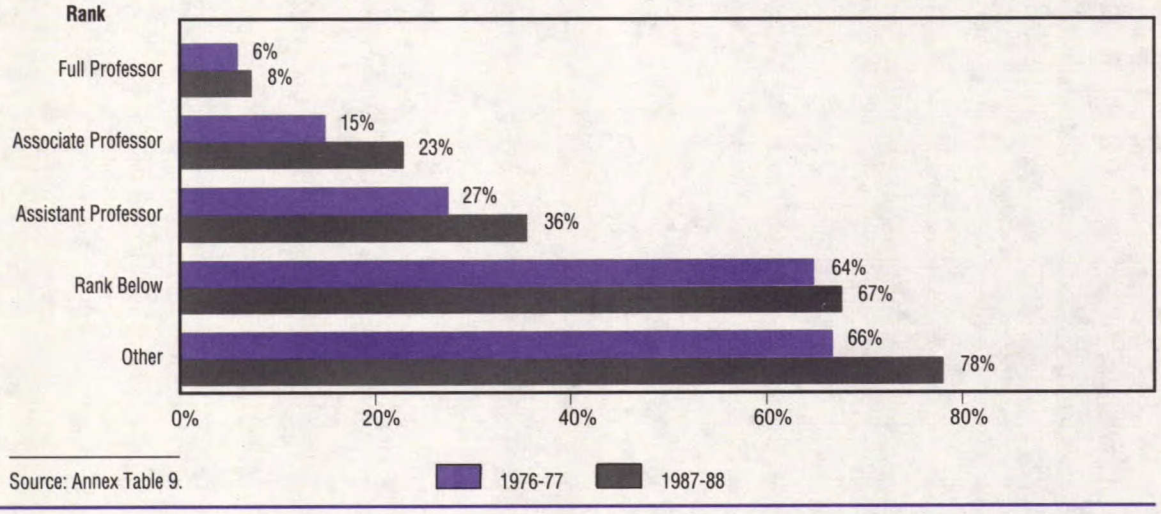
Female Faculty

The percentage share of all female faculty found in the health science fields has remained the same (22%) between 1976-77 to 1987-88 whereas the share of all male faculty has increased from 13% to 15% over the same period.

Although the number of female faculty increased by 425, from 1976-77 to 1987-88, the number of male faculty increased by 1 000 over the same period.

In 1987-88, women constituted almost 25% of all full-time faculty in the field, a slight increase from 22% in 1976. As with other science fields, the representation of female faculty members decreases as the rank rises. In 1987-88, women constituted 67% of the lecturers but only 8% of the full professors in this field.

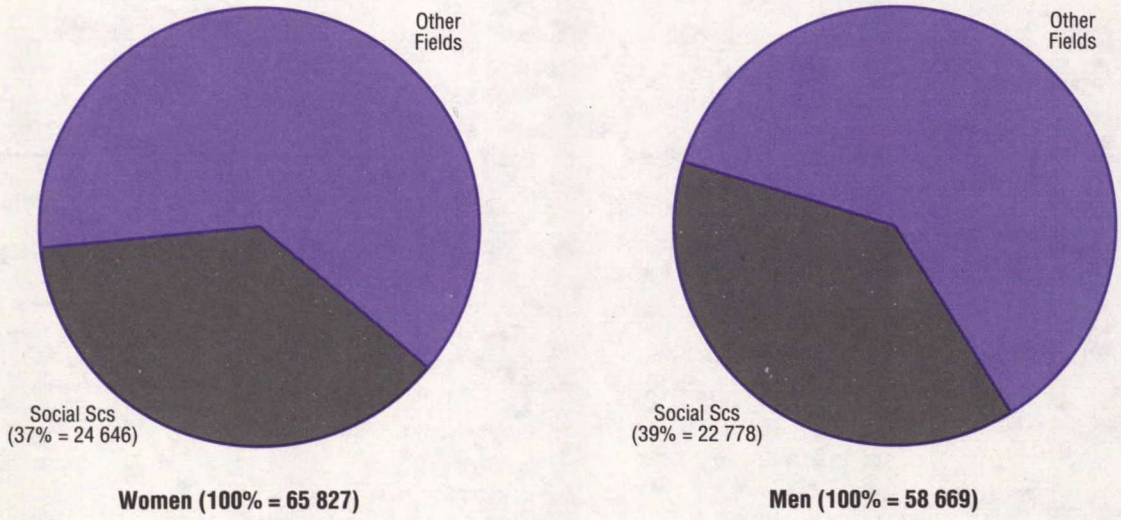
Chart 17. Percentage of Female Health Professions and Occupations Full-time Faculty Members by Rank, 1976-77 and 1987-88



Source: Annex Table 9.

Women in the Social Sciences

Chart 18. Social Science Degree Recipients by Gender, 1989



Includes bachelor's, master's and doctoral degrees
Source: Annex Tables 1, 2 and 3.

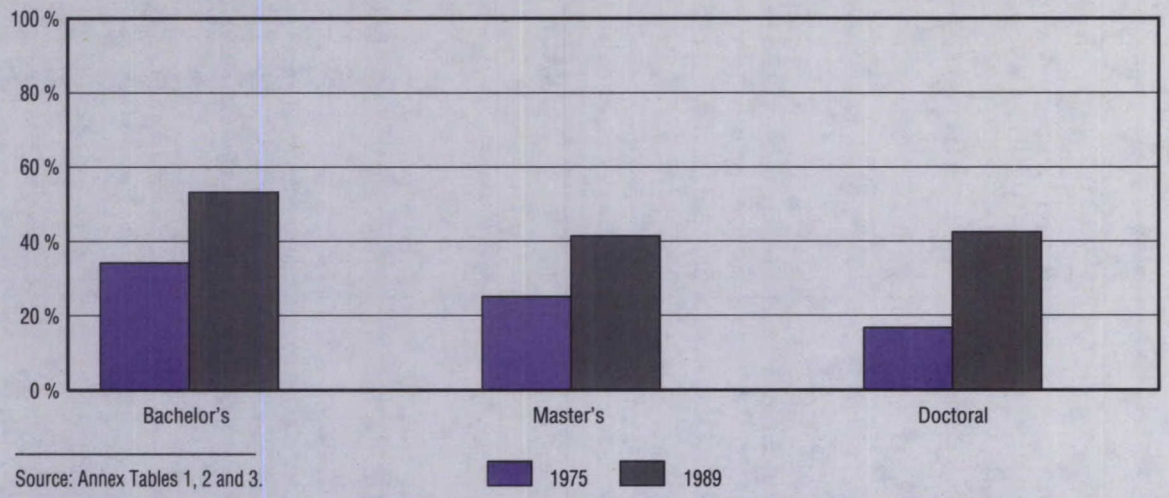
Table 14. Percentage Distribution of Social Science Degree Recipients by Level and Gender, 1989

Discipline	Bachelor's		Master's		Doctoral	
	Women	Men	Women	Men	Women	Men
	percent					
Anthropology	2	1	2	1	5	3
Area Studies	1	1	1	1	0	1
Business and Commerce	28	39	36	58	3	13
Economics	6	14	4	7	5	20
Environment Studies	1	2	5	5	0	2
Geography	3	6	2	3	6	8
Law	7	9	2	2	1	3
Political Science	7	11	5	7	7	10
Psychology	24	9	14	4	59	24
Secretarial Studies	1	0	—	—	—	—
Social Work	6	2	14	4	1	1
Sociology	11	5	4	2	12	12
Other	3	2	9	6	1	2
Total	100	100	100	100	100	100
Total number	21 753	18 651	2 678	3 833	215	294

Source: Annex Tables 1, 2 and 3.

The social sciences field is a particularly popular one for both women and men: 37% (24 646) of all female and 39% (22 778) of all male degree earners graduated with a social science degree in 1989. This is partly due to the fact that there are more disciplines in this field than in any other. As well, the social sciences are conducive to part-time study: 31% (28 354) of all female and 38% (22 624) of all male part-time students in 1989 were in this field. Although women made up a large proportion of all students (53%) and graduates (52%) in the social sciences in 1989-90, they were not as well represented among full-time faculty. In 1987-88, women represented only 18% of faculty members.

Chart 19. Women as a Proportion of Social Science Degree Recipients by Level, 1975 and 1989



Source: Annex Tables 1, 2 and 3.

Trends in Degree Attainment

In 1975, women earned about 35% of the bachelor's degrees awarded in the social sciences. By 1989, women received 54% of these degrees. At the graduate level, women have also increased their representation dramatically, although they do not yet earn half of the graduate degrees awarded. At the master's level, the proportion of women grew from 24% to 41% between 1975 and 1989, while at the doctoral level their proportion grew from 18% to 42%.

At the bachelor's and master's levels the majority of both women and men received their degrees in business and commerce. In 1989, 28% of women and 39% of men graduated with a bachelor's degree in this discipline. In the same year 36% of women and 58% of the men graduated with a master's degree in business and commerce. At the doctoral level it is no longer business, but psychology, that graduated the largest number of women and men: 59% of the women and 24% of the men.

At the bachelor's level, women are well represented in the social sciences. In fact, many of the disciplines are female-dominated. About 75% of the degrees in sociology, psychology, social work and secretarial studies are earned by women. On the other hand, law, which traditionally has been male-dominated, now has nearly as many female degree earners as male. In 1989, forty-eight percent of those who earned first professional degrees in law were women; a significant improvement since 1975 when only 21% were women. The disciplines with the lowest share of female bachelor's degree earners were economics (32%) and geography (38%). Table 15 shows that as with most other science disciplines, the representation of women decreases as the degree level advances.

Table 15. Women as a Proportion of Social Science Degree Recipients by Discipline, 1989

Discipline	Bachelor's		Master's		Doctoral	
	%	no.	%	no.	%	no.
Anthropology	69	478	54	60	52	11
Area Studies	67	223	53	36	0	0
Business and Commerce	45	6 005	30	969	12	6
Economics	32	1 312	28	109	16	11
Environment Studies	40	228	41	129	12	1
Geography	38	649	36	64	35	13
Law	48	1 569	39	47	20	2
Political Science	44	1 537	35	142	35	15
Psychology	75	5 168	69	374	64	126
Secretarial Studies	99	179	—	—	—	—
Social Work	78	1 239	73	384	40	2
Sociology	74	2 428	57	110	42	25
Other	65	738	52	254	33	3
Total	54	21 753	41	2 678	42	215

Source: Annex Tables 1, 2 and 3.

Enrolment Trends

In 1975-76, women made up 36% (34 958) of all social science bachelor's level students in the social sciences. By 1989 their share rose to 54% (96 410). The representation of women at the graduate levels of study is not quite as high. In 1989-90, 44% (12 050) of all graduate students in the social sciences were women, an increase from 26% (4 933) in 1975-76. *(See Annex Tables 4-7).*

Table 16 shows that Canadian students make up most of the enrolment at all degree levels within the social sciences, especially among the women. As opposed to all other science fields, the proportion of Canadian students, both female and male, is on the rise.

Table 16. Canadian and Permanent Resident Students as a Proportion of Total Enrolment in Social Sciences by Level, 1978-79 and 1989-90

Level	Women		Men	
	1978-79	1989-90	1978-79	1989-90
	percentage Canadian[1]		percentage Canadian[1]	
Bachelor's	96	97	95	97
Master's	93	94	90	91
Doctoral	82	90	75	76

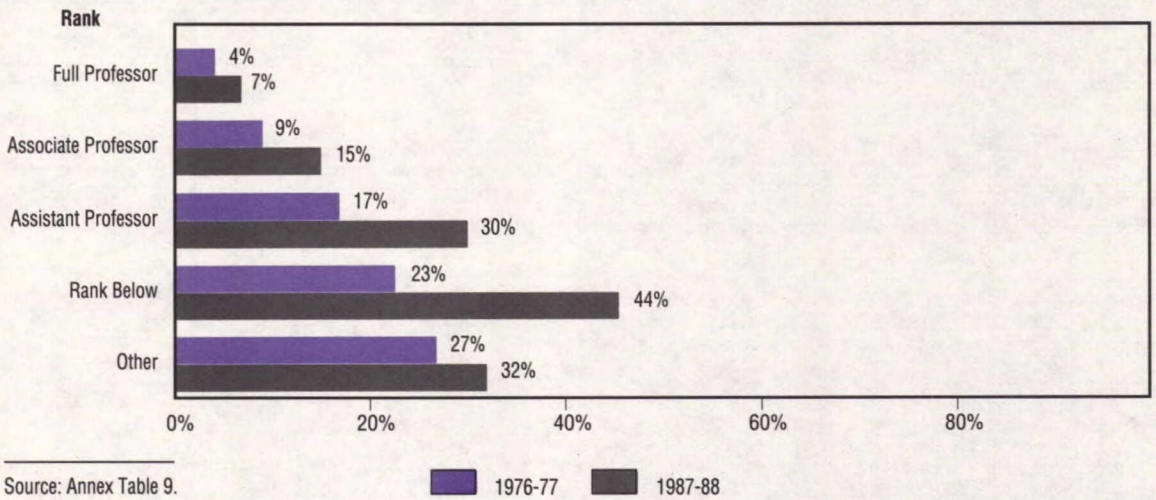
[1] Includes permanent residents.
Source: Annex Table 8.

Female Faculty

Women made up 18% of the full-time faculty in the social sciences in 1987-88, up from 12% in 1976-77. As in all of the other science fields, women's representation on faculty increased at every level since 1976-77. The greatest increase was at the lecturer level (rank below assistant professor) where women constituted 44% of the total in 1987-88, up from 23% in 1976-77. The smallest gain was at the full-professor level: women accounted for 7% of all full professors in 1987-88, up from 4% in 1976-77.

As with other science fields, female faculty are moving up in rank but at a slower pace than their male counterparts. For example, in 1976-77, seven percent of all full-time female faculty in the field were full professors. By 1987-88, the proportion had risen to 13%. By comparison, 37% of the male faculty were at the full-professor level in 1987-88, up from 25% in 1976-77.

Chart 20. Women as a Percentage of Social Science Full-time Faculty Members by Rank, 1976-77 and 1987-88



Source: Annex Table 9.

In recent years Industry, Science and Technology Canada (ISTC) has introduced new initiatives to encourage students to pursue studies in science and engineering. Some of these initiatives were developed specifically for women and are described in the following pages.

Canada Scholarships Program

- The Canada Scholarships Program is an $80-million, five-year investment by the federal government in the education of highly qualified scientists and engineers.
- Based on academic performance, the Scholarships provide $2 000 per year for up to four years to outstanding university students in science, engineering or related disciplines.
- To attract more women into science and engineering, at least 50% of the first-year Scholarships are awarded to women.
- In 1989, more than 11 000 applications were received and about 3 500 Scholarships were awarded to first-year undergraduate students. It is estimated that by 1991 there will be 10 000 active Canada Scholars receiving $20 million in Scholarship funding.

Corporate Sponsorships

A number of corporations have agreed to provide special awards to top Canada Scholars entering specific fields.

The two most recent firms to join with ISTC in support of the Canada Scholarships Program are SCIEX and NOVA Corporation. SCIEX plans to provide $24 000 over three years in special awards to Canada Scholars in engineering. NOVA has developed a program aimed solely at women. Over a two-year period, NOVA will provide $24 000 in special awards to female Canada Scholars in engineering to encourage their advancement and to attract more outstanding women into this field.

For more information on the Canada Scholarships Program or Corporate Sponsorships, contact:

University and College Affairs Branch
Industry, Science and Technology Canada
8th Floor West
235 Queen Street
OTTAWA, Ont.
K1A 0H5
Tel.: (613) 990-6149

Canada Scholars' Register

The Technical Service Council (TSC), an industry-sponsored placement service and personnel consulting firm, has agreed to produce and administer a register containing a list of resumés of Canada Scholars seeking Co-op, summer or permanent employment. The service will be free to the Canada Scholars who wish to be included on the register. The Canada Scholars Register will be circulated to over 1 000 firms with the guarantee that the qualifications of each Canada Scholar will reach a minimum of 100 employers.

For more information on the Register, contact:

Technical Service Council
1 St. Clair Avenue East
10th Floor
TORONTO, Ont.
M4T 2V7
Tel.: (416) 966-5030

Junior Research Fellowships

Through the participation of leading federal research and engineering laboratories and provincial research organizations, the Canada Scholarships Program is able to offer a limited number of Junior Research Fellowships to selected Canada Scholars. Only those scholars listed in the Canada Scholars Register are eligible for the hands-on experience in a top-flight laboratory setting, where they will work under the guidance of distinguished senior researchers.

For a complete list of participating organizations and copies of the brochure outlining this program, contact:

University and College Affairs Branch
Industry, Science and Technology Canada
8th Floor West
235 Queen Street
OTTAWA, Ont.
K1A 0H5
Tel.: (613) 998-1301

Mentor Clubs

To increase the likelihood of scholarship renewal, mentor clubs are being instituted at selected universities. Canadian Marconi Ltd. has generously contributed to this project which will allow Canada Scholars to draw upon the experience of older students and the support of their peers and professors.

For more information, contact:

Canada Scholarships Program
Awards Division
Association of Universities and
Colleges of Canada
151 Slater Street
OTTAWA, Ont.
K1P 5N1
Tel.: (613) 563-1236

Speakers' Bureau Pilot Project

The Association of Professional Engineers of Ontario (APEO) has agreed to establish a Speakers' Bureau in order to encourage science and engineering at the secondary and elementary school level. The Bureau features a list of over 400 professional engineers and scientists who are willing to visit Ontario schools and speak to students on topics concerning science and engineering. Over 50% of the volunteer speakers are women who will function as role models for female students. APEO has agreed to assist other provinces in mounting similar initiatives.

For further information, contact:

Ms. Hanna Pilar
The Association of Professional
Engineers of Ontario
Suite 101
1155 Yonge Street
TORONTO, Ont.
M4T 2Y5
Tel.: (416) 961-1100

Canadian Committee on Women in Engineering

A private-sector-led project to improve both the environment for and the participation of women in engineering was announced in February 1990. The committee, chaired by Dr. Monique Frize of the University of New Brunswick, was established under the Industrial Adjustment Service (IAS) of Employment and Immigration Canada (EIC) with support from ISTC. Signatories to the agreement establishing the committee are the Canadian Council of Professional Engineers, the Association of Universities and Colleges of Canada, the Canadian Manufacturers Association, and the Association of Consulting Engineers of Canada. Other national organizations represented on the committee include: the Society of Canadian Women in Science and Technology (SCWIST), Women in Science and Engineering (WISE) and the Canadian Association of University Teachers to name a few. Committee members also include private firms. The Committee's goal is to consider recommendations and

propose actions to remove gender stereotypes and systemic barriers that prevent women from entering and remaining in the engineering profession. A national public conference is being held May 21-23, 1991, in Fredericton, New Brunswick to discuss the findings of the Committee.

For further information on the Committee's work, contact:

Ms. Jeanne Inch
Coordinator
The Canadian Committee on Women in Engineering
University of New Brunswick
P.O. Box 4400
FREDERICTON, N.B.
E3B 5A3
Tel.: (506) 453-4515

Natural Sciences and Engineering Research Council Initiatives

In 1988, the Natural Sciences and Engineering Research Council (NSERC) established a subcommittee of its Committee on Scholarships and Fellowships to identify policies and practices which the Council could adopt to encourage a more balanced participation of women in its various programs. The subcommittee made a number of recommendations to Council, most of which were accepted and have been implemented or will be implemented in the near future.

Program regulations have been modified to permit recipients of NSERC postgraduate scholarships or postdoctoral fellowships to defer commencing tenure of their award, or to interrupt their award, for up to two years due to maternity leave, child-rearing or family responsibilities. In addition, the time frame for eligibility to apply for NSERC postdoctoral fellowships has been extended by up to three years for persons who have withdrawn from the work force and from active research for childbearing and/or rearing purposes for at least one year after receiving their doctoral degree.

The program of Undergraduate Student Research Awards, which has been successful in promoting students' interest in postgraduate studies, has been extended to include a component targeted at female students in the mathematical and physical sciences or engineering who have just started their undergraduate degree program. A new program of Women's Faculty Awards has been established to encourage universities to appoint outstanding women with doctoral degrees to faculty positions in science and engineering. Twenty awards have been given in 1990 in the first annual competition. NSERC will contribute a significant portion of the award-holder's salary for five years and a three-year research grant will accompany the award. A Women in Engineering Chair, jointly funded by NSERC, Northern Telecom Canada Ltd., and the University of New Brunswick has also been established. Research Reorientation Associateships have been introduced to facilitate re-entry into a research career for Ph.D.'s who left the work force five or more years ago to attend to family responsibilities. A similar program of Research Reorientation Scholarships, for persons with master's degrees who now wish to pursue a doctoral degree, is also being implemented.

Special letters stressing Canada's need for more female scientists and engineers are being sent to female recipients of certain NSERC awards in order to encourage them to seriously consider continuing their studies at the postgraduate level. The Council has also pledged to continue to monitor the progress and participation of women in personnel training and grant programs. General data are being collected on applications for grants and scholarships to facilitate this process and permit analysis.

For further information, contact:

Teresa Brychcy
Director
Scholarships and Fellowships Programs
Natural Sciences & Engineering Research Council
200 Kent Street
OTTAWA, Ont.
K1A 1H5
Tel.: (613) 995-5521

National Research Council Training Program for Women in Science and Engineering

The National Research Council (NRC), Canada's principal scientific research establishment, has announced the creation of a new training program to promote careers in science and engineering for women. The NRC will provide financial assistance and career-related training to promising women who are enrolled full-time in undergraduate studies in science and engineering at Canadian universities. During a three-year period, the women will attend university full-time for part of the year and spend the rest of their time on a career-related work assignment in a NRC laboratory or with one of the NRC's industrial partners.

For further information on NRC training opportunities and application forms, contact:

Personnel Branch
National Research Council of Canada
Room W-112, Building M-58
Montreal Road
OTTAWA, Ont.
K1A 0R6
(613) 993-9134

Technical Notes and Definitions

The analyses in this Fact Book are based on data obtained from the Education, Culture and Tourism Division, Statistics Canada.

Bachelor's and first professional degrees – All bachelor's degrees so named, whether a specialized or a general degree, and all professional degrees which are neither bachelor's nor master's (e.g. M.D., D.M.D., D.D.S. & D.V.M.).

Citizenship – Reliable data on citizenship are available only since 1978-79. Prior to that academic year the citizenship of a significant number of students was not reported.

Doctorates – Highest academic degree conferred by a university. Only earned doctorates are included in these statistics. First professional degrees with Doctor in the title, such as M.D. and D.D.S. are not included.

Faculty – Information concerning full-time university faculty is limited to a period ending in 1987. This is the latest year for which complete data were available. Data were also available only for full-time faculty members. Therefore part-time faculty information has not been examined. Full-time university faculty are all academic staff and senior administrators whose term of appointment is four months or more. Presidents and vice-presidents are excluded.

Full-time/part-time students – As there is no commonly accepted definition of a part-time student, Statistics Canada reports full-time or part-time registration status as supplied by each respondent.

Foreign students – Students studying in Canada with a student authorization or special visa. Students with permanent resident (landed immigrant) status are not included in this category.

Undergraduate enrolment – Includes bachelor and first professional degree level students.

Graduate enrolment – University students in master's and doctoral degree programs. Full-time graduate enrolment also includes hospital residents, and since 1980, interns.

Master's degree – All university degrees so named except the Master's of Divinity, which is considered a first professional degree.

Natural Science and Engineering fields – Include engineering and Applied Sciences, Mathematics and Physical Sciences, and Agriculture and Biological Sciences.

Rank – The rank classification contains five categories: full professor, associate professor, assistant professor, rank below and other. The rank below assistant professor generally consists of lecturers. The category called "other" refers to faculty members whom institutions consider to be two levels below the assistant professor rank, and to ungraded staff.

Representative Disciplines Within Fields of Study

Engineering and Applied Sciences

Architecture
Engineering (all types)
Forestry
Landscape Architecture

Mathematics and Physical Sciences

Astronomy
Chemistry
Computer Science
Geology
Materials Science
Mathematics
Metallurgy
Meteorology
Oceanography
Physics
Statistics

Agriculture and Biological Sciences

Agriculture
Biology
Botany
Fisheries and Wildlife Management
Food Science and Nutrition
Household Science
Veterinary Medicine/Sciences
Zoology

Health Professions and Occupations

Dentistry
Epidemiology and Public Health
Medicine/Medical Sciences
Medical Technology
Nursing
Optometry
Pharmacy
Rehabilitation Medicine

Social Sciences

Administration/Management
Anthropology
Archaeology
Canadian/Other area studies
Commerce/Business
Demography
Economics
Geography
Law and Jurisprudence
Political Science
Psychology
Social work/Services
Sociology

Humanities

Classics
History
Journalism
Languages, Literature
Library Science
Linguistics
Mass Communication Studies
Philosophy
Religious/Theological Studies
Translation and Interpretation

Education

Educational Psychology
Kinesiology
Physical Education
Recreation
Teacher Training

Fine and Applied Arts

Fine Art
Industrial Design
Music
Other Performing Arts

Annex

Table 1. Bachelor's and First Professional Degrees Granted by Field of Study and by Gender, 1975, 1982 and 1989

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Engineering and Applied Sciences	128	4 681	4 809	668	6 557	7 225	1 064	6 852	7 916
Architecture	40	391	431	99	379	478	167	309	476
Engineering									
Chemical	10	374	384	102	565	667	152	474	626
Civil	18	948	966	85	1 214	1 299	148	824	972
Electrical	14	960	974	64	1 450	1 514	152	1 859	2 011
Mechanical	5	843	848	64	1 452	1 516	143	1 660	1 803
Other	26	880	906	138	1 160	1 298	220	1 445	1 665
Forestry	4	252	256	76	292	368	43	240	283
Landscape Architecture	11	33	44	40	45	85	39	41	80
Mathematics and Physical Sciences	883	3 174	4 057	1 382	3 485	4 867	1 894	4 890	6 784
Chemistry	144	602	746	199	480	679	363	629	992
Computer Science	175	624	799	424	1 181	1 605	507	2 051	2 558
Geology	45	486	531	152	455	607	109	336	445
Mathematics	479	1 075	1 554	555	998	1 553	807	1 253	2 060
Physics	37	380	417	47	357	404	102	602	704
Other	3	7	10	5	14	19	6	19	25
Agriculture and Biological Sciences	2 322	2 703	5 025	2 609	2 306	4 915	4 115	3 167	7 282
Agriculture	117	416	533	318	527	845	302	449	751
Biochemistry	80	203	283	186	239	425	388	458	846
Biology	894	1 513	2 407	1 061	1 176	2 237	2 090	1 890	3 980
Botany	16	33	49	19	17	36	11	20	31
Household Sciences	1 031	20	1 051	783	24	807	1 002	50	1 052
Veterinary Medicine	42	158	200	115	143	258	154	113	267
Zoology	140	356	496	99	138	237	138	151	289
Other	2	4	6	28	42	70	30	36	66
Health Professions	2 680	2 412	5 092	3 792	2 259	6 051	5 174	2 135	7 309
Dentistry	44	412	456	106	410	516	158	312	470
Medicine	522	1 605	2 127	894	1 483	2 377	1 000	1 219	2 219
Nursing	1 284	40	1 324	1 579	46	1 625	2 510	105	2 615
Pharmacy	325	314	639	448	240	688	487	229	716
Rehabilitation	504	40	544	760	79	839	851	135	986
Other	1	1	2	5	1	6	168	135	303

(continued)

Table 1. Bachelor's and First Professional Degrees Granted by Field of Study and Gender, 1975, 1982 and 1989 *(concluded)*

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Social Sciences	7 926	14 544	22 470	13 183	15 751	28 934	21 753	18 651	40 404
Anthropology	381	229	610	324	145	469	478	217	695
Area studies	84	54	138	103	57	160	223	109	332
Business, Commerce, etc.	711	4 617	5 328	3 627	6 956	10 583	6 005	7 258	13 263
Economics	305	1 530	1 835	811	2 036	2 847	1 312	2 726	4 038
Environment studies	54	247	301	201	348	549	228	344	572
Geography	548	1 407	1 955	562	989	1 551	649	1 069	1 718
Law	555	2 115	2 670	1 173	1 941	3 114	1 569	1 674	3 243
Political Science	402	1 179	1 581	698	1 161	1 859	1 537	1 971	3 508
Psychology	2 596	1 819	4 415	2 847	1 043	3 890	5 168	1 688	6 856
Secretarial studies	272	1	273	205	–	205	179	1	180
Social Work	605	282	887	1 073	307	1 380	1 239	352	1 591
Sociology	1 364	915	2 279	1 308	564	1 872	2 428	846	3 274
Other	49	149	198	251	204	455	738	396	1 134
Humanities	5 510	4 536	10 046	5 358	3 375	8 733	7 995	4 842	12 837
Fine and Applied Arts	1 336	876	2 212	1 744	994	2 738	2 214	1 161	3 375
Education	10 903	7 517	18 420	11 258	4 625	15 883	11 824	5 130	16 954
General Arts and Science*	4 162	4 461	8 623	4 468	3 292	7 760	1 463	915	2 378
Total	**35 850**	**44 904**	**80 754**	**44 462**	**42 644**	**87 106**	**57 496**	**47 743**	**105 239**

*Includes fields not reported

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

Table 2. Master's Degrees Granted by Field of Study and by Gender, 1975, 1982 and 1989

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Engineering and Applied Sciences	37	926	963	98	1 078	1 176	196	1 366	1 562
Architecture	2	40	42	9	42	51	12	39	51
Engineering									
Chemical	4	98	102	24	100	124	24	117	141
Civil	2	189	191	13	264	277	41	235	276
Electrical	5	165	170	4	238	242	28	392	420
Mechanical	5	104	109	6	146	152	21	198	219
Other	16	290	306	26	254	280	46	328	374
Forestry	2	39	41	9	22	31	18	51	69
Landscape Architecture	1	1	2	7	12	19	6	6	12
Mathematics and Physical Sciences	107	714	821	155	627	782	247	938	1 185
Chemistry	37	140	177	33	87	120	52	135	187
Computer Science	11	114	125	34	152	186	52	265	317
Geology	13	99	112	26	120	146	46	139	185
Mathematics	34	173	207	36	125	161	60	193	253
Physics	12	163	175	12	126	138	25	173	198
Other	–	25	25	14	17	31	12	33	45
Agriculture and Biological Sciences	131	342	473	240	392	632	375	458	833
Agriculture	13	87	100	60	124	184	84	146	230
Biochemistry	5	14	19	9	9	18	15	24	39
Biology	55	137	192	80	134	214	131	180	311
Botany	7	15	22	7	14	21	16	8	24
Household Sciences	32	2	34	43	10	53	75	10	85
Veterinary Medicine	4	21	25	15	34	49	28	23	51
Zoology	15	63	78	25	66	91	24	54	78
Other	–	3	3	1	1	2	2	13	15
Health Professions	155	148	303	350	244	594	601	314	915
Dentistry	1	13	14	1	10	11	3	8	11
Medicine	60	112	172	169	202	371	201	232	433
Nursing	52	3	55	78	8	86	156	8	164
Pharmacy	7	16	23	9	15	24	5	9	14
Rehabilitation	35	4	39	93	9	102	128	21	149
Other	–	–	–	–	–	–	108	36	144

(continued)

Table 2. Master's Degrees Granted by Field of Study and Gender, 1975, 1982 and 1989 *(concluded)*

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Social Sciences	976	3 082	4 058	1 772	3 190	4 962	2 678	3 833	6 511
Anthropology	32	47	79	57	33	90	60	52	112
Area studies	30	47	77	35	25	60	36	32	68
Business, Commerce, etc.	139	1 415	1 554	554	1 612	2 166	969	2 206	3 175
Economics	45	309	354	92	293	385	109	274	383
Environment studies	46	174	220	82	211	293	129	184	313
Geography	32	150	182	46	117	163	64	111	175
Law	4	41	45	22	91	113	47	74	121
Political Science	25	124	149	92	194	286	142	267	409
Psychology	224	285	509	325	228	553	374	171	545
Social Work	264	183	447	272	122	394	384	145	529
Sociology	78	110	188	89	90	179	110	84	194
Other	57	197	254	106	174	280	254	233	487
Humanities	972	1 154	2 126	1 054	790	1 844	1 226	925	2 151
Fine and Applied Arts	65	65	130	139	110	249	223	147	370
Education	670	1 491	2 161	1 495	1 367	2 862	1 973	1 145	3 118
General Arts and Science*	6	27	33	4	5	9	29	10	39
Total	**3 119**	**7 949**	**11 068**	**5 307**	**7 803**	**13 110**	**7 548**	**9 136**	**16 684**

*Includes fields not reported

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

Table 3. Doctoral Degrees Granted by Field of Study and by Gender, 1975, 1982 and 1989

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Engineering and Applied Sciences	9	218	227	8	175	183	19	309	328
Architecture	–	1	1	–	2	2	–	2	2
Engineering									
Chemical	2	44	46	2	30	32	2	42	44
Civil	–	41	41	4	27	31	2	45	47
Electrical	2	53	55	–	53	53	3	80	83
Mechanical	2	30	32	1	28	29	1	43	44
Other	2	44	46	1	29	30	7	81	88
Forestry	1	5	6	–	6	6	4	16	20
Mathematics and Physical Sciences	30	384	414	36	282	318	79	421	500
Chemistry	17	150	167	18	102	120	45	143	188
Computer Science	1	27	28	–	21	21	3	43	46
Geology	1	33	34	4	42	46	8	48	56
Mathematics	5	59	64	5	45	50	12	69	81
Physics	4	104	108	8	60	68	7	102	109
Other	2	11	13	1	12	13	4	16	20
Agriculture and Biological Sciences	41	195	236	51	170	221	85	227	312
Agriculture	4	35	39	6	39	45	21	67	88
Biochemistry	9	21	30	6	22	28	9	24	33
Biology	15	61	76	19	62	81	25	71	96
Botany	6	21	27	3	6	9	2	14	16
Household Sciences	1	–	1	–	1	1	11	3	14
Veterinary Medicine	–	5	5	3	9	12	9	14	23
Zoology	6	50	56	14	28	42	8	28	36
Other	–	2	2	–	3	3	–	6	6
Health Professions	25	97	122	38	112	150	117	183	300
Dentistry	–	1	1	–	1	1	1	–	1
Medicine	22	91	113	36	103	139	101	156	257
Pharmacy	2	5	7	2	8	10	4	11	15
Rehabilitation	1	–	1	–	–	–	–	–	–
Other	–	–	–	–	–	–	11	16	27

(continued)

Table 3. Doctoral Degrees Granted by Field of Study and Gender, 1975, 1982 and 1989 *(concluded)*

Field of Study	1975			1982			1989		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
					number				
Social Sciences	65	292	357	113	268	381	215	294	509
Anthropology	4	5	9	11	6	17	11	10	21
Area studies	4	8	12	7	10	17	–	4	4
Business, Commerce, etc.	–	19	19	1	17	18	6	39	45
Economics	4	48	52	8	49	57	11	59	70
Environment studies	–	2	2	2	7	9	1	7	8
Geography	3	36	39	3	23	26	13	24	37
Law	1	6	7	–	3	3	2	8	10
Political Science	2	18	20	2	19	21	15	28	43
Psychology	37	111	148	62	93	155	126	72	198
Social Work	3	4	7	–	4	4	2	3	5
Sociology	7	32	39	14	25	39	25	34	59
Other	–	3	3	3	12	15	3	6	9
Humanities	68	220	288	80	151	231	127	178	305
Fine and Applied Arts	2	5	7	4	8	12	8	12	20
Education	50	122	172	91	122	213	127	149	276
General Arts and Science*	6	11	17	4	2	6	6	17	23
Total	**296**	**1 544**	**1 840**	**425**	**1 290**	**1 715**	**783**	**1 790**	**2 573**

*Includes fields not reported

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

Table 4. Full-time Enrolment of Women by Field of Study and by Level, 1975-76 to 1989-90

Field of study	Level	1975-76	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90
Engineering and Applied Sciences	Bachelor's	1 630	3 503	4 919	5 001	5 100	5 429	5 657
	Master's	125	278	460	508	553	585	658
	Doctoral	44	52	126	154	175	203	249
Mathematics and Physical Sciences	Bachelor's	3 536	5 289	7 793	7 369	7 014	6 881	6 967
	Master's	304	378	675	707	703	699	774
	Doctoral	173	202	359	389	459	491	511
Agriculture and Biological Sciences	Bachelor's	10 428	10 105	14 771	15 451	15 919	16 077	16 120
	Master's	596	794	1 081	1 092	1 114	1 166	1 202
	Doctoral	174	278	458	487	522	555	598
Health Professions and Occupations	Bachelor's	11 593	12 763	15 647	15 758	15 910	16 272	16 493
	Master's	491	795	1 377	1 418	1 438	1 589	1 727
	Doctoral	135	222	406	462	531	590	665
Social Sciences	Bachelor's	25 583	39 007	58 757	61 355	64 534	68 569	72 755
	Master's	2 502	3 773	4 950	5 269	5 254	5 407	5 687
	Doctoral	678	924	1 401	1 471	1 562	1 615	1 668
Humanities	Bachelor's	13 123	12 882	18 735	20 028	21 924	23 679	26 196
	Master's	1 934	2 319	2 610	2 658	2 615	2 684	2 647
	Doctoral	713	766	993	1 083	1 165	1 245	1 288
Education	Bachelor's	26 557	24 064	25 885	26 561	27 216	27 780	29 609
	Master's	1 021	1 504	2 070	2 203	2 178	2 316	2 421
	Doctoral	272	463	624	719	766	822	873
Fine and Applied Studies	Bachelor's	5 838	6 858	8 099	8 284	8 465	8 594	8 895
	Master's	215	432	547	555	590	593	592
	Doctoral	26	55	56	62	68	77	92
General Arts and Science*	Bachelor's	32 712	31 623	33 972	33 444	34 853	37 023	37 183
	Master's	197	19	95	63	54	47	28
	Doctoral	0	13	53	49	54	59	66
Total all fields	Bachelor's	131 000	146 094	188 578	193 251	200 935	210 304	219 875
	Master's	7 385	10 292	13 857	14 473	14 499	15 086	15 736
	Doctoral	2 215	2 975	4 476	4 896	5 302	5 657	6 010

*Includes fields not reported

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

Table 5. Part-time Enrolment of Women by Field of Study and by Level, 1975-76 to 1989-90

Field of study	Level	1975-76	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90
Engineering and Applied Sciences	Bachelor's	78	178	325	309	353	352	440
	Master's	49	156	222	201	212	240	268
	Doctoral	11	13	15	20	28	24	27
Mathematics and Physical Sciences	Bachelor's	484	871	1 431	1 433	1 367	1 421	1 479
	Master's	134	133	219	213	196	200	206
	Doctoral	35	39	42	50	40	47	57
Agriculture and Biological Sciences	Bachelor's	820	1 044	1 729	1 888	1 924	1 917	1 927
	Master's	176	190	252	257	287	272	269
	Doctoral	20	22	49	54	56	43	49
Health Professions and Occupations	Bachelor's	964	2 025	3 934	4 504	4 915	5 587	4 539
	Master's	162	289	529	604	706	668	814
	Doctoral	26	43	70	73	75	74	83
Social Sciences	Bachelor's	9 375	15 139	20 128	20 936	22 274	22 740	23 655
	Master's	1 430	2 594	3 614	3 747	3 976	4 198	4 267
	Doctoral	323	332	345	365	392	380	428
Humanities	Bachelor's	5 138	5 547	6 571	7 393	7 766	8 103	8 895
	Master's	1 238	1 322	1 600	1 547	1 607	1 544	1 602
	Doctoral	313	259	284	296	300	299	290
Education	Bachelor's	13 892	14 155	11 237	12 114	12 895	13 050	13 392
	Master's	2 520	3 970	4 804	4 991	5 181	5 480	5 539
	Doctoral	158	292	415	404	410	413	465
Fine and Applied Arts	Bachelor's	1 616	2 819	3 061	2 959	2 990	3 033	2 982
	Master's	90	186	255	249	275	287	335
	Doctoral	19	8	16	15	12	16	17
General Arts and Science*	Bachelor's	28 420	21 542	22 311	21 380	20 727	21 332	20 292
	Master's	35	6	18	29	11	5	7
	Doctoral	6	8	10	10	13	22	33
Total all fields	Bachelor's	60 787	63 320	70 727	72 914	75 211	77 535	77 601
	Master's	5 834	8 846	11 513	11 838	12 451	12 900	13 304
	Doctoral	911	1 016	1 246	1 287	1 326	1 318	1 449

*Includes fields not reported

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

Table 6. Full-time Enrolment of Men by Field of Study and by Level, 1975-76 to 1989-90

Field of study	Level	1975-76	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90
Engineering and Applied Sciences	Bachelor's	26 904	32 187	34 349	33 715	32 953	32 852	32 389
	Master's	2 133	2 350	3 393	3 437	4 319	3 466	3 563
	Doctoral	904	863	1 552	1 694	1 793	1 976	2 191
Mathematics and Physical Sciences	Bachelor's	11 221	13 583	20 857	19 695	18 147	17 799	17 459
	Master's	1 769	1 552	2 280	2 354	2 401	2 378	2 434
	Doctoral	1 541	1 404	1 944	2 088	2 159	2 302	2 458
Agriculture and Biological Sciences	Bachelor's	11 703	8 901	11 272	11 923	12 287	12 160	11 728
	Master's	1 295	1 165	1 351	1 375	1 408	1 390	1 305
	Doctoral	736	799	1 056	1 134	1 175	1 256	1 315
Health Professions and Occupations	Bachelor's	9 264	8 468	8 169	6 229	8 302	8 287	8 317
	Master's	411	594	801	834	901	1 069	1 064
	Doctoral	359	457	670	734	789	835	921
Social Sciences	Bachelor's	48 417	50 937	59 393	60 733	62 551	64 394	65 940
	Master's	6 320	6 172	6 536	6 773	6 826	6 605	6 829
	Doctoral	1 772	1 722	1 845	1 853	1 920	2 087	2 094
Humanities	Bachelor's	11 570	9 540	12 489	13 467	14 358	15 230	16 315
	Master's	2 457	2 053	2 054	2 097	2 099	2 199	2 181
	Doctoral	1 224	1 147	1 240	1 275	1 332	1 424	1 524
Education	Bachelor's	15 497	10 702	13 186	13 814	14 333	14 638	15 047
	Master's	1 308	1 207	1 176	1 195	1 183	1 194	1 272
	Doctoral	458	520	548	560	615	603	605
Fine and Applied Arts	Bachelor's	4 067	4 398	5 388	5 556	5 561	5 468	5 483
	Master's	185	392	406	442	457	448	424
	Doctoral	38	42	62	65	66	84	82
General Arts and Science*	Bachelor's	37 802	32 661	32 137	30 227	30 753	31 039	30 218
	Master's	280	25	90	49	47	31	36
	Doctoral	23	18	108	72	84	94	68
Total all fields	Bachelor's	176 445	171 377	197 240	197 359	199 245	201 867	202 896
	Master's	16 158	15 510	18 087	18 556	18 741	18 780	19 108
	Doctoral	7 055	6 972	9 025	9 475	9 933	10 661	11 258

*Includes fields not reported

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

Table 7. Part-time University Enrolment of Men by Field of Study and by Level, 1975-76 to 1989-90

Field of study	Level	1975-76	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90
Engineering and Applied Sciences	Bachelor's	1 592	2 258	2 686	2 528	2 766	2 665	2 965
	Master's	1 806	1 871	1 870	1 729	1 661	1 704	1 661
	Doctoral	278	250	242	262	297	299	338
Mathematics and Physical Sciences	Bachelor's	1 596	2 277	3 735	3 860	3 801	3 710	3 865
	Master's	763	680	703	679	664	653	646
	Doctoral	312	259	225	241	237	233	277
Agriculture and Biological Sciences	Bachelor's	666	767	1 034	1 193	1 178	1 222	1 235
	Master's	379	304	294	284	265	277	269
	Doctoral	159	118	119	132	114	108	114
Health Professions and Occupations	Bachelor's	141	215	492	515	442	421	395
	Master's	162	192	257	262	293	296	323
	Doctoral	95	86	104	90	102	113	110
Social Sciences	Bachelor's	13 028	14 052	15 696	15 880	15 979	16 174	16 191
	Master's	4 747	5 573	5 887	5 866	5 779	5 961	5 894
	Doctoral	906	731	553	558	511	528	539
Humanities	Bachelor's	2 893	2 573	2 948	3 318	3 604	3 779	4 126
	Master's	1 495	1 152	1 194	1 137	1 151	1 111	1 172
	Doctoral	672	471	392	378	420	422	461
Education	Bachelor's	5 847	5 961	4 323	4 416	4 327	4 371	4 291
	Master's	4 266	3 903	2 991	2 915	2 814	2 822	2 699
	Doctoral	467	404	424	396	351	390	382
Fine and Applied Arts	Bachelor's	712	1 101	1 406	1 207	1 304	1 282	1 321
	Master's	60	133	152	150	167	170	175
	Doctoral	15	13	16	14	19	24	19
General Arts and Science*	Bachelor's	14 854	11 518	11 583	10 646	10 224	10 495	10 058
	Master's	59	11	28	18	4	8	8
	Doctoral	16	14	14	11	13	9	24
Total all fields	Bachelor's	41 329	40 722	43 903	43 563	43 625	44 119	44 447
	Master's	13 737	13 819	13 376	13 040	12 798	13 002	12 847
	Doctoral	2 920	2 346	2 089	2 082	2 064	2 126	2 264

*Includes fields not reported

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

Table 8. Enrolment of by Citizenship, by Field of Study, by Level and by Gender, 1978-79 and 1989-90

	Bachelor's				Master's				Doctoral			
	1978-79		1989-90		1978-79		1989-90		1978-79		1989-90	
	F	M	F	M	F	M	F	M	F	M	F	M
Engineering and Applied Sciences												
Canadians and permanent residents	2 750	28 240	5 859	33 506	262	2 982	677	3 726	36	803	153	1 323
Foreign	181	3 313	238	1 848	57	751	249	1 498	16	309	123	1 206
Total*	2 931	31 553	6 097	35 354	319	3 733	926	5 224	52	1 112	276	2 529
Mathematics and Physical Sciences												
Canadians and permanent residents	4 363	11 411	7 796	19 697	382	1 808	735	2 251	150	1 169	367	1 650
Foreign	451	1 182	650	1 627	104	425	245	829	55	504	201	1 085
Total*	4 814	12 593	8 446	21 324	486	2 233	980	3 080	205	1 673	568	2 735
Agriculture and Biological Sciences												
Canadians and permanent residents	11 017	10 293	17 667	12 659	712	1 306	1 256	1 252	192	631	497	975
Foreign	352	406	380	304	80	207	215	322	41	210	150	454
Total*	11 369	10 699	18 047	12 963	792	1 513	1 471	1 574	233	841	647	1 429
Health Professions and Occupations												
Canadians and permanent residents	13 564	8 746	20 862	8 589	858	632	2 348	1 174	198	420	613	765
Foreign	201	148	170	123	58	82	193	213	22	64	135	266
Total*	13 765	8 894	21 032	8 712	916	714	2 541	1 387	220	484	748	1 031
Social Sciences												
Canadians and permanent residents	41 832	57 653	93 447	79 463	4 661	9 764	9 339	11 610	933	1 943	1 877	2 013
Foreign	1 895	2 884	2 963	2 668	372	1 088	615	1 113	202	637	219	620
Total*	43 727	60 537	96 410	82 131	5 033	10 852	9 954	12 723	1 135	2 580	2 096	2 633
Humanities												
Canadians and permanent residents	17 575	11 325	34 491	19 959	3 362	3 259	3 973	3 051	891	1 366	1 346	1 613
Foreign	426	292	600	482	305	466	276	302	146	324	232	372
Total*	18 001	11 617	35 091	20 441	3 667	3 725	4 249	3 353	1 037	1 690	1 578	1 985
Education												
Canadians and permanent residents	36 762	17 605	42 763	19 226	4 563	4 979	7 736	3 774	541	763	1 210	809
Foreign	300	322	238	112	147	219	224	197	49	103	128	178
Total*	37 062	17 927	43 001	19 338	4 710	5 198	7 960	3 971	590	866	1 338	987
Fine and Applied Arts												
Canadians and permanent residents	8 390	4 847	11 662	6 685	438	379	886	566	46	50	102	93
Foreign	236	127	215	119	49	24	41	33	5	7	7	8
Total*	8 626	4 974	11 877	6 804	487	403	927	599	51	57	109	101

(continued)

Table 8. Enrolment of by Citizenship, by Field of Study, by Level and by Gender, 1978-79 and 1989-90 *(concluded)*

	Bachelor's				Master's				Doctoral			
	1978-79		1989-90		1978-79		1989-90		1978-79		1989-90	
	F	M	F	M	F	M	F	M	F	M	F	M
General Arts and Science**												
Canadians and permanent residents	50 381	38 720	56 217	38 923	162	266	35	36	32	81	93	77
Foreign	1 750	2 248	1 258	1 353	6	25	–	8	5	15	6	15
Total*	52 131	40 968	57 475	40 276	168	291	35	44	37	96	99	92
Total all fields												
Canadians and permanent residents	186 634	188 840	290 764	238 707	15 400	25 375	26 985	27 440	3 019	7 226	6 258	9 318
Foreign	5 792	10 922	6 712	8 636	1 178	3 287	2 058	4 515	541	2 173	1 201	4 204
Total*	192 426	199 762	297 476	247 343	16 578	28 662	29 043	31 955	3 560	9 399	7 459	13 522

*Excludes citizenship not reported

**Includes fields not reported

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

Table 9. Number of Full-time Faculty by Academic Rank, by Field of Study and by Gender, 1976-77 and 1987-88

Rank	Female		Male		Total	
	1976-77	1987-88	1976-77	1987-88	1976-77	1987-88
Engineering and Applied Sciences						
Full professor	2	5	810	1 363	812	1 368
Associate professor	6	21	874	728	880	749
Assistant professor	7	18	352	388	359	406
Rank below	2	11	69	63	71	74
Other	5	10	145	148	150	158
Total	22	65	2 250	2 690	2 272	2 755
Mathematics and Physical Sciences						
Full professor	7	43	1 299	2 174	1 306	2 217
Associate professor	44	78	1 592	1 383	1 636	1 461
Assistant professor	54	95	805	629	859	724
Rank below	12	44	82	89	94	133
Other	30	29	167	145	197	174
Total	147	289	3 945	4 420	4 092	4 709
Agriculture and Biological Sciences						
Full professor	53	84	723	1 074	776	1 158
Associate professor	118	138	678	629	796	767
Assistant professor	100	128	437	350	537	478
Rank below	36	23	57	14	93	37
Other	55	60	59	43	114	103
Total	362	433	1 954	2 110	2 316	2 543
Health Professions and Occupations						
Full professor	67	160	1 028	1 763	1 095	1 923
Associate professor	202	441	1 123	1 485	1 325	1 926
Assistant professor	366	562	1 006	994	1 372	1 556
Rank below	209	120	115	58	324	178
Other	106	92	54	26	160	118
Total	950	1 375	3 326	4 326	4 276	5 701
Social Sciences						
Full professor	60	203	1 598	2 728	1 658	2 931
Associate professor	230	512	2 275	2 910	2 505	3 422
Assistant professor	381	577	1 879	1 320	2 260	1 897
Rank below	115	174	391	221	506	395
Other	103	125	273	267	376	392
Total	889	1 591	6 416	7 446	7 305	9 037

(continued)

Table 9. Number of Full-time Faculty by Academic Rank, by Field of Study and by Gender, 1976-77 and 1987-88 *(concluded)*

Rank	Female		Male		Total	
	1976-77	1987-88	1976-77	1987-88	1976-77	1987-88
Humanities						
Full professor	61	197	1 158	1 793	1 219	1 990
Associate professor	317	485	1 751	1 882	2 068	2 367
Assistant professor	341	392	1 196	675	1 537	1 067
Rank below	91	118	194	97	285	215
Other	109	133	111	156	220	289
Total	919	1 325	4 410	4 603	5 329	5 928
Education						
Full professor	52	117	441	767	493	884
Associate professor	177	343	858	995	1 035	1 338
Assistant professor	275	237	725	334	1 000	571
Rank below	104	60	176	65	280	125
Other	93	68	173	55	266	123
Total	701	825	2 373	2 216	3 074	3 041
Fine and Applied Arts						
Full professor	20	41	165	290	185	331
Associate professor	57	128	315	506	372	634
Assistant professor	100	122	315	209	415	331
Rank below	32	35	81	44	113	79
Other	27	37	67	83	94	120
Total	236	363	943	1 132	1 179	1 495
Other						
Full professor	4	4	87	72	91	76
Associate professor	5	16	49	45	54	61
Assistant professor	16	44	62	137	78	181
Rank below	15	22	23	18	38	40
Other	152	19	445	18	597	37
Total	192	105	666	290	858	395
Total all fields						
Full professor	326	854	7 309	12 024	7 635	12 878
Associate professor	1 156	2 162	9 515	10 563	10 671	12 725
Assistant professor	1 640	2 175	6 777	5 036	8 417	7 211
Rank below	616	607	1 188	669	1 804	1 276
Other	680	573	1 494	941	2 174	1 514
Total	4 418	6 371	26 283	29 233	30 701	35 604

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