



# WHERE IT STARTS

## CANADIAN ENGINEERS FOR TOMORROW:

Trends in Engineering Enrolment and  
Degrees Awarded 2008-2012

The road to a

# P.ENG.\*

begins with the right education

***Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded*** is produced and published by Engineers Canada.

With the objective of monitoring the availability of engineering resources, Engineers Canada has collected national data on enrolment and degrees awarded since the 1970s, and has published the research findings through various documents, technical reports and research papers.

***Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded*** contains data collected from universities on accredited engineering programs across Canada, as well as analysis and interpretation of this data.

Engineers Canada strives to ensure accuracy and consistency of all information presented. However, due to variations in survey methodology, interpretation and student classifications at universities across the country, the volunteers and staff of Engineers Canada cannot guarantee the accuracy of data provided by the universities.

The reader is advised that the information presented herein, including the analyses and assessments of the data, does not represent an endorsement by Engineers Canada of any particular university, or the likelihood of a person obtaining employment in any particular engineering discipline.

Students of engineering are reminded that the accumulation of skills within a particular field of engineering, along with strong communications, organizational, and leadership abilities are essential to a progressive career in engineering.

# Canadian Engineers for Tomorrow:

## Trends in Engineering Enrolment and Degrees Awarded 2008-2012

Engineers Canada is the national organization of the 12 provincial and territorial associations that regulate the profession of engineering in Canada and license the country's more than 260,000 members of the engineering profession.

Established in 1936, Engineers Canada serves the associations, which are its constituent and sole members, through the delivery of national programs that ensure the highest standards of engineering education, professional qualifications and ethical conduct. Engineers Canada is the voice of its constituent members in national and international affairs, and promotes greater understanding of the nature, role and contribution of engineering to society.

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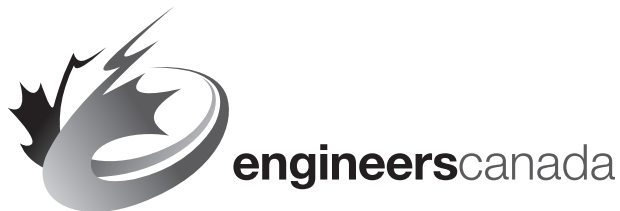
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# Canadian Engineers for Tomorrow:

Trends in Engineering Enrolment  
and Degrees Awarded 2008-2012



**PRISM**  
ECONOMICS AND ANALYSIS

Prepared by:

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September 2013

# Message from the Chief Executive Officer

Engineers Canada is pleased to publish its summary of trends in engineering education in Canada. This report includes results for all academic terms from the calendar years 2008 through 2012.

Engineering institutions continue to report strong growth in the number of students pursuing an engineering education. Total undergraduate enrolment in accredited programs rose to 70,201 in 2012; a 5.9 percent increase from the previous year. Postgraduate enrolments for both master's and doctoral students also reached a peak of 23,336 in 2012, increasing 5.7 percent from 2011.

Canadian programs continue to be popular among international engineering students. At the undergraduate level, the number of visa students rose by 49.4 percent in the last five years, accounting for 13.7 percent of total undergraduate enrolment. The number of visa post-graduate students has also grown by an astounding 63.6 percent over the same period, accounting for almost half (45.7 percent) of post-graduate student enrolment in 2012.

In 2012, female and male undergraduate enrolments grew by 8.8 percent and 5.2 percent respectively. The proportion of women enrolled in undergraduate engineering programs increased to 18.1 percent in 2012.

It is encouraging to report that the number of undergraduate degrees awarded continued to grow with 12,382 degrees awarded in 2012, up 621 degrees from the previous year. The total number of females awarded undergraduate degrees also grew by 106 this year, to a total of 2235 degrees.

Altogether, this report highlights 2012 as another stable year.

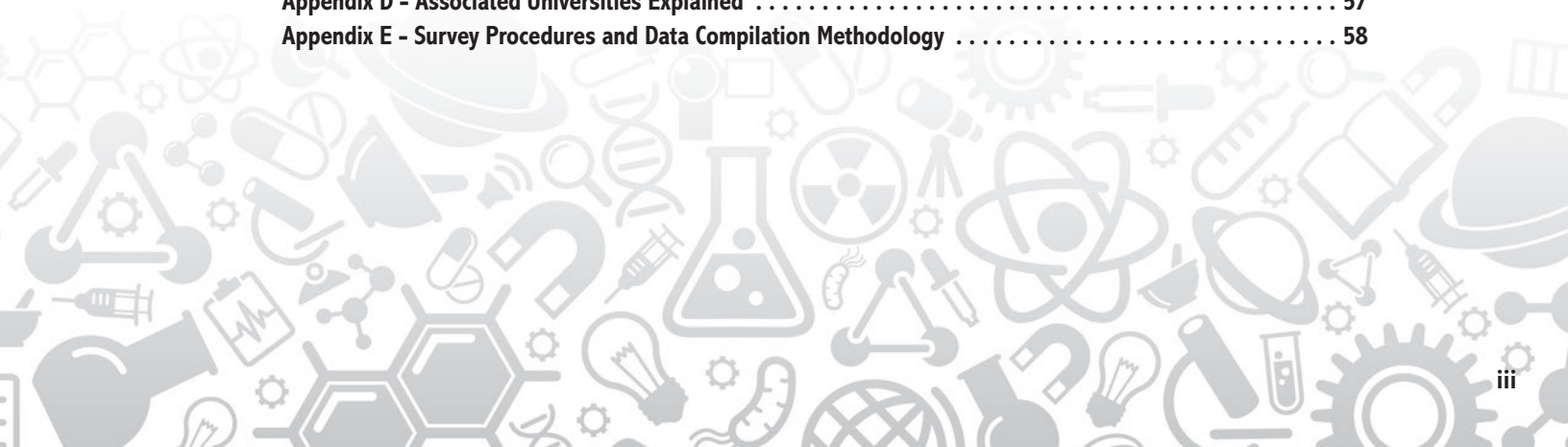


**Kim Allen, FEC, P.Eng.**

CHIEF EXECUTIVE OFFICER  
ENGINEERS CANADA

# Table of Contents

<b>Message from the Chief Executive Officer</b> .....	<b>ii</b>
<b>Acknowledgements</b> .....	<b>iv</b>
<b>Foreword</b> .....	<b>iv</b>
<b>Highlights</b> .....	<b>v</b>
<b>Undergraduate Student Enrolment and Degrees Awarded</b> .....	<b>1</b>
Foreword .....	1
Undergraduate Student Enrolment .....	1
Undergraduate Student Enrolment by Program .....	2
Trends in Undergraduate Student Enrolment by Province .....	3
Female Undergraduate Enrolment .....	4
Undergraduate Enrolment of International (Visa) Students .....	5
Undergraduate Degrees Awarded .....	5
<b>Graduate Enrolment and Degrees Awarded</b> .....	<b>8</b>
Foreword .....	8
Number of Graduate Students .....	8
Master's Students .....	8
Doctoral Students .....	9
Graduate Enrolment by Discipline .....	9
Graduate Enrolment of International (Visa) Students .....	10
Graduate Enrolment by Gender .....	11
Graduate Degrees Awarded .....	12
<b>Appendix A</b> .....	<b>15</b>
<b>Data Tabulations – Engineering Enrolment and Degrees Awarded</b> .....	<b>15</b>
School Name and Acronym .....	15
Province name and Abbreviation .....	16
A.1. Undergraduate Enrolment .....	16
U.1. National .....	16
U.2. Provincial .....	18
U.3. Institutional .....	20
A.2. Undergraduate Degrees Awarded .....	23
UD.1. National .....	23
UD.2. Provincial .....	23
UD.3. Institutional .....	25
A.3. Graduate Student Enrolment .....	28
G.1. National .....	28
G.2. Provincial .....	30
G.3. Institutional .....	32
A.4. Graduate Degrees Awarded .....	38
GD.1. National .....	38
GD.2. Provincial .....	39
GD.3. Institutional .....	42
A.5. Faculty Members by Institution .....	46
F.1. Faculty Composition .....	46
A.6. Co-op, Internship and Professional Experience Programs .....	47
C.1. Industry Experience Options by Institution .....	47
<b>Appendix B – Accredited Engineering Programs by Institution</b> .....	<b>48</b>
<b>Appendix C – Canadian Discipline Categories As Used In This Report</b> .....	<b>54</b>
<b>Appendix D – Associated Universities Explained</b> .....	<b>57</b>
<b>Appendix E – Survey Procedures and Data Compilation Methodology</b> .....	<b>58</b>



# Acknowledgements

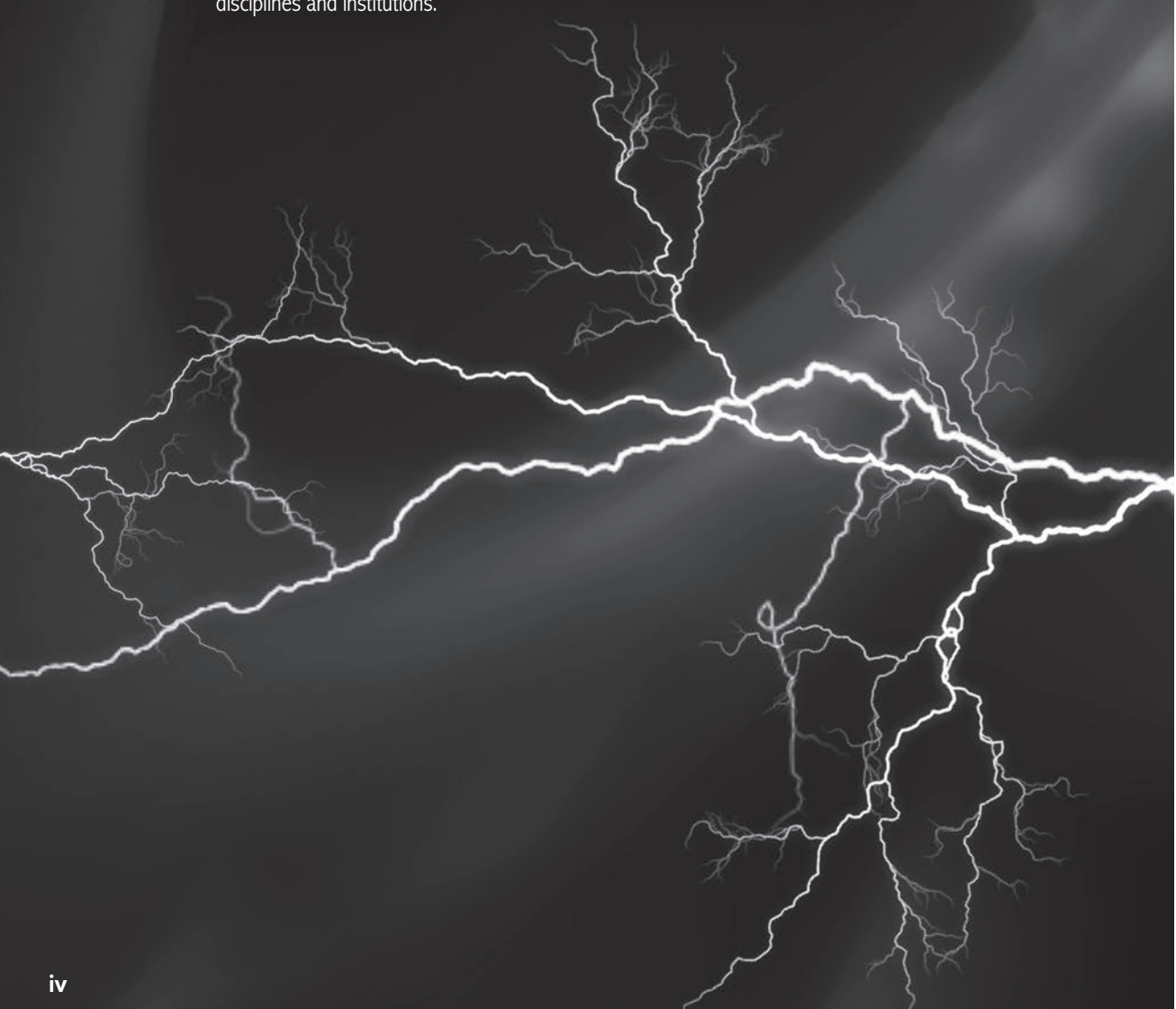
Engineers Canada gratefully acknowledges the contribution of data and information from the deans and associate deans of the engineering and applied science faculties at Canadian universities.

## Foreword

Each year, Engineers Canada gathers data on student enrolments and graduations from Canada's universities. This report analyzes trends in engineering student enrolment within accredited engineering programs across the nation.

Understanding these trends enables Engineers Canada and other members of the profession to:

- Compare patterns in the changing number of students who enroll in and graduate from the various engineering programs offered in the provinces,
- Assess the number of women and visa students who are pursuing engineering education, and
- Exchange pertinent information about similar and distinctly different trends across disciplines and institutions.

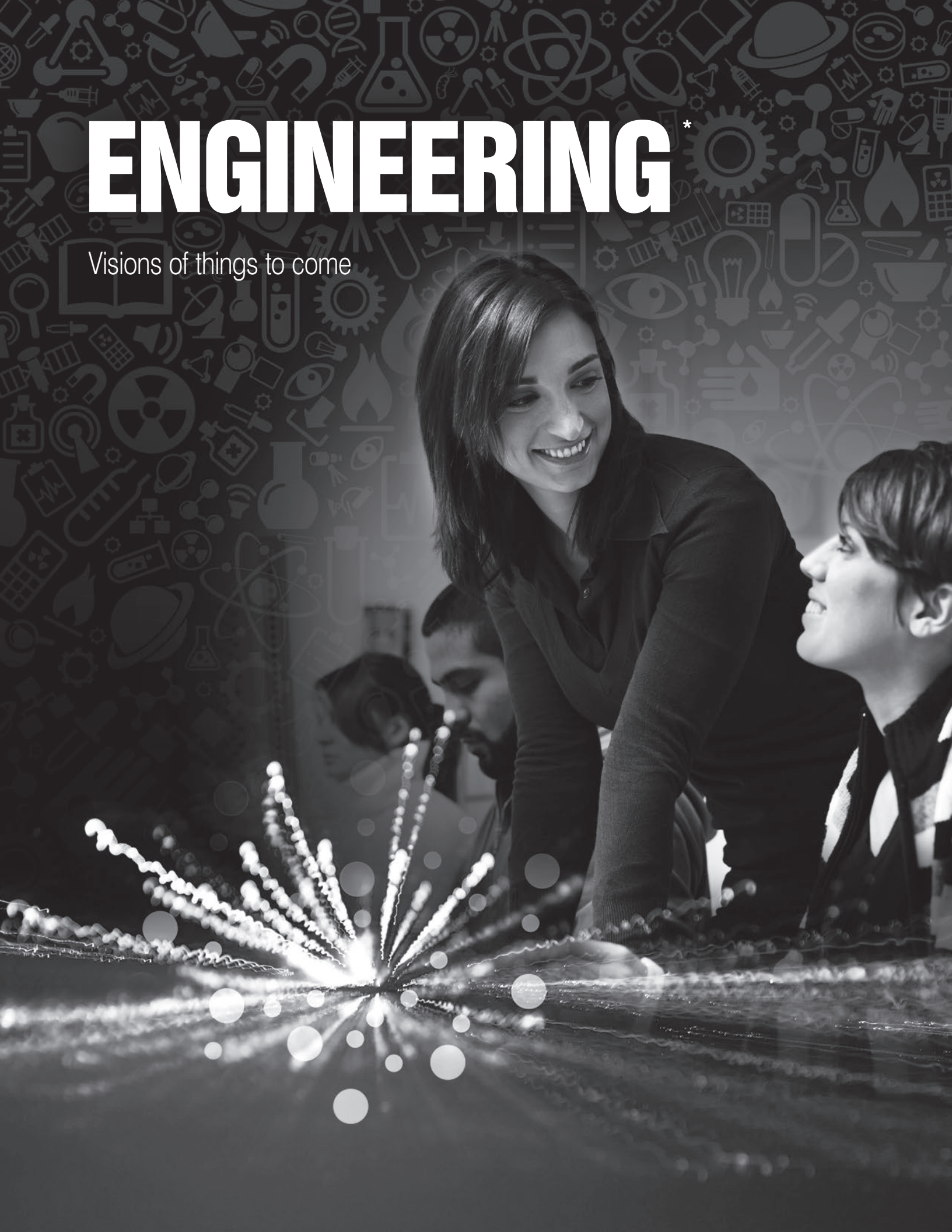


# Highlights

- Strong growth in enrolments (5.9 percent in 2012) has continued now for three or four years in all the major disciplines and provinces
- There has been no major shift in the composition across disciplines, computer engineering continues to struggle with enrolment growth; enrolments in chemical engineering as well as other engineering continue to grow
- There has been a significant shift in growth in enrolments among provinces with growth from 2008 to 2012 of 67 percent in British Columbia and 18.2 percent in Newfoundland and Labrador
- Women have continued a gradual increase in their share of enrolments with slow progress back towards the 2001 peak share of 20.6 percent -- Women's share of enrolments rose to 18.1 percent of total in 2012
- There are very large differences in female enrolment by discipline (for example, 42.9 percent of biosystems engineering students are women compared to just 9.9 percent of software engineering students)
- There are very large differences in female enrolments by province (for example 15.6 percent of British Columbia students are women compared to 21.6 percent in Alberta)
- Very strong gains in visa students enrolments (up 10.6 percent in 2012) continue;
  - Visa students represent 13.7 percent of enrolments up from 11.3 percent in 2008
  - Canadian enrolments have grown just 20 percent since 2008 while visa student enrolments are up 49.4 percent
- Growth from 2008 to 2012 in undergraduate degrees awarded (up 8.5 percent) has lagged behind enrolments (up 23.3 percent)
- Degrees awarded to visa students are up 51.5 percent over 2007 to 2012 leaving an increase of just 4.8 percent in those awarded to Canadian students
- Patterns of enrolments and degrees awarded for graduate students are similar to those of undergraduates as;
  - Women are regaining lost ground in their share of engineering programs, and
    - The preferences among women for engineering disciplines (e.g. biosystems and environmental engineering versus civil and software) is repeated at the graduate level,
  - Visa students are dramatically increasing their share of enrolments and awards -- especially in Ph.D. programs,
  - If current trends are sustained, visa students will soon be more than half of Canadian graduate enrolment, and
  - The number of Canadian graduate degrees awarded, has been gaining ground, however visa students far outpace them.
- Unlike the patterns seen in undergraduate enrolments and awards, graduate awards have risen faster than enrolments between 2008 and 2012
- Graduate programs have a distinct distribution across disciplines with electrical programs leading (and growing strongly) in enrolments and awards

# ENGINEERING\*

Visions of things to come





# Undergraduate Student Enrolment and Degrees Awarded

## FOREWORD

In 2012, 49 universities reported their enrolment, staffing, program and graduation information.

Enrolment in accredited undergraduate engineering programs across Canada continues to rise, reaching 70,201 in 2012; an increase of 5.9 percent from 2011 and 23.3 percent since 2007<sup>1</sup>. The provinces with the largest proportion of enrolments continue to be (in descending order): Ontario, Québec, British Columbia and Alberta. In the five years since 2007, British Columbia has experienced exceptional growth in enrolments, rising 67 percent compared to the national average of 23.3 percent. The province also posted the strongest year-over-year gains in 2012, with an increase of 14.1 percent. Others such as Ontario, Nova Scotia and New Brunswick also experienced above average increases since 2007, rising 28.3 percent, 26.8 percent and 23.8 percent respectively.

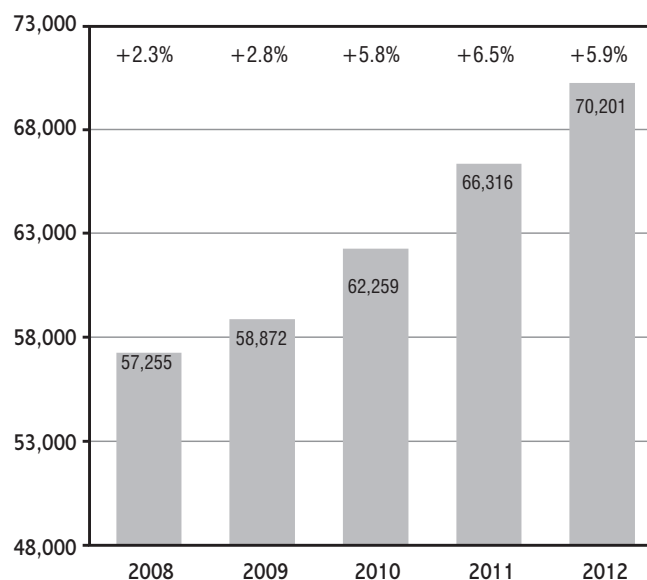
Enrolments in environmental engineering have experienced significant growth, increasing 83.4 percent since 2007. Following that are undergraduate enrolments in biosystems, which grew 76.7 percent over that same period. Since 2007, enrolments in computer engineering have slipped 1.3 percent while materials or metallurgical enrolments fell by 11.5 percent.

In 2012, mechanical engineering continued to attract the largest share of undergraduate enrolments, followed by civil and electrical engineering. All three programs experienced higher year-over-year growth than the growth experienced in the preceding year.

## UNDERGRADUATE STUDENT ENROLMENT

Between 2007 and 2012, total undergraduate enrolments grew by 23.3 percent. Chart 1.1 below showcases the enrolment figures and cumulative percent changes from 2008 onward<sup>2</sup>. Appendix A contains more detailed data tabulations that correspond to each chart in the report. See, for example, Table U.1.1 for the national undergraduate details in Appendix A.

**CHART 1.1 – UNDERGRADUATE ENROLMENT (ACCREDITED PROGRAMS ONLY) (FTE)**



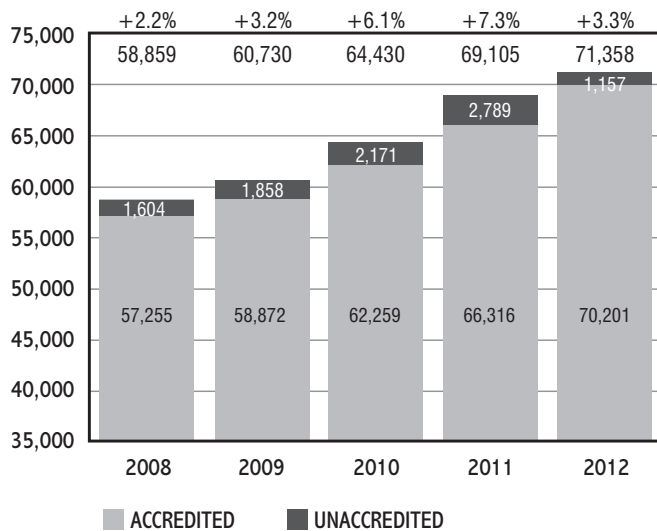
<sup>1</sup> The report refers regularly to the percent change in measures from 2008 to 2012. This percent change is the sum of five years of change; spanning five years of growth from a base in 2007.

<sup>2</sup> Due to rounding, figures in the charts may not exactly add to totals shown.

Chart 1.2 adds enrolment in yet-to-be accredited programs to the totals. These unaccredited enrolments fluctuate between 1,600 and 2,700 each year and do not have a big impact on the totals or trends. Between 2008 and 2012, total undergraduate enrolments in accredited programs increased by 23.3 percent (see Chart 1.1); the opposite is true for yet-to-be accredited programs, which experienced a 1.1 percent decline over the same period.

These yet-to-be accredited programs include new engineering faculties, expansion of existing schools into other traditional disciplines, and development of more specialized undergraduate programs at existing schools, such as mechanics, energy systems, and biomedical engineering. As can be seen in Chart 1.2, when enrolment in yet-to-be accredited programs is combined with that of accredited programs, the total number of engineering undergraduate students reported across Canada is 71,358, up 22 percent from the 2007 base level.

**CHART 1.2 – UNDERGRADUATE ENROLMENT (ALL PROGRAMS) (FTE)**

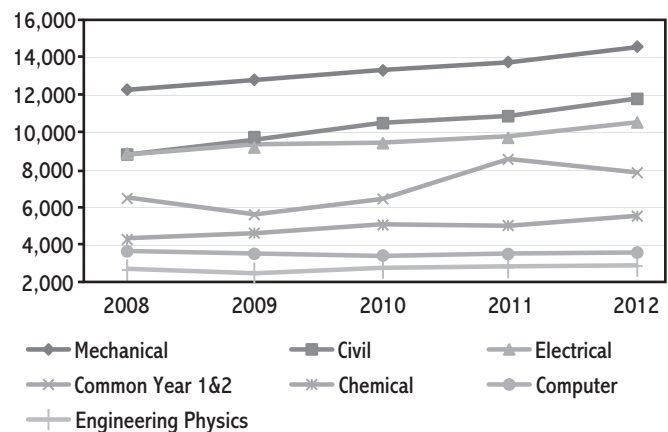


## UNDERGRADUATE STUDENT ENROLMENT BY PROGRAM<sup>3</sup>

Mechanical engineering continues to lead in undergraduate enrolments, with 14,639 FTEs<sup>4</sup> reported in 2012 (see Table U.1.1). As illustrated in Chart 1.3, civil engineering had the second largest number of enrolments and experienced the strongest growth in enrolment gains from 2007 to 2012 (37.1 percent) relative to the other programs. The program continues to outpace enrolments in electrical engineering.

Aside from the top three programs, enrolments in chemical engineering continue to increase, with overall growth of 29 percent since 2007. The program experienced two strong years with double digit growth. Other disciplines also enjoyed strong enrolment gains, as did common year 1 & 2 where enrolments grew 20.5 percent across the five years. Enrolments in computer engineering shrank by 8.7 percent over that same period.

**CHART 1.3 – UNDERGRADUATE ENROLMENT BY PROGRAM (1) (FTE)**



As illustrated in Chart 1.4a, enrolments in 'other' engineering have grown steadily since 2007 with a noticeable increase between 2011 and 2012. During this period, enrolments grew by 17.9 percent, to 3,706 FTEs. Software engineering followed a similar pattern while enrolment growth in industrial or manufacturing has been relatively flat. The most impressive gains however, were in environmental engineering, where enrolments grew by 71.3 percent since 2007 to 1,440 FTEs.

<sup>3</sup> This and all following sections refer to enrolment in *currently* accredited programs only.

<sup>4</sup> The method for determining enrolment changed in 2006 in the following ways: (1) Prior to 2006, universities provided the fall enrolment numbers for full-time students only. Starting in 2006, faculties were asked to calculate average enrolment levels that took into account registrations in all three terms of the year (fall, winter and summer). This change caused an increase in reported enrolment for some institutions and a decrease in reported enrolment for others, while some institutions showed no significant change in enrolment numbers as a result of the change. (2) Figures from 2006 onward are expressed in full-time equivalents (FTEs). For example, if the full-time course load is six courses, then a student taking only two courses is included as 0.33 FTE. In the past, students taking a partial course load were not included in the enrolment figures. This second change caused reported enrolment numbers to increase for the average institution. It is not possible to quantify the relative impacts of these changes and, as a consequence, it is not possible to determine the net impact on measured enrolment between 2005-2006.

**CHART 1.4A – UNDERGRADUATE ENROLMENT BY PROGRAM (2) (FTE)**

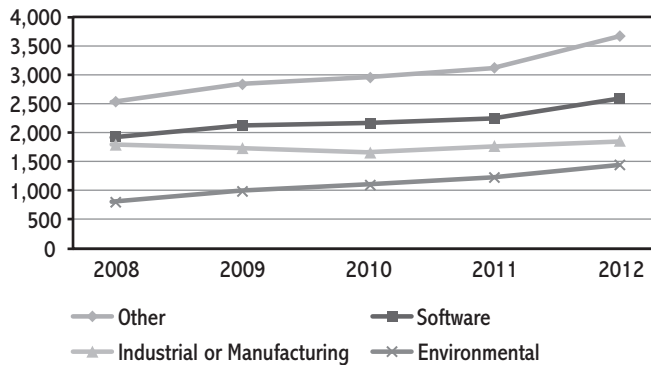
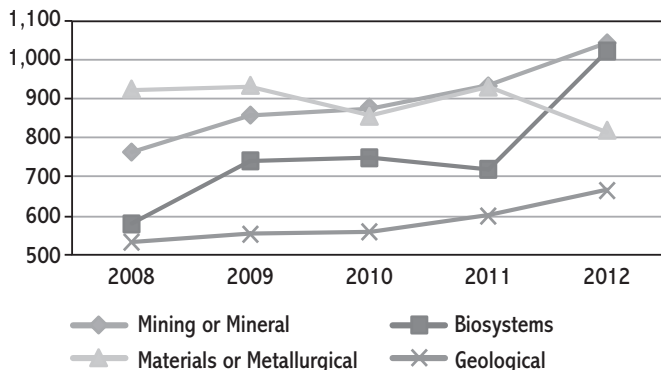


Chart 1.4b portrays enrolment trends in accredited engineering programs. Since 2007, undergraduate enrolments in biosystems, mining or mineral, and geological, have grown 62.3 percent, 52.8 percent, and 51.7 percent respectively. Most noticeable is the recent spike in enrolments for the biosystems program, which increased 42.3 percent to 1,023 FTEs since 2011. Enrolments in materials or metallurgical programs have experienced the opposite effect, enrolments fell 12.6 percent between 2011 and 2012 with overall growth of 1.6 percent since 2007.

**CHART 1.4B – UNDERGRADUATE ENROLMENT BY PROGRAM (3) (FTE)**



## TRENDS IN UNDERGRADUATE STUDENT ENROLMENT BY PROVINCE

In descending order, Ontario, Québec, British Columbia and Alberta have the highest proportion of enrolments in undergraduate engineering in Canada. Chart 1.5 tracks the enrolment rates across these four provinces. From 2007 to 2012, both British Columbia and Ontario exceeded the national growth rate of 23.3 percent with enrolment gains reaching 66 percent and 26 percent respectively. Between 2009/2010 and 2010/2011, British Columbia experienced double digit growth<sup>5</sup> and has edged past Alberta in total FTEs. Alberta and Québec stood below the national average growing 13.9 percent and 9.9 percent respectively.

**CHART 1.5 – UNDERGRADUATE ENROLMENT BY PROVINCE (1) (FTE)**

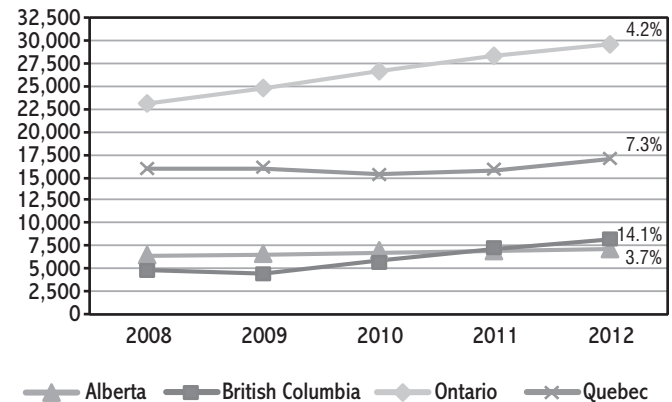
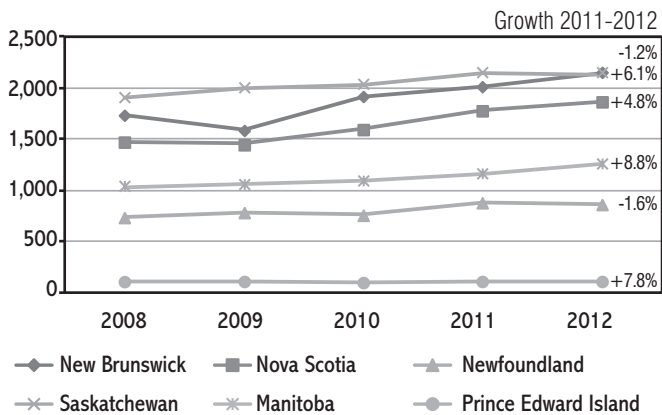


Chart 1.6 depicts trends for provinces with smaller enrolment numbers. Overall, all of the smaller provinces reported enrolment gains since 2007. Saskatchewan continues to have the largest enrolment share although New Brunswick's recent growth is closely matching it. Both New Brunswick and Nova Scotia experienced the most impressive gains since 2007, rising above the national average to 37.4 percent and 24.8 percent respectively.

Manitoba's enrolment numbers continue to grow steadily, rising 20.6 percent since 2007. Newfoundland grew 18.2 percent during that same period but has slipped slightly in 2011. Enrolment patterns in Prince Edward Island have remained relatively unchanged.

<sup>5</sup> There are two reasons for the extraordinary growth in B.C enrolments in 2010. First, UBC changes its reporting basis to meet the 2006 Engineering Canada convention and, second, BCIT and UBCO reported new programs.

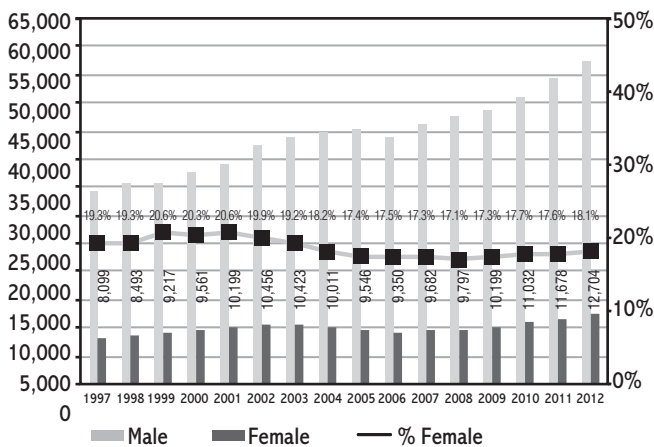
**CHART 1.6 – UNDERGRADUATE ENROLMENT BY PROVINCE (2) (FTE)**



## FEMALE UNDERGRADUATE ENROLMENT

In 2012, 12,704 female undergraduates were studying engineering in accredited Canadian programs, which comes to 18.1 percent of total enrolments. Since 2007, this share has been steadily increasing, with enrolments growing 28 percent since then (see Table U.1.2 in Appendix A). More recently, female enrolments reached a record high in year-over-year growth, posting an 8.8 percent rise between 2011 and 2012; growth this high was not experienced since 1993. Enrolments reached a peak of 20.6 percent of total enrolment in 2001 and have fluctuated between 17 and 19 percent for the greater part of the decade. Chart 1.7 tracks these female enrolment trends.

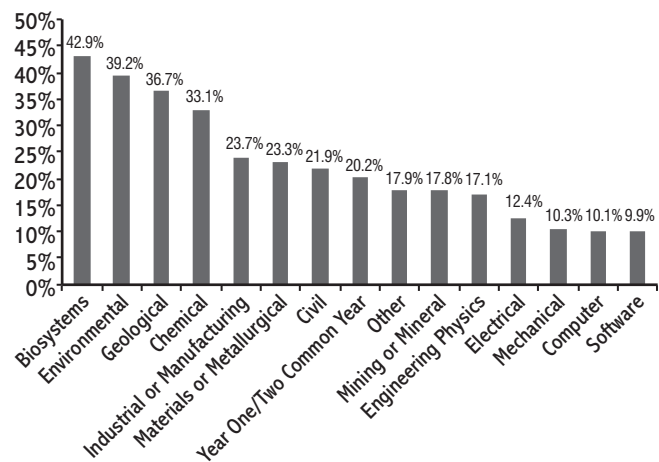
**CHART 1.7 – UNDERGRADUATE ENROLMENT BY GENDER (FTE)\***



\* FTEs are reported since 2006 and full-time students only prior to 2006.

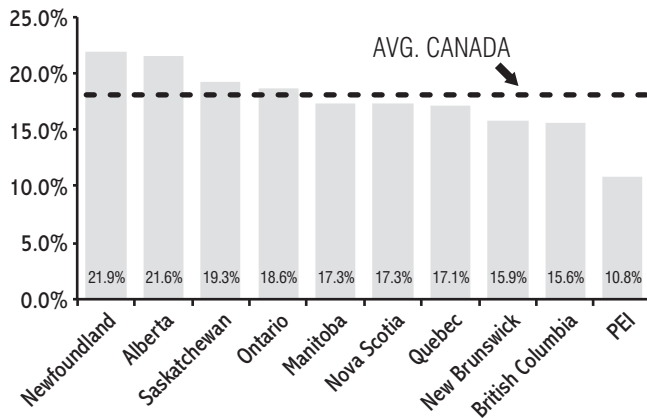
There are large differences in female participation across engineering programs. In 2012, female students were best represented in: biosystems (42.9 percent), environmental (39.2 percent), geological (36.7 percent) and chemical engineering (33.1 percent) (see Chart 1.7a and tables U.1.1 and U.1.3 in Appendix A). A second group of programs report female enrolment above 20 percent: industrial/manufacturing engineering (23.7 percent), materials/metallurgical (23.3 percent), civil engineering (21.9 percent) and year one/two (20.2 percent). The lowest proportion of female enrolment was reported for mechanical engineering (10.3 percent), computer engineering (10.1 percent) and software engineering (9.9 percent).

**CHART 1.7A – UNDERGRADUATE ENROLMENT OF FEMALES BY PROGRAM, 2012 (FTE)**



In 2012, the top three provinces with the highest proportion of female students were Newfoundland (21.9 percent), Alberta (21.6 percent) and Saskatchewan (19.3 percent). Ontario trailed closely with 18.6 percent, which is still higher than the national average of 18.1 percent (see Chart 1.7b and Table U.2.2 in Appendix A). Manitoba, Nova Scotia and Québec were slightly below the national average (17.3 percent and 17.1 percent) while New Brunswick and British Columbia hovered around the 15 percent mark. Prince Edward Island posted the lowest share of female enrolments in 2012, citing 10.8 percent.

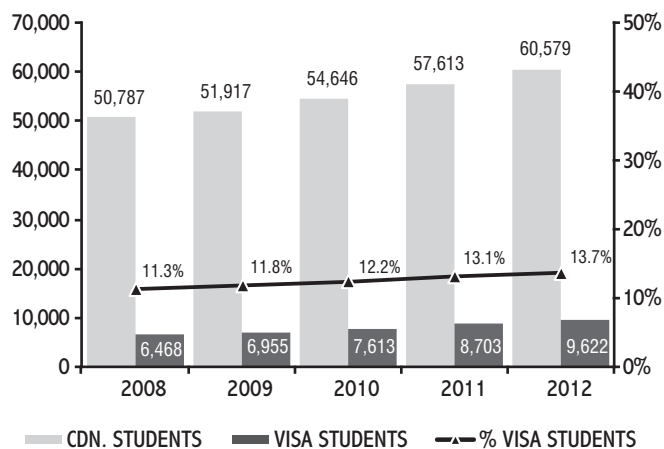
**CHART 1.7B – UNDERGRADUATE ENROLMENT OF FEMALES BY PROVINCE, 2012 (FTE)**



## UNDERGRADUATE ENROLMENT OF INTERNATIONAL (VISA) STUDENTS

The proportion of international students attending accredited engineering programs continues to rise. Chart 1.8 tracks the proportion of visa students in 2012, indicating that 13.7 percent of total undergraduate enrolments (9,622 FTEs) are represented by visa students. Since 2007, the number of international students enrolled in accredited engineering programs grew an impressive 49.4 percent - two and a half times faster than Canadian students (see Table U.2.3).

**CHART 1.8 – UNDERGRADUATE ENROLMENT OF VISA STUDENTS (FTE)**



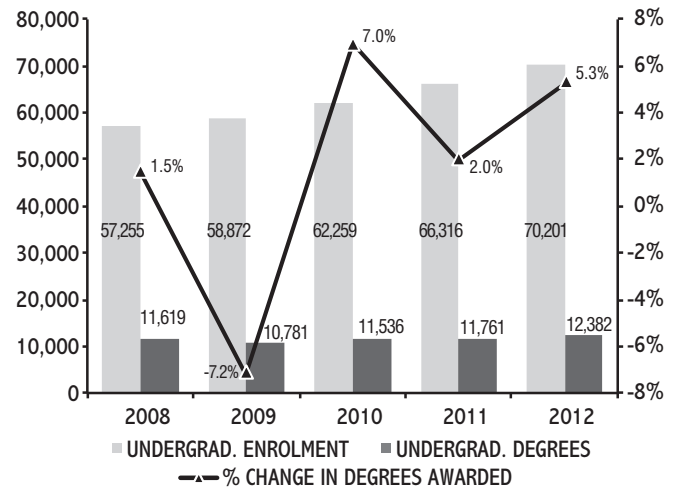
Ontario, Québec, British Columbia and Alberta continue to absorb the majority of visa student enrolments in 2012. Of the 9,622 students enrolled, almost two-fifths, or 39.4 percent, are enrolled in Ontario, totalling 3,795 FTEs. Québec saw 23.8 percent, or 2,290 FTEs, followed by British Columbia with 10.5 percent or 1,014 FTEs.

When looking at each province and determining the proportion of visa students to overall provincial enrolments in accredited engineering programs, New Brunswick continues to lead with 30.8 percent, followed by Nova Scotia and Saskatchewan with 23.6 and 19 percent respectively.

## UNDERGRADUATE DEGREES AWARDED

A total of 12,382 undergraduate degrees in engineering were awarded in 2012, an increase of 5.3 percent from the year before (see Chart 1.9 and Table UD.1.1 in Appendix A). Since 2007, degrees awarded grew 8.5 percent, noticeably much smaller than the growth experienced in undergraduate enrolment (23.3 percent). In 2009, degrees awarded declined by 7.2 percent but has been rising each year since that time<sup>6</sup>.

**CHART 1.9 – UNDERGRADUATE ENROLMENT (FTE) AND DEGREES AWARDED (ACCREDITED PROGRAMS ONLY)**

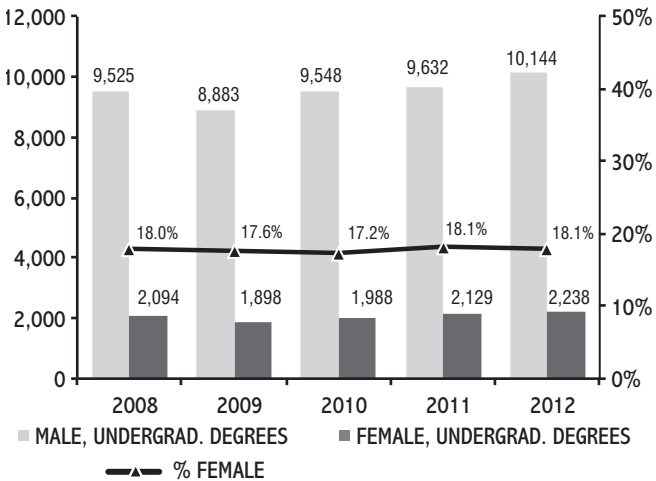


<sup>6</sup> The decline in 2009 may have been a result of the 'double cohort' of Ontario high school students who began to enter university in the fall of 2003. The double cohort comprised graduating students from both the last of the discontinued Ontario Academic Credit (OAC) programs and the first of the "Grade 12" university-preparation programs across Ontario.

In 2012, mechanical engineering awarded the most undergraduate degrees with 3,153. Civil engineering (2,325) surpassed electrical engineering (2,046), while chemical engineering (1,278) took fourth place. Overall, the program (or groups of programs) that experienced the largest growth in undergraduate degrees awarded since 2007 was mining or mineral engineering with 75 percent, followed by environmental engineering (67.7 percent), other engineering (37 percent) and chemical engineering (35.7 percent).

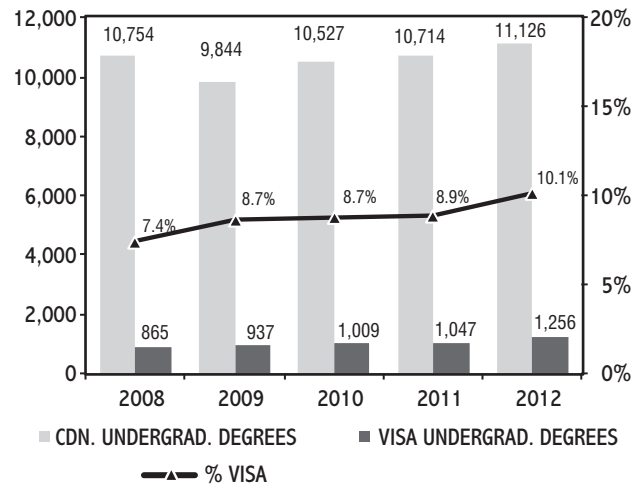
Since 2007, undergraduate engineering degrees awarded to females grew by 4.4 percent totalling 2,235 in 2012. Over that same period, degrees awarded to males grew by 9.5 percent, totalling 10,144. Although degrees awarded to female students are only a fraction of the total degrees awarded (see Chart 1.9a), recent annual growth rates indicate female awards are on the rise; between 2010 and 2012, annual growth in degrees awarded was reported to be 4.7 percent, 7.1 percent and 5.1 percent.

**CHART 1.9A– UNDERGRADUATE ENROLMENT AND DEGREES AWARDED BY GENDER (ACCREDITED PROGRAMS ONLY)**



The number of undergraduate degrees awarded to international students in 2012 was 1,256, an impressive increase of 20 percent from the previous year, and a substantial expansion of 51.5 percent since 2008 (see Table UD.2.3 in Appendix A). Canadian undergraduate degrees awarded fared much lower; since 2008, growth in degrees awarded to Canadian students was just 4.8 percent, and 3.8 percent since 2011. As illustrated in Chart 1.9b, degrees awarded to international students comprised 10.1 percent of the total in 2012, compared to 7.4 percent in 2008.

**CHART 1.9B– UNDERGRADUATE ENROLMENT (FTE) AND DEGREES AWARDED BY VISA STUDENTS (ACCREDITED PROGRAMS ONLY)**



Promoting high standards and  
mobility for the Canadian

# ENGINEER\*



# Graduate Enrolment and Degrees Awarded

## FOREWORD

Total graduate enrolment of both full-and-part-time students grew by 5.7 percent in 2012, to a total of 23,336 master's and doctoral students across Canada. Since 2007, growth in doctoral enrolments slightly outpaced growth in master's enrolments.

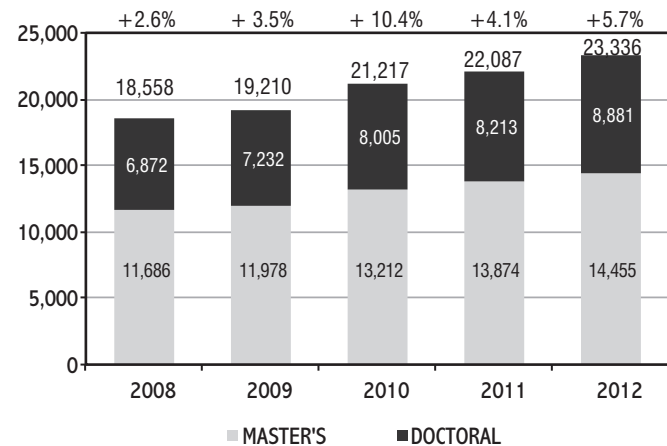
The proportion of female engineering graduate students has hovered at around 21 percent since 2007. Between 2007 and 2012, cumulative growth in female graduate enrolments outpaced growth in male enrolments. Over this period, female enrolment rose 31.9 percent compared to 24.9 percent for males.

The overall growth in graduate enrolment in Canadian engineering programs continues to be linked to the rise of international students. The number of visa graduate students grew by 63.6 percent since 2007, totalling 9,756 FTEs. This far outpaces the growth of Canadian citizens or landed immigrants, which increased by 3.9 percent to 11,569 FTEs during the same period. International students accounted for 45.7 percent of graduate student enrolment in engineering in 2012, a proportion that has been increasing steadily.

## NUMBER OF GRADUATE STUDENTS

There were 23,336 graduate students enrolled in masters or doctoral programs in engineering across Canada in 2012<sup>7</sup>. Since 2007, growth in doctoral enrolments (27.6 percent) slightly outpaced the growth seen in master's enrolments (25.6 percent). As shown in Chart 2.1<sup>8</sup>, growth in enrolments rapidly increased from 2009 to 2010 and then grew more moderately afterwards (see tables G1.1 through G1.4 in Appendix A).

CHART 2.1 – NUMBER OF GRADUATE STUDENTS BY LEVEL



## MASTER'S STUDENTS

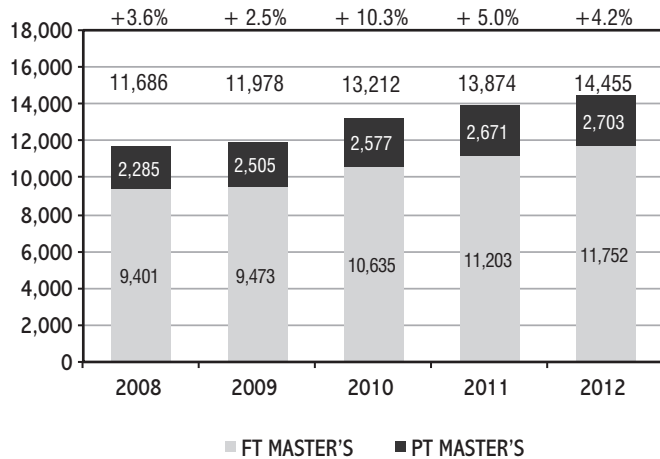
Although the proportion of part-time master's students is relatively small (see Chart 2.2), enrolment has been increasing since 2008 reaching 2,703 in 2012 (see Table G.1.3 in Appendix A). After slower growth in 2009 (0.8 percent), full-time master's enrolment grew at an impressive rate of 12.3 percent in 2010, totalling 10,635. Both 2011 and 2012 saw more moderate growth. Aside from full-time enrolment, part-time enrolment experienced a pronounced decline in 2007 dropping 20 percent before rebounding to above 9 percent in 2008 and 2009. Since then, growth has been much more moderate (see Table G.1.1 in Appendix A).

<sup>7</sup> These figures represent counts of the actual number of students, whether studying full or part-time, and are substantially larger than enrolment levels reported as full-time equivalents.

<sup>8</sup> Due to rounding, figures in this section may not exactly add to totals shown.



**CHART 2.2 – NUMBER OF MASTER'S STUDENTS BY COURSE LOAD**

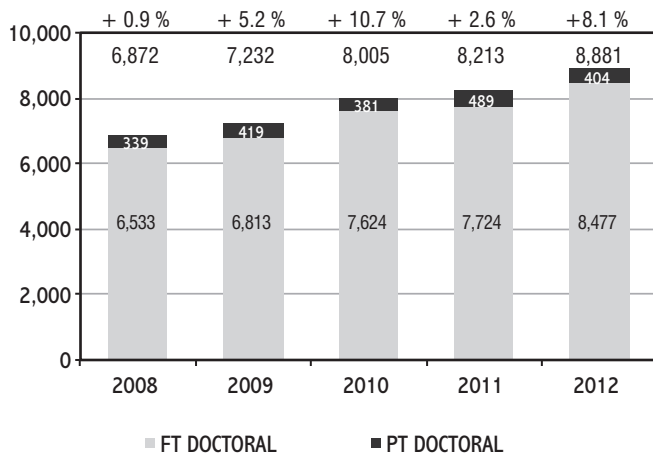


In absolute terms the number of part-time master's students has increased, however the proportion of part-time students has *decreased* to 18.7 percent, a slight dip from 19.3 percent reported in 2011, and lower still than the peak of 22.5 percent achieved in 2006.

## DOCTORAL STUDENTS

As shown in Chart 2.3, total doctoral enrolment continues to grow. When breaking down doctoral students by part-time and full-time, two diverging stories appear: full-time enrolment has been growing since 2008 while growth in part-time enrolment has been up and down. As a result, full-time enrolment has grown 28.3 percent during this time, outpacing part-time enrolment which grew 23.5 percent.

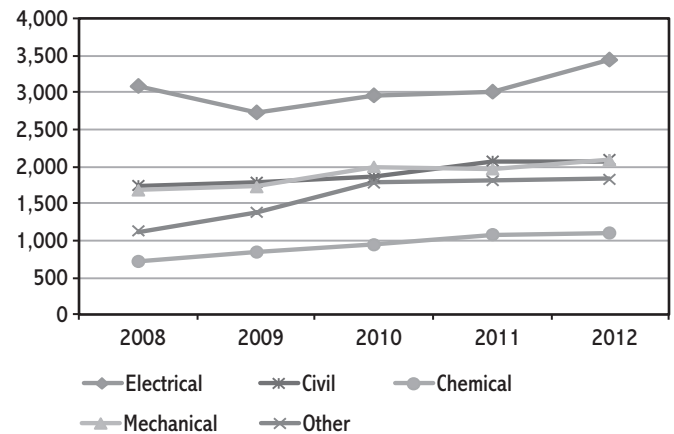
**CHART 2.3 – NUMBER OF DOCTORAL STUDENTS BY COURSE LOAD**



## GRADUATE ENROLMENT BY DISCIPLINE

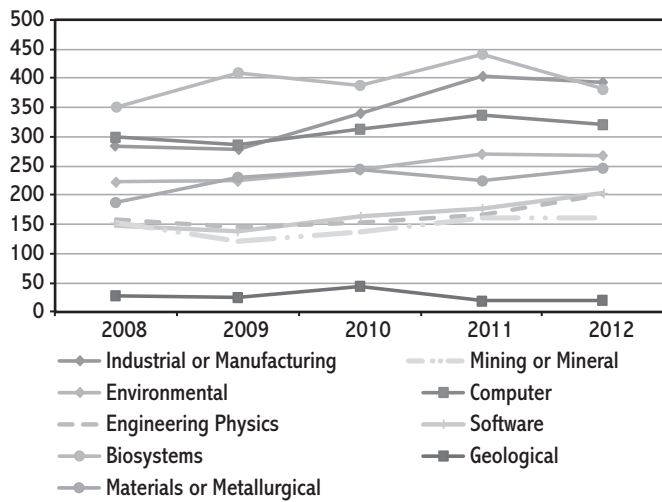
In 2012, master's enrolment was greatest in electrical, mechanical, and civil engineering programs (see Chart 2.4). Of these top three, enrolments in electrical engineering had the most impressive growth in 2012 with 13.9 percent; enrolments are rebounding after a slump experienced in 2009. Master's enrolments in civil and mechanical engineering are following a similar growth pattern while the group of programs which make up the other engineering category has seen solid enrolment growth. After strong gains of plus 20 percent in 2009 and 2010, enrolment growth in other engineering has slowed considerably; both 2011 and 2012 saw master's enrolments grow by only one percent. Since 2007, master's enrolment in other engineering has grown impressively by 79.5 percent. Following those gains is chemical engineering, which posted growth in master's enrolments of 36.1 percent since 2008.

**CHART 2.4 – MASTER'S ENROLMENT BY DISCIPLINE (1) (FTE)**



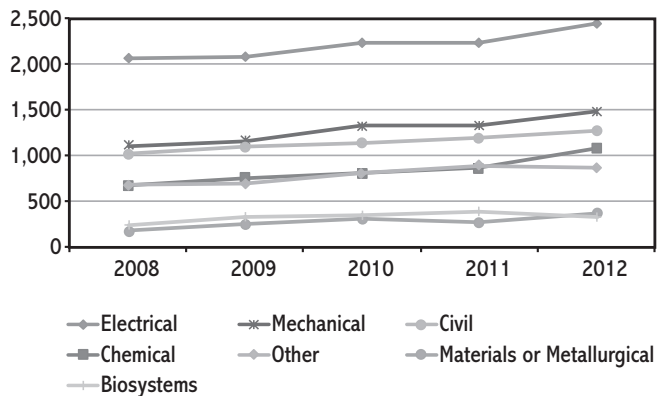
Among the programs with smaller master's enrolments (see Chart 2.5), software engineering experienced the most impressive growth since 2008, climbing 54.8 percent to 203 FTEs. Enrolment in the master's program was stronger than enrolment in the undergraduate program (54.8 percent versus 32.4 percent). Mining or mineral, biosystems and environmental engineering also encountered significant growth during that time with 37.3 percent, 32 percent and 24.4 percent respectively. As seen in Chart 2.5, master's enrolments in biosystems engineering slipped in 2011 while master's enrolments in industrial and manufacturing engineering have been rising since 2009, now rivaling master's enrolment numbers in biosystems engineering in 2012. Engineering physics continues to regain lost ground since 2007 while master's enrolments in geological engineering have struggled to grow (see Table G.1.5 in Appendix A).

**CHART 2.5 – MASTER’S ENROLMENT BY DISCIPLINE (2) (FTE)**



As seen in Chart 2.6, doctoral enrolments in electrical engineering continue to be the most attractive, exhibiting the largest share. Since 2008, doctoral enrolments grew 15.7 percent to 2,445 FTEs. The program that experienced the largest enrolment gains since that time however, is materials and metallurgical engineering, growing an exceptional 88.3 percent. Impressive enrolment gains were also experienced in biosystems engineering (52.9 percent) and chemical engineering (48.3 percent). It is interesting to note that enrolment patterns between chemical engineering and the group of programs which make up the other engineering category were similar since 2008, until chemical engineering rose sharply (24.8 percent) in 2011 while other engineering declined slightly. Doctoral enrolments in civil engineering continue to grow, albeit much more modestly than some of the other engineering disciplines. (see Table G.1.6 in Appendix A).

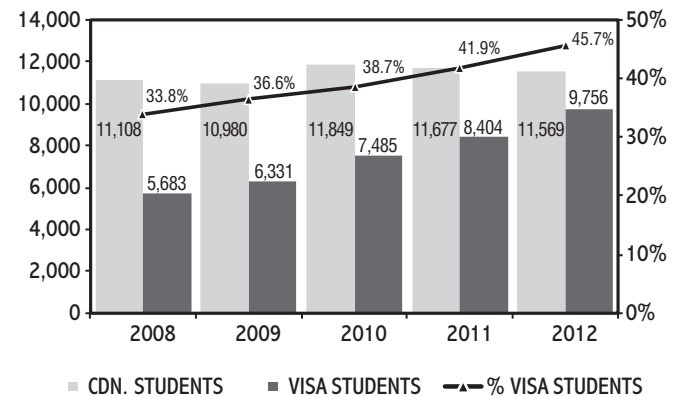
**CHART 2.6 – DOCTORAL ENROLMENT: MAJOR DISCIPLINES (FTE)**



## GRADUATE ENROLMENT OF INTERNATIONAL (VISA) STUDENTS

International graduate students accounted for just under half (45.7 percent) of graduate student enrolment in engineering in 2012, a proportion that has been steadily increasing over the years. As shown in Chart 2.7, since 2007, enrolment of international graduate students has risen a remarkable 63.6 percent (to 9,756 FTEs by 2012), far outpacing enrolment of Canadian graduate students<sup>9</sup>, which grew 3.9 percent over the same period<sup>10</sup>. Based on the findings, the growth in graduate enrolment in Canadian engineering programs reported over recent years is directly linked to the sizeable influx of international students.

**CHART 2.7 – GRADUATE ENROLMENT OF CANADIAN AND VISA STUDENTS (FTE)**



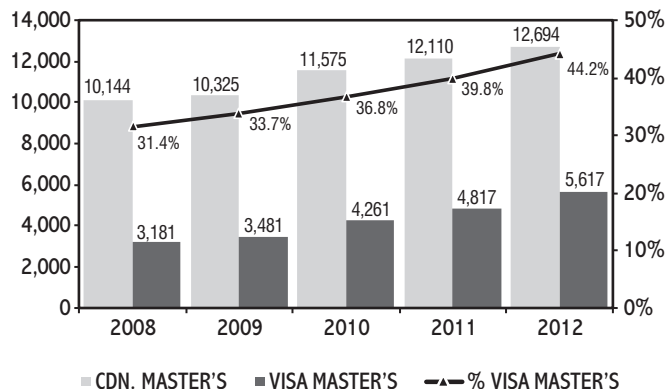
Considering master’s enrolment only, enrolment growth of visa students grew 68.6 percent to 5,617 FTEs since 2007. Canadian enrolment did not grow much over that same period, posting a 1.9 percent increase in master’s enrolments to 7,077 FTEs. After slumping enrolment numbers in 2008 and 2009, Canadian master’s enrolments regained lost ground, only to decline again in 2011 and 2012. In contrast, visa student enrolment in master’s level programs continues to rise, recording annual double-digit growth since 2010 (see Chart 2.7a)<sup>11</sup>.

<sup>9</sup> Includes both Canadian citizens and landed immigrants.

<sup>10</sup> Totals are derived from tables, G.1.5, G.1.6, G.1.9, and G.1.10. The numbers depicted in the chart are derived from calculations performed across the latter tables, taking into account all students (master’s and doctoral) versus visa students (master’s and doctoral).

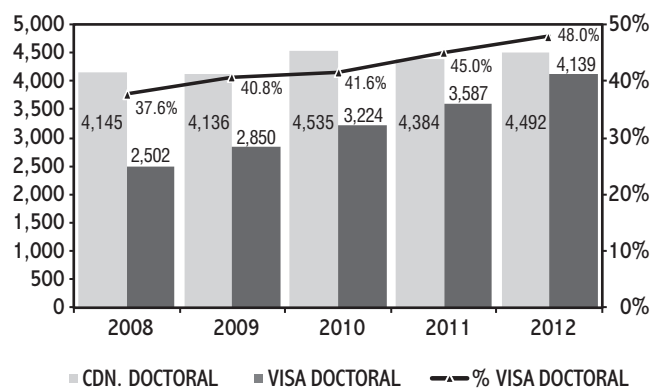
<sup>11</sup> Totals are derived from tables G.1.5 and G.1.9. The numbers depicted in the chart are derived from calculations performed across the latter tables, taking into account all master’s students versus visa master’s students only.

**CHART 2.7A – MASTER’S ENROLMENT OF CANADIAN AND VISA STUDENTS (FTE)**



The growth in visa student doctoral enrolments over this period is also striking. As can be seen in Chart 2.7b, there were 4,139 visa doctoral students in 2012, a 58 percent increase in growth since 2007. After previous years of decline, Canadian student doctoral enrolments increased by 9.6 percent in 2010 to 4,535 FTEs but decreased by 3.3 percent in 2011. A small increase of 2.5 percent to 4,492 FTEs was achieved in 2012. The overall growth rate between 2008 and 2012 for Canadian student doctoral enrolments was 7 percent<sup>12</sup>. In line with past years, proportionately more doctoral students versus master’s students were visa holders in 2012 (48 percent and 44.2 percent, respectively).

**CHART 2.7B – DOCTORAL ENROLMENT OF CANADIAN AND VISA STUDENTS (FTE)**



12 Totals are derived from tables G.1.6 and G.1.10. The numbers depicted in the chart are derived from calculations performed across the latter tables, taking into account all doctoral students versus visa doctoral students only.

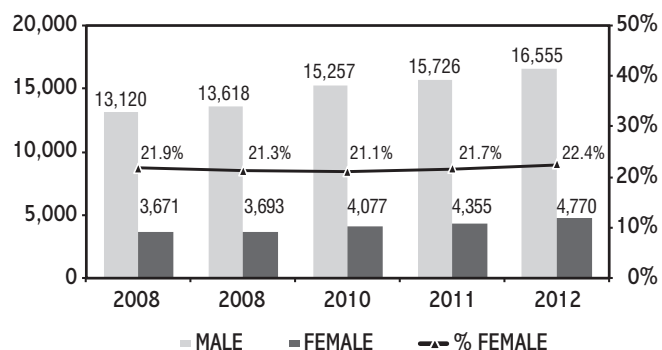
13 Totals are derived from tables G.1.5, G.1.6, G.1.7, and G.1.8. The numbers depicted in the chart are derived from calculations performed across the latter tables, taking into account all students (master’s and doctoral) versus female students (master’s and doctoral).

14 Totals are derived from tables G.1.5 and G.1.7. The numbers depicted in the chart are derived from calculations performed across the latter two tables, the first taking into account all master’s students and the second taking into account female master’s students only.

## GRADUATE ENROLMENT BY GENDER

The proportion of female engineering graduate students has hovered at around 21 percent since 2008<sup>13</sup>, however that proportion has recently increased to 22.4 percent in 2012 (see Chart 2.8). It is interesting to note, that the rate of growth in 2010 for both female and male graduate enrolments was the highest seen in years: 10.4 percent (to 4,077 FTEs) and 12 percent (to 15,257 FTEs) respectively. Since that time, growth in female graduate enrolments has been higher than male graduate enrolments; 2011 experienced a 9.5 percent (to 4,770 FTEs) increase for females compared to only 5.3 percent (to 16,555) for males. Between 2007 and 2012, cumulative growth in female graduate enrolments outpaced growth in male enrolments. Over this period, female enrolment rose 31.9 percent compared to 24.9 percent for males.

**CHART 2.8 – GRADUATE ENROLMENT BY GENDER (FTE)**

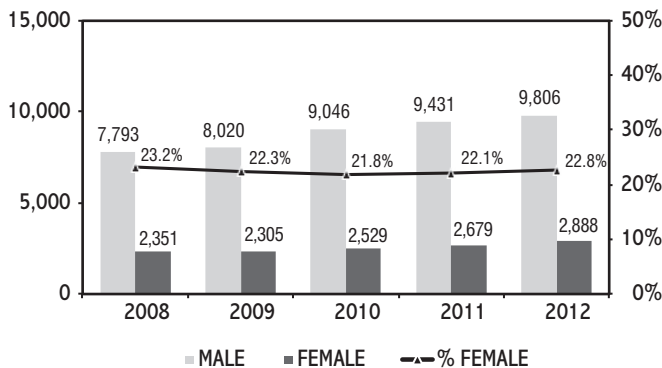


With respect to master’s enrolment specifically, the proportion of female students remained fairly constant over the years, as seen in Chart 2.8a. Although the proportion of females enrolling in master’s programs declined after 2008, Chart 2.8a illustrates that the numbers have been rising since 2010. In 2012, the proportion of female master’s enrolments stood at 22.8 percent, slightly below 2008 levels<sup>14</sup>. Between 2007 and 2012, female enrolments in master’s programs grew by 27.4 percent, slightly more than male enrolments, which grew by 24.9 percent.

In 2012, almost half (47.4 percent) of all master’s level geological engineering students were female. The proportion of female enrolments in this discipline had risen by almost 29 percent since 2008, an impressive climb. Other master’s level programs that showed high proportions of female FTEs were biosystems engineering (44.2 percent), environmental engineering (41 percent), and chemical engineering (34.8 percent). Both biosystems and chemical engineering experienced strong gains in female enrolments since 2008, rising 44.8 percent and 43.3 percent respectively. The group of programs which make up the other engineering category also experienced strong growth in female FTEs, climbing 68.8 percent since 2008.

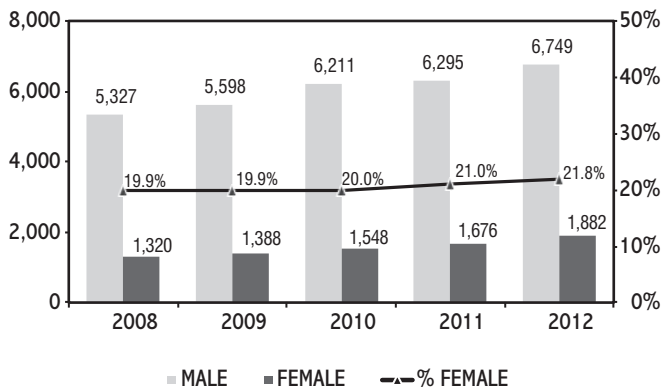
The discipline that illustrated a sizeable downward shift in female master's enrolment was software engineering; representation of females in this discipline dropped 10 percent from 27.9 to 17.7 between 2008 and 2012. The disciplines that carry the lowest female representation are computer engineering (18 percent), software engineering (17.7 percent) and mechanical engineering (12.8 percent).

**CHART 2.8A – MASTER'S ENROLMENT BY GENDER (FTE)**



In 2012 the proportion of women enrolled in master's programs was greatest in Saskatchewan (28.2 percent), followed by Alberta (26.4 percent), Newfoundland (24.9 percent) and British Columbia (23 percent). Manitoba, Ontario and Québec clustered around the national average of 21.8 percent. New Brunswick and Nova Scotia had the lowest proportion of women enrolled in master's programs. Of all the provinces, Alberta experienced the most impressive growth in female master's enrolment, posting growth of 44.2 percent since 2008.

**CHART 2.8B – DOCTORAL ENROLMENT BY GENDER (FTE)**



As can be seen in Chart 2.8b, the proportion of female doctoral students increased marginally since 2007 from 19.9 percent to 21.8 percent in 2012, however during that period, growth in female doctoral enrolments outpaced growth in male doctoral enrolments (39.5 percent versus 24.9 percent). Between 2011 and 2012, female doctoral enrolments rose 12.3 percent to 1,882 FTEs, the highest year-over-year increase in recent years. In contrast, male doctoral enrolment increased by 7.2 percent to 6,749 FTEs<sup>15</sup>.

<sup>15</sup> Totals derived from tables G.1.6 and G.1.8. The numbers depicted in the chart are derived from calculations performed across these two tables, the first taking account all doctoral students and the second taking account female doctoral students only.

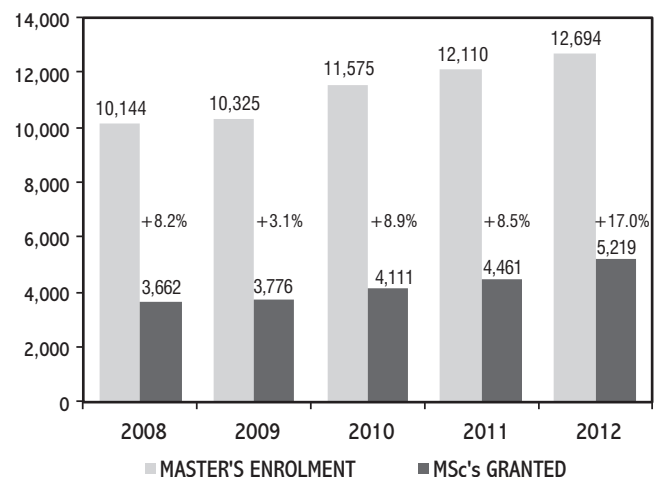
Female doctoral students are well represented in biosystems engineering (37.5 percent), environmental engineering (34.3 percent), and chemical engineering (32.2 percent). Women were least represented in mechanical engineering (16.9 percent), electrical engineering (16.6 percent), and software engineering (11.1 percent). Civil engineering, which absorbs a large portion of overall doctoral enrolments, has seen a modest gain in female participation, from 18.8 to 24.1 percent between 2008 and 2012.

In 2012 the proportion of women enrolled in doctoral programs was greatest in New Brunswick (27.2 percent) followed by Saskatchewan (25.3 percent), Nova Scotia (23.1 percent) and Québec (22.3 percent). Alberta, Ontario and British Columbia clustered around the national average of 21.8 percent. Manitoba and Newfoundland experienced the lowest proportions of women enrolled in doctoral programs, posting 18.3 percent and 16 percent respectively. Overall, the most impressive growth in female enrolment since 2008 was seen in Alberta (58 percent), Quebec (45.3 percent), Ontario (34.1 percent) and British Columbia (31.8 percent). As a side note, limited enrolments in some doctoral programs can result in large year-to-year fluctuations (see Table G.2.4 in Appendix A).

## GRADUATE DEGREES AWARDED

In 2012, 5,204 master's degrees were awarded, a significant rise of 17.0 percent from the previous year. Since 2008, master's degrees awarded have risen 45.6 percent, higher than the overall growth of master's enrolment which was 25.4 percent (see Table GD.1.1 in Appendix A).

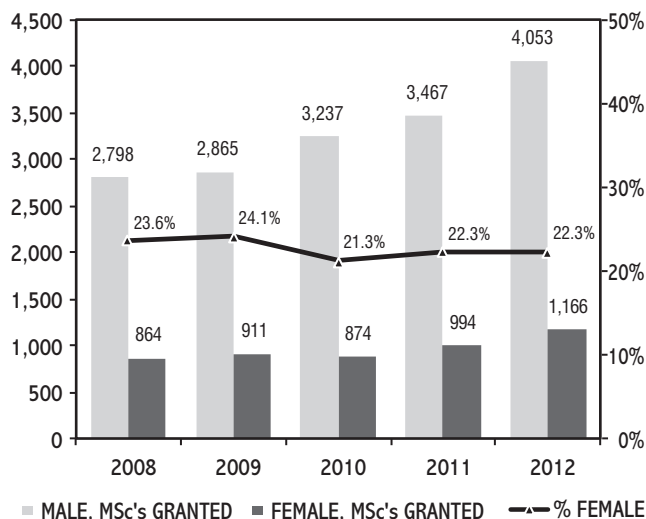
**CHART 2.9 – MASTER'S ENROLMENT AND DEGREES AWARDED (FTE)**



In 2012, the proportion of all master's degrees awarded to women was 22.3 percent; since 2007, the proportion has not varied by more than two percent in either direction. As can be seen in Chart 2.9a, the proportion of all master's degree awarded to women was highest in

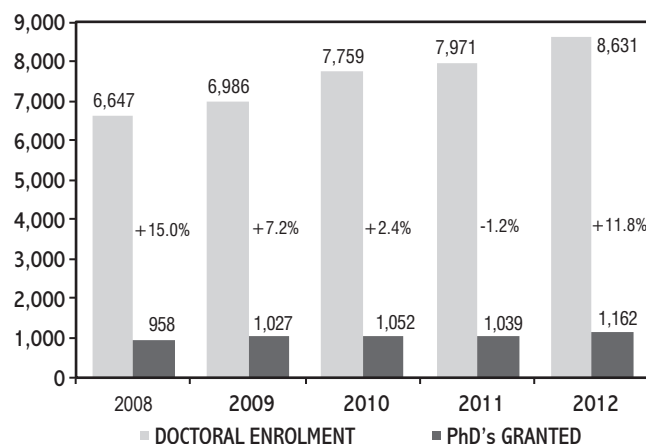
2009 (24.1 percent) with slight drops within the last few years. Overall, master's degrees awarded to women grew 36.3 percent since 2007. Master's degrees awarded to males slightly outpaced females, posting a rise of 39.3 percent over that same period.

**CHART 2.9A – MASTER'S ENROLMENT AND DEGREES AWARDED BY GENDER (FTE)**



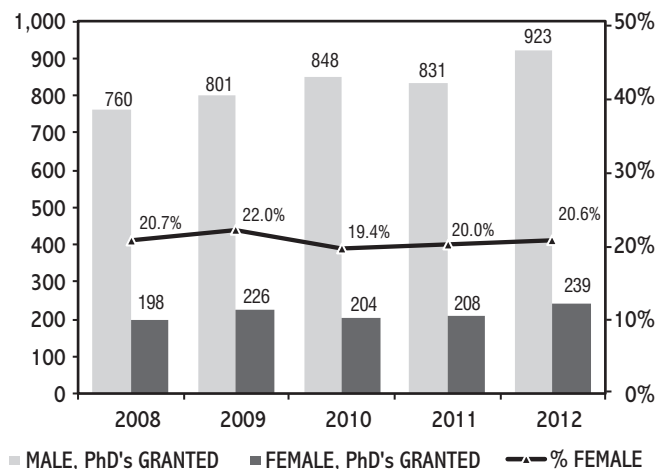
As seen in Chart 2.10, the number of doctoral degrees awarded experienced a strong rebound in 2012, rising 11.8 percent after a decline was experienced in 2011 and little growth experienced in 2010. Since 2007, doctoral degrees awarded grew 35.2 percent, outpacing doctoral enrolments, which grew 27.9 percent.

**CHART 2.10 – DOCTORAL ENROLMENT AND DEGREES AWARDED (FTE)**



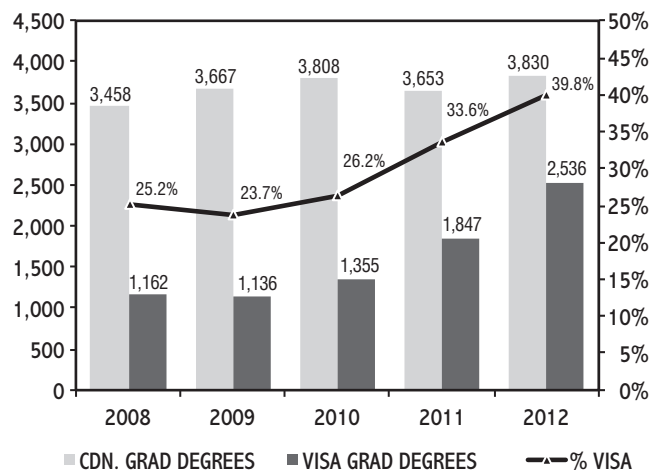
The proportion of women earning doctoral degrees has been slowly regaining lost ground since its peak of 22 percent in 2009 (see Chart 2.10a). Overall however, doctorates awarded to women grew by 71.3 percent since 2007; far outpacing doctoral degrees awarded to males which grew 28.7 percent over the same period (see Table GD.1.4 in Appendix A).

**CHART 2.10A – DOCTORAL ENROLMENT AND DEGREES AWARDED BY GENDER (FTE)**

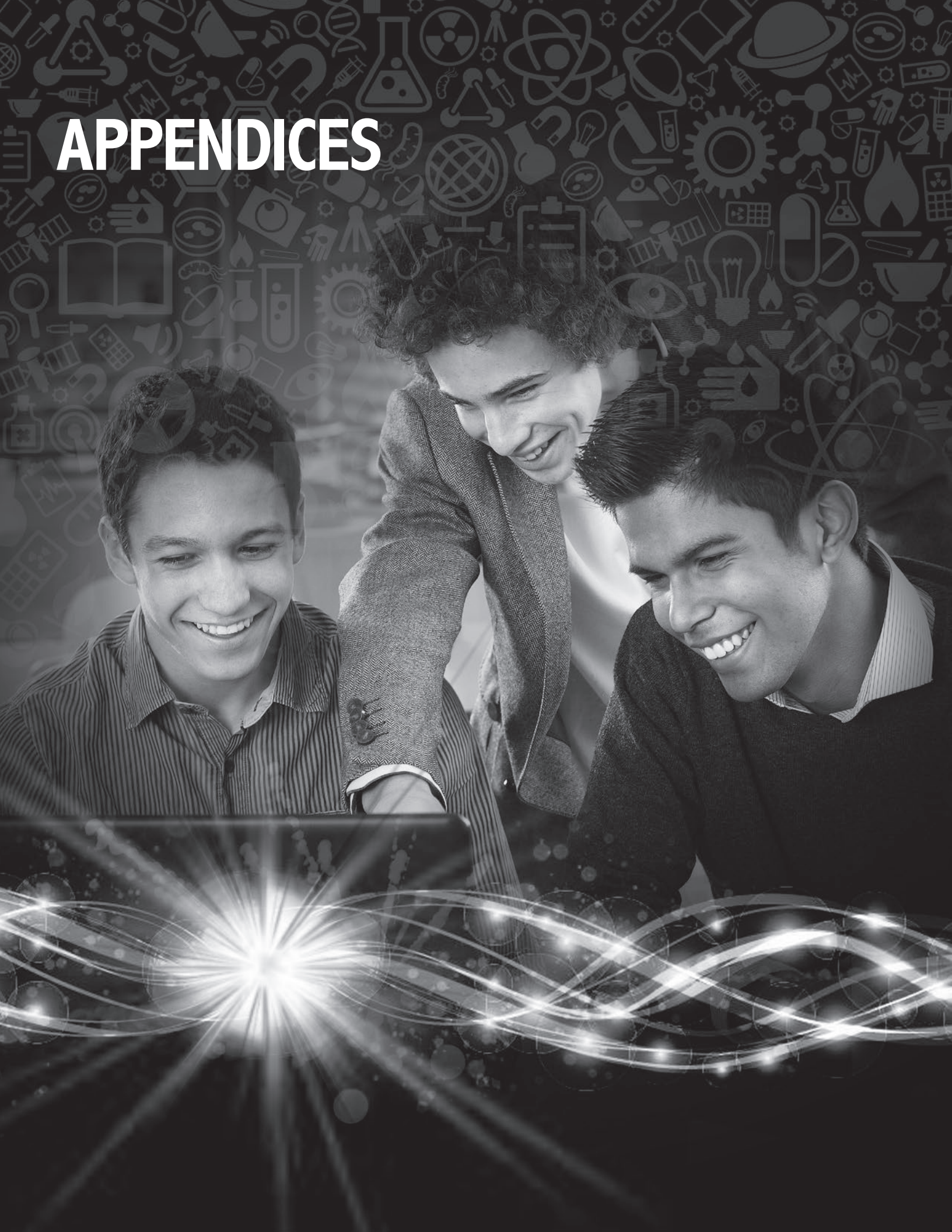


As seen in Chart 2.10b, the number of doctoral degrees awarded for visa students has grown at a remarkable pace; growth for Canadian students remains much lower.

**CHART 2.10B – GRADUATE ENROLMENT (FTE) AND DEGREES AWARDED BY VISA STUDENTS (ACCREDITED PROGRAMS ONLY)**



# APPENDICES



# Appendix A

## DATA TABULATIONS – ENGINEERING ENROLMENT AND DEGREES AWARDED

To provide added clarity of presentation in the numerous tabulations that comprise this document, the following tree was developed. Each of the main headings and sub-variables analyzed is presented along with the corresponding table number. The main headings under which data tabulations are presented include national, provincial and institutional categories. Other variables such as discipline, gender and foreign students are presented as tables under each of these main headings.

For example, the tabulation of undergraduate enrolment figures (U) at a national level (1) would be designated as Table U.1. The data compiled into different categories, including discipline, gender and information on foreign students appear as subsequent tables under the main headings.

### Undergraduate Enrolment (U)

- U.1. National
- U.2. Provincial
- U.3. Institutional

### Undergraduate Degrees Awarded (UD)

- UD.1. National
- UD.2. Provincial
- UD.3. Institutional

### Graduate Student Enrolment (G)

- G.1. National
- G.2. Provincial
- G.3. Institutional

### Graduate Degrees Awarded (GD)

- GD.1. National
- GD.2. Provincial
- GD.3. Institutional

### Faculty Members by Institution (F)

- F.1. Faculty Composition

### Co-op, Internship and Professional Experience Programs (C)

- C.1. Industry Experience Options by Institutions

Please note that for 2007 and onwards, the universities provided average numbers of students enrolled over the fall, winter and summer terms. However, for purposes of reporting, those numbers were rounded up or down accordingly.

## SCHOOL NAME AND ACRONYM

In the *Appendix* section of this report, all university names, where appropriate, have been abbreviated to allow for ease of reading. The chart shown below lists the complete name of the school and the abbreviated name that is commonly used to refer to the university.

COMPLETE SCHOOL NAME	ACRONYM
Acadia University	Acadia
Alberta, University of	Alberta
British Columbia Institute of Technology	BCIT
British Columbia, University of	UBC
British Columbia at Okanagan, University of	UBCO
Calgary, University of	Calgary
Cape Breton, University College of	Cape Breton
Carleton University	Carleton
Concordia University	Concordia
Conestoga College	Conestoga
Dalhousie University	Dal
École de technologie supérieure	ETS
Guelph, University of	Guelph
Lakehead University	Lakehead
Laurentian University	Laurentian
Laval, Université	Laval
Manitoba, University of	Manitoba
McGill University	McGill
McMaster University	McMaster
Memorial University of Newfoundland	MUN
Moncton, Université de	Moncton
New Brunswick, University of	UNB
Northern British Columbia, University of	UNBC
Nova Scotia Agricultural College	NSAC
Ottawa, University of	Ottawa
Prince Edward Island, University of	UPEI
Polytechnique, École	Polytechnique
Québec à Chicoutimi, Université du	UQAC
Québec à Montréal, Université du	UQAM
Québec à Rimouski, Université du	UQAR
Québec à Trois-Rivières, Université du	UQTR
Québec en Abitibi-Témiscamingue, Université du	UQAT
Québec en Outaouais, Université du	UQO
Queen's University	Queen's
Regina, University of	Regina
Royal Military College of Canada	RMC

COMPLETE SCHOOL NAME	ACRONYM
Ryerson University	Ryerson
Saint Mary's University	SMU
Saskatchewan, University of	Saskatchewan
Sherbrooke, Université de	Sherbrooke
Simon Fraser University	SFU
St. Francis Xavier University	StFX
Toronto, University of	Toronto
University of Ontario Institute of Technology	UOIT
Victoria, University of	Uvic
Waterloo, University of	Waterloo
Western Ontario, University of	Western
Windsor, University of	Windsor
York University	York

## PROVINCE NAME AND ABBREVIATION

In the appendix section of this report, the provincial names have been abbreviated to allow for ease of reading. The chart shown below lists the complete name of the province and the corresponding abbreviation.

PROVINCE NAME	ABBREVIATION
Alberta	AB
British Columbia	BC
Manitoba	MB
New Brunswick	NB
Newfoundland and Labrador	NL
Nova Scotia	NS
Ontario	ON
Prince Edward Island	PE
Quebec	QC
Saskatchewan	SK

## A.1. UNDERGRADUATE ENROLMENT

### U.1. National

TABLE U.1.1.

Total undergraduate enrolment in accredited engineering programs by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	579	739	750	719	1023
Chemical	4379	4618	5163	5059	5572
Civil	8897	9614	10543	10949	11853
Computer	3644	3546	3439	3604	3595
Electrical	8870	9375	9485	9803	10535
Engineering Physics	2715	2519	2790	2838	2929
Environmental	785	982	1085	1229	1440
Geological	532	556	560	604	667
Industrial or Manufacturing	1824	1742	1662	1766	1857
Materials or Metallurgical	921	930	859	933	815
Mechanical	12337	12828	13443	13878	14639
Mining or Mineral	764	860	876	936	1046
Software	1931	2120	2165	2249	2598
Other	2556	2856	2969	3143	3706
Year One/Two Common Year	6521	5587	6472	8605	7926
<b>TOTAL</b>	<b>57255</b>	<b>58872</b>	<b>62259</b>	<b>66316</b>	<b>70201</b>



**TABLE U.1.2.**

Total female undergraduate enrolment in accredited engineering programs: 1991 to 2012.

YEAR	TOTAL ENROLMENT	WOMEN	PERCENT OF TOTAL
1991	37147	5979	16.1
1992	40307	6689	16.6
1993	41562	7376	17.7
1994	40958	7466	18.2
1995	40068	7541	18.8
1996	40997	7736	18.9
1997	42048	8099	19.3
1998	43898	8493	19.3
1999	44840	9217	20.6
2000	47066	9561	20.3
2001	49422	10199	20.6
2002	52585	10456	19.9
2003	54301	10423	19.2
2004	54991	10011	18.2
2005	54713	9546	17.4
2006	53287	9350	17.5
2007	55958	9682	17.3
2008	57255	9797	17.1
2009	58872	10199	17.3
2010	62259	11032	17.7
2011	66316	11678	17.6
2012	70201	12704	18.1

**TABLE U.1.3.**

Total female undergraduate enrolment in accredited engineering programs: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	200	281	287	277	439
Chemical	1555	1619	1728	1702	1842
Civil	1900	2064	2249	2403	2593
Computer	359	342	358	371	363
Electrical	1033	1147	1208	1190	1303
Engineering Physics	448	415	452	469	502

DISCIPLINE	2008	2009	2010	2011	2012
Environmental	288	380	427	504	565
Geological	176	188	198	221	245
Industrial or Manufacturing	401	377	382	412	441
Materials or Metallurgical	199	214	204	209	190
Mechanical	1242	1240	1383	1382	1514
Mining or Mineral	114	129	143	168	186
Software	195	203	209	220	257
Other	432	482	499	520	662
Year One/Two Common Year	1256	1117	1305	1630	1600
<b>TOTAL</b>	<b>9797</b>	<b>10199</b>	<b>11032</b>	<b>11678</b>	<b>12704</b>

**TABLE U.1.4.**

Total undergraduate enrolment in engineering programs, which will be seeking accreditation: 2012.

INSTITUTION	PROGRAM	2012
BCIT	Mechanical Engineering	222
Carleton	Architectural Conservation and Sustainability	82
Guelph	Biomedical Engineering	172
Guelph	Computer Engineering	40
Guelph	Mechanical Engineering	294
Laval	Génie industriel	43
McGill	General Engineering	62
McMaster	Materials Science & Engineering and Society	33
MUN	Process Engineering	57
UOIT	Energy Systems Engineering	73
UVic	Biomedical Engineering	23
Western	Mechatronic Systems Engineering	36
York	Software Engineering	20
<b>TOTAL</b>		<b>1157</b>

## U.2. Provincial

**TABLE U.2.1.**

Total undergraduate enrolment in accredited engineering programs by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	6413	6606	6798	6897	7154
BC	4893	4470	5948	7158	8168
MB	1028	1064	1088	1154	1255
NB	1729	1592	1910	2018	2141
NL	739	787	762	873	859
NS	1469	1460	1605	1777	1863
ON	23029	24806	26652	28369	29556
PE	102	102	100	103	111
QC	15947	15985	15359	15814	16969
SK	1906	1999	2038	2152	2126
<b>TOTAL</b>	<b>57255</b>	<b>58872</b>	<b>62259</b>	<b>66316</b>	<b>70201</b>

**TABLE U.2.2.**

Total female undergraduate enrolment in accredited engineering programs by province: 2012.

PROVINCE	TOTAL ENROLMENT	FEMALE ENROLMENT	PERCENT FEMALE ENROLMENT
AB	7154	1547	21.60%
BC	8168	1277	15.60%
MB	1255	217	17.30%
NB	2141	341	15.90%
NL	859	188	21.90%
NS	1863	322	17.30%
ON	29556	5488	18.60%
PE	111	12	10.80%
QC	16969	2901	17.10%
SK	2126	411	19.30%
<b>TOTAL</b>	<b>70201</b>	<b>12704</b>	<b>18.10%</b>

**TABLE U.2.3.**

Total undergraduate foreign student enrolment in accredited engineering programs by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	432	495	584	655	738
BC	524	446	669	829	1014
MB	140	132	129	149	185
NB	267	282	344	611	659
NL	52	101	73	89	86
NS	197	180	284	318	440
ON	2341	2644	3058	3498	3795
PE	0	0	14	12	12
QC	2300	2399	2125	2157	2290
SK	217	277	334	385	405
<b>TOTAL</b>	<b>6468</b>	<b>6955</b>	<b>7613</b>	<b>8703</b>	<b>9622</b>

**TABLE U.2.4.**

Total undergraduate enrolment in accredited engineering programs by discipline and province: 2012

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK	TOTAL
Biosystems		74	93	3		9	615		205	24	1023
Chemical	826	209		327		83	3013		958	156	5572
Civil	974	983	245	609	135	104	4152		4477	175	11853
Computer	178	431	76	66	54	11	1903		749	128	3595
Electrical	963	1426	209	338	90	74	4511		2822	102	10535
Engineering Physics	68	893				214	1389		322	43	2929
Environmental		141				75	942		81	202	1440
Geological		120		42			226		214	65	667
Industrial or Manufacturing	0		2			76	625		1009	145	1857
Materials or Metallurgical	159	137				29	324		166		815
Mechanical	1336	1407	401	529	238	152	6153		4208	216	14639
Mining or Mineral	157	159				51	367		312		1046
Software	142	108		57			1102		1140	49	2598
Other	496	146		80	77	544	1837		304	223	3706
Year One/ Two Common Year	1855	1936	229	91	267	441	2397	111		599	7926
<b>TOTAL</b>	<b>7154</b>	<b>8168</b>	<b>1255</b>	<b>2141</b>	<b>859</b>	<b>1863</b>	<b>29556</b>	<b>111</b>	<b>16969</b>	<b>2126</b>	<b>70201</b>

**TABLE U.2.5.**

Total female undergraduate enrolment in accredited engineering programs by discipline and province: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	PE	QC	SK	TOTAL
Biosystems		31	45	1		5	252		98	6	439
Chemical	263	63		103		19	970		382	43	1842
Civil	285	166	51	122	41	16	866		1011	35	2593
Computer	18	51	8	10	5	2	197		61	12	363
Electrical	161	158	35	23	17	12	570		311	17	1303
Engineering Physics	8	128				25	290		47	4	502
Environmental		65				40	333		40	87	565
Geological		43		14			89		82	17	245
Industrial or Manufacturing	0		0			16	185		223	18	441
Materials or Metallurgical	46	23				5	83		33		190
Mechanical	193	160	37	36	37	18	584		426	23	1514
Mining or Mineral	29	22				7	80		49		186
Software	23	5		4			123		94	8	257
Other	113	25		12	21	90	331		43	28	662
Year One/Two Common Year	408	339	41	18	68	68	534	12		113	1600
<b>TOTAL</b>	<b>1547</b>	<b>1277</b>	<b>217</b>	<b>341</b>	<b>188</b>	<b>322</b>	<b>5488</b>	<b>12</b>	<b>2901</b>	<b>411</b>	<b>12704</b>

### U.3. Institutional

**TABLE U.3.1.**

Total undergraduate enrolment in accredited engineering programs by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Acadia	104	86	91	101	207
Alberta	3764	3892	3919	3904	4021
BCIT			186	465	469
Calgary	2649	2714	2879	2993	3133
Cape Breton	55		81	84	118
Carleton	2129	2251	2542	2698	3186
Concordia	3044	2784	2795	2787	2610
Conestoga			55	80	80
Dal	1034	1090	1108	1273	1208
ETS	3007	3221	3342	3654	3921
Guelph	476	496	539	528	530
Lakehead	675	747	798	796	806
Laurentian	158	161	256	442	279
Laval	2379	2470	1616	1683	1841
Manitoba	1028	1064	1088	1154	1255
McGill	2699	2540	2443	2257	2259
McMaster	2801	2946	3049	3579	2991
Moncton	293	325	325	338	367
MUN	739	787	762	873	859
NSAC	42	47	56	59	31
Ottawa	1407	1595	1757	1805	2030
Polytechnique	3007	3295	3519	3644	4197
Queen's	2355	2531	2575	2687	2734
Regina	714	751	824	878	876
RMC	321	355	395	431	440
Ryerson	2137	2310	2433	2569	3036
Saskatchewan	1192	1249	1215	1274	1251
SFU	712	565	634	945	990
Sherbrooke	1182	1036	1053	1248	1248
SMU	165	157	189	167	214
StFX	68	79	80	93	85
Toronto	4143	4222	4294	4386	4488
UBC	3142	2734	3818	3800	3873
UBCO			311	884	1650
UNB	1436	1267	1585	1680	1774
UNBC	47	56	69	73	89
UOIT	315	1023	1112	1243	1370
UPEI	102	102	100	103	111
UQAC	259	255	217	208	365
UQAM	89	53	20	27	42
UQAR	28	83	81	86	81
UQAT	52	52	68	54	55
UQO	30	32	34	3	35
UQTR	173	165	170	163	314
UVic	992	1114	930	992	1098
Waterloo	3887	3903	4457	4622	5047
Western	1120	1111	1115	1324	1260
Windsor	965	991	974	985	1064
York	141	165	181	195	218
<b>TOTAL</b>	<b>57255</b>	<b>58872</b>	<b>62259</b>	<b>66316</b>	<b>70201</b>

**TABLE U.3.2.**

Total female undergraduate enrolment in accredited engineering programs by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Acadia	15	14	19	23	27
Alberta	765	800	806	774	800
BCIT			22	37	39
Calgary	659	659	692	701	747
Cape Breton	16		15	14	16
Carleton	251	271	368	370	446
Concordia	483	445	451	471	490
Conestoga			5	9	5
Dal	184	207	215	241	229
ETS	241	272	306	325	353
Guelph	131	137	151	160	167
Lakehead	55	63	69	64	77
Laurentian	28	28	51	74	41
Laval	385	428	284	311	336
Manitoba	134	153	174	194	217
McGill	539	486	502	510	496
McMaster	435	471	539	549	513
Moncton	38	44	44	60	63
MUN	152	202	160	183	188
NSAC	4	3	3	6	5
Ottawa	202	273	351	325	409
Polytechnique	634	699	734	755	914
Queen's	535	597	632	687	741
Regina	132	151	170	184	168
RMC	44	42	49	46	60
Ryerson	324	337	356	377	522
Saskatchewan	214	226	218	247	243
SFU	94	73	80	120	133
Sherbrooke	193	175	163	194	190
SMU	16	19	25	20	25
StFX	10	25	24	23	20
Toronto	892	918	957	1024	1068
UBC	559	511	725	732	760
UBCO			40	98	205
UNB	221	223	259	278	278
UNBC	20	25	31	33	43
UOIT	32	87	87	90	100
UPEI	20	20	15	25	12
UQAC	33	28	25	27	45
UQAM	11	1	1	2	3
UQAR	2	8	5	7	15
UQAT	5	4	10	10	12
UQO	6	4	5	1	4
UQTR	17	16	18	18	43
UVic	104	101	82	90	98
Waterloo	625	605	730	777	915
Western	210	214	215	250	242
Windsor	109	118	120	130	145
York	19	22	33	33	38
<b>TOTAL</b>	<b>9797</b>	<b>10199</b>	<b>11032</b>	<b>11678</b>	<b>12704</b>

**TABLE U.3.3.**

Total undergraduate enrolment in accredited engineering programs by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER	YEAR ONE/TWO COMMON YEAR
Acadia															207
Alberta		475	585	162	470	68				159	700	157		190	1055
BCIT			180		289										
Calgary		351	389	16	493						636		142	306	800
Cape Breton															118
Carleton	114		576	207	738	65	348				496		165	477	
Concordia			901	115	329				216		813		236		
Conestoga											80				
Dal	9	83	104	11	74		75		76	29	152	51		544	
ETS			1212		981				351		972		405		
Guelph	75			71			339								46
Lakehead		81	319		169						211		26		
Laurentian		75									122	82			
Laval	66	80	576	85	116	127	81	78		49	324	105	95	59	
Manitoba	93		245	76	209				2		401				229
McGill		332	360	114	519					117	623	84	110		
McMaster		328	358	165	423	124				131	444		142	57	819
Moncton			211		77						79				
MUN			135	54	90						238			77	267
NSAC															31
Ottawa	182	358	522	113	287						424		144		
Polytechnique	139	320	989	257	400	195		102	343		815	123	294	221	
Queen's		315	351	69	163	349		148			531	175			633
Regina				96			162		145				49	223	202
RMC		35	91	29	26						54			56	149
Ryerson	244	301	536	230	550				161		548			371	96
Saskatchewan	24	156	175	32	102	43	40	65			216				398
SFU						662					328				
Sherbrooke		206	280	128	232						402				
SMU						214									
StFX															85
Toronto		463	496	355	786	851			351	194	694	110			187
UBC	74	209	465	368	601	231	52	120		137	419	159		146	891
UBCO			337		244						331				738
UNB	3	327	398	66	261			42			450		57	80	91
UNBC							89								
UOIT					269				41		675		115	270	
UPEI															111
UQAC			160	15	47			34			110				
UQAM					42										
UQAR					22						35			24	
UQAT					34						21				
UQO				35											
UQTR		21			101				99		93				
UVic				64	292						329		108		307
Waterloo		914	475	527	732		195	79			1191		403	534	
Western		144	216	22	121						200		107	38	411
Windsor			212		247		60		71		417				57
York				116							67			35	
<b>TOTAL</b>	<b>1023</b>	<b>5572</b>	<b>11853</b>	<b>3595</b>	<b>10535</b>	<b>2929</b>	<b>1440</b>	<b>667</b>	<b>1857</b>	<b>815</b>	<b>14639</b>	<b>1046</b>	<b>2598</b>	<b>3706</b>	<b>7926</b>

**TABLE U.3.4.**

Total female undergraduate enrolment in accredited engineering programs by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER	YEAR ONE/TWO COMMON YEAR
Acadia															27
Alberta		144	173	17	68	8				46	85	29		24	206
BCIT			24		15										
Calgary		119	112	1	93						108		23	89	202
Cape Breton															16
Carleton	40		84	14	99	7	96				32		13	61	
Concordia			254	9	45				65		88		29		
Conestoga											5				
Dal	5	19	16	2	12		40		16	5	18	7		90	
ETS			210		71				14		46		12		
Guelph	36			7			115								9
Lakehead		27	30		5						13		3		
Laurentian		15									10	16			
Laval	26	25	115	10	11	18	40	25		6	23	16	9	12	
Manitoba	45		51	8	35						37				41
McGill		125	119	11	81					27	100	14	19		
McMaster		115	65	12	71	9				25	33		14	5	163
Moncton			48		9						6				
MUN			41	5	17						37			21	68
NSAC															5
Ottawa	75	102	105	17	32						56		22		
Polytechnique	72	153	240	21	58	29		46	124		102	19	25	24	
Queen's		123	117	12	21	74		69			97	39			189
Regina				11			68		18				8	28	34
RMC		10	13	2	3						5			4	23
Ryerson	102	92	118	10	66				43		29			48	14
Saskatchewan	6	43	35	2	17	4	19	17			23				79
SFU						106					28				
Sherbrooke		73	53	5	14						45				
SMU						25									
StFX															20
Toronto		188	138	55	138	200			120	58	97	25			50
UBC	31	63	96	48	89	22	22	43		23	66	22		25	210
UBCO			46		32						35				92
UNB	1	103	74	10	14			14			30		4	12	18
UNBC							43								
UOIT					15				2		31		15	37	
UPEI															12
UQAC			20	1	7			11			6				
UQAM					3										
UQAR					4						4			7	
UQAT					4						8				
UQO				4											
UQTR		6			12				20		4				
UVic				4	22						32		5		37
Waterloo		249	113	50	72		95	20			116		48	154	
Western		50	53	2	14						26		10	12	77
Windsor			31		34		28		20		23				10
York				16							12			10	
<b>TOTAL</b>	<b>439</b>	<b>1842</b>	<b>2593</b>	<b>363</b>	<b>1303</b>	<b>502</b>	<b>565</b>	<b>245</b>	<b>441</b>	<b>190</b>	<b>1514</b>	<b>186</b>	<b>257</b>	<b>662</b>	<b>1600</b>

## A.2. UNDERGRADUATE DEGREES AWARDED

### UD.1. National

TABLE UD.1.1.

Total undergraduate degrees awarded by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	176	159	162	153	152
Chemical	1030	987	1148	1161	1278
Civil	1727	1853	1962	2235	2325
Computer	905	728	667	568	630
Electrical	2280	2099	2103	2041	2055
Engineering Physics	520	499	549	453	515
Environmental	169	135	181	229	258
Geological	95	100	127	128	121
Industrial or Manufacturing	437	341	391	350	369
Materials or Metallurgical	202	177	221	211	207
Mechanical	2947	2728	2984	2966	3153
Mining or Mineral	121	139	209	222	237
Software	472	337	367	366	413
Other	538	499	465	678	669
<b>TOTAL</b>	<b>11619</b>	<b>10781</b>	<b>11536</b>	<b>11761</b>	<b>12382</b>

TABLE UD.1.2.

Total undergraduate degrees awarded to female students by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	67	49	52	51	76
Chemical	392	375	397	399	444
Civil	416	429	426	491	500
Computer	87	64	55	57	69
Electrical	296	270	276	248	259
Engineering Physics	95	96	103	86	76
Environmental	73	48	61	95	116
Geological	23	32	41	42	44
Industrial or Manufacturing	88	63	88	89	94
Materials or Metallurgical	46	35	43	51	58
Mechanical	351	303	307	282	324
Mining or Mineral	14	29	30	46	35
Software	50	26	33	42	39
Other	96	79	76	150	101
<b>TOTAL</b>	<b>2094</b>	<b>1898</b>	<b>1988</b>	<b>2129</b>	<b>2235</b>

### UD.2. Provincial

TABLE UD.2.1.

Total undergraduate degrees awarded by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	1199	1147	1187	1298	1246
BC	852	884	1065	1126	1161
MB	218	165	223	197	172
NB	336	292	256	240	270
NL	153	157	166	151	166
NS	277	266	291	469	397
ON	5288	4752	5101	5075	5508
QC	2928	2780	2896	2850	3043
SK	368	338	351	355	419
<b>TOTAL</b>	<b>11619</b>	<b>10781</b>	<b>11536</b>	<b>11761</b>	<b>12382</b>

TABLE UD.2.2.

Total undergraduate degrees awarded to female students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	238	240	272	302	259
BC	140	160	175	208	184
MB	41	24	30	27	22
NB	50	56	33	45	51
NL	27	39	33	33	28
NS	60	35	63	108	80
ON	1012	846	858	876	1021
QC	464	448	472	454	496
SK	62	50	52	76	94
<b>TOTAL</b>	<b>2094</b>	<b>1898</b>	<b>1988</b>	<b>2129</b>	<b>2235</b>

TABLE UD.2.3.

Total undergraduate degrees awarded to foreign students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	51	54	64	90	95
BC	57	93	101	91	110
MB	23	22	38	28	20
NB	61	53	26	38	45
NL	14	6	13	14	4
NS	21	25	19	64	44
ON	366	375	408	411	577
QC	232	273	310	271	327
SK	40	36	30	40	34
<b>TOTAL</b>	<b>865</b>	<b>937</b>	<b>1009</b>	<b>1047</b>	<b>1256</b>

**TABLE UD.2.4.**

Total undergraduate degrees awarded by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK
Biosystems		16	13	5		4	55	48	11
Chemical	205	60		50		34	657	217	55
Civil	257	209	56	81	19	54	885	715	49
Computer	53	81	10	3	15	11	242	176	39
Electrical	201	210	18	44	22	35	973	520	23
Engineering Physics	19	131					311	41	13
Environmental		28				27	132	20	51
Geological		26		5			47	20	23
Industrial or Manufacturing						26	135	180	28
Materials or Metallurgical	48	37				8	92	22	
Mechanical	322	276	75	64	86	56	1370	816	88
Mining or Mineral	34	39				17	101	46	
Software	18	13		8			179	190	5
Other	89	35		10	24	125	329	23	34
<b>TOTAL</b>	<b>1246</b>	<b>1161</b>	<b>172</b>	<b>270</b>	<b>166</b>	<b>397</b>	<b>5508</b>	<b>3034</b>	<b>419</b>

**TABLE UD.2.5.**

Total undergraduate degrees awarded to women by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK
Biosystems		7	9	2		1	22	31	4
Chemical	64	21		20		11	224	80	24
Civil	75	37	6	15	2	16	190	146	13
Computer	2	14	1	1	1	1	31	15	3
Electrical	32	23	4	8	5	2	131	50	4
Engineering Physics		14					58	4	
Environmental		14				13	59	6	24
Geological		11		2			18	9	4
Industrial or Manufacturing						5	41	42	6
Materials or Metallurgical	20	8				1	26	3	
Mechanical	43	25	2	1	16	5	139	85	8
Mining or Mineral	4	3				2	19	7	
Software	4	3		2			14	16	
Other	15	4			4	23	49	2	4
<b>TOTAL</b>	<b>259</b>	<b>184</b>	<b>22</b>	<b>51</b>	<b>28</b>	<b>80</b>	<b>1021</b>	<b>496</b>	<b>94</b>



## UD.3. Institutional

**TABLE UD.3.1.**

Total undergraduate degrees awarded by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	709	702	739	836	805
BCIT		18	27	36	41
Calgary	490	445	448	462	441
Carleton	461	403	409	395	401
Concordia	408	407	421	350	402
Conestoga			10	9	11
Dal	277	266	291	469	397
ETS	732	680	620	724	681
Guelph	185	90	69	95	87
Lakehead	202	257	251	223	282
Laurentian	27	22	35	118	132
Laval	258	258	400	347	327
Manitoba	218	165	223	197	172
McGill	428	439	500	456	513
McMaster	503	504	569	582	583
Moncton	49	32	50	30	45
MUN	153	157	166	151	166
Ottawa	426	317	286	252	254
Polytechnique	645	502	576	583	659
Queen's	474	500	543	507	620
Regina	107	83	99	104	128
RMC	87	74	40	77	72
Ryerson	477	439	402	409	442
Saskatchewan	261	255	252	251	291
SFU	91	81	90	94	112
Sherbrooke	303	305	264	284	291
Toronto	872	836	931	893	962
UBC	621	640	726	723	716
UBCO		0	56	103	118
UNB	287	260	206	210	225
UNBC	4	6	8	19	14
UOIT	132	140	225	158	196
UQAC	37	42	37	44	42
UQAM	8	10	7	4	9
UQAR	8	17	17	15	14
UQAT	13	21	27	18	11
UQO	5	6	6	1	35
UQTR	83	93	21	24	59
UVic	136	139	158	151	160
Waterloo	908	785	862	950	990
Western	296	247	246	208	232
Windsor	207	103	203	184	222
York	31	35	20	15	22
<b>TOTAL</b>	<b>11619</b>	<b>10781</b>	<b>11536</b>	<b>11761</b>	<b>12382</b>

**TABLE UD.3.2.**

Total undergraduate degrees awarded to female students by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	139	142	158	186	150
BCIT		3	2	2	1
Calgary	99	98	114	116	109
Carleton	73	48	58	54	69
Concordia	64	76	71	51	63
Conestoga			0	0	1
Dal	60	35	63	108	80
ETS	60	56	50	68	54
Guelph	51	22	17	22	35
Lakehead	19	18	20	22	20
Laurentian	3	2	7	24	27
Laval	36	36	81	60	61
Manitoba	41	24	30	27	22
McGill	112	102	82	91	112
McMaster	116	117	90	98	100
Moncton	1	6	2	0	8
MUN	27	39	33	33	28
Ottawa	78	51	48	44	40
Polytechnique	123	99	128	127	157
Queen's	118	106	129	120	154
Regina	19	10	14	34	29
RMC	21	15	8	14	4
Ryerson	90	77	59	54	80
Saskatchewan	43	40	38	42	65
SFU	12	13	15	14	13
Sherbrooke	48	55	50	51	35
Toronto	197	175	206	175	227
UBC	114	128	124	152	135
UBCO		0	9	19	13
UNB	49	50	31	45	43
UNBC	1	2	3	10	7
UOIT	15	15	25	12	21
UQAC	8	7	2	2	6
UQAM	1	1	1	0	0
UQAR	0	2	3	1	1
UQAT	1	3	2	1	1
UQO	1	0	1	0	4
UQTR	10	11	1	2	2
UVic	13	14	22	11	15
Waterloo	161	122	134	162	156
Western	48	50	36	48	49
Windsor	16	25	21	23	33
York	6	3	0	4	5
<b>TOTAL</b>	<b>2094</b>	<b>1898</b>	<b>1988</b>	<b>2129</b>	<b>2235</b>

**TABLE UD.3.3.**

Total undergraduate degrees awarded by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		135	171	38	135	19				48	184	34		41
BCIT			17		10						14			
Calgary		70	86	15	66						138		18	48
Carleton	4		83	20	107	3	26				70		10	78
Concordia			129	35	49				34		116		39	
Conestoga											11			
Dal	4	34	54	11	35		27		26	8	56	17		125
ETS			157		171				72		217		64	
Guelph	15			18			54							
Lakehead		25	112		66						68		11	
Laurentian		41									40	51		
Laval	18	17	96	7	15	20	20	12		8	77	14	15	8
Manitoba	13		56	10	18						75			
McGill		79	91	30	112					13	149	19	20	
McMaster		88	76	43	102	50				45	141		24	14
Moncton			28		8						9			
MUN			19	15	22						86			24
Ottawa	18	42	61	18	37						55		23	
Polytechnique	30	76	144	44	89	21		8	54		116	13	52	12
Queen's		93	130	18	42	111		34			163	29		
Regina				25			36		28				5	34
RMC		10	20	4	9						9			20
Ryerson	18	39	102	17	71				21		109			65
Saskatchewan	11	55	49	14	23	13	15	23			88			
SFU						83					29			
Sherbrooke		45	86	24	40						96			
Toronto		98	100		256	147			88	47	205	21		
UBC	16	60	139	62	126	48	14	26		37	114	39		35
UBCO			53		14						51			
UNB	5	50	53	3	36			5			55		8	10
UNBC							14							
UOIT					20				4		122		13	37
UQAC			12	1	11					1	17			
UQAM					9									
UQAR					4						7			3
UQAT					7						4			
UQO				35										
UQTR					22				20		17			
UVic				19	60						68		13	
Waterloo		175	92	89	156		34	13			246		80	105
Western		46	64	3	40						54		18	7
Windsor			45		67		18		22		70			
York				12							7			3
<b>TOTAL</b>	<b>152</b>	<b>1278</b>	<b>2325</b>	<b>630</b>	<b>2055</b>	<b>515</b>	<b>258</b>	<b>121</b>	<b>369</b>	<b>207</b>	<b>3153</b>	<b>237</b>	<b>413</b>	<b>669</b>

**TABLE UD.3.4.**

Total undergraduate degrees awarded to women by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		40	42	2	16					20	22	4		4
BCIT			1											
Calgary		24	33		16						21		4	11
Carleton	1		11	3	21		11				8			14
Concordia			31	3	5				11		9		4	
Conestoga											1			
Dal	1	11	16	1	2		13		5	1	5	2		23
ETS			24		10				3		14		3	
Guelph	6			3			26							
Lakehead		6	9		2						3			
Laurentian		10									7	10		
Laval	11	4	19	1	1	1	6	4			9	2	1	2
Manitoba	9		6	1	4						2			
McGill		35	28		13					2	29	1	4	
McMaster		29	15	6	21	8				9	10		2	
Moncton			5		3									
MUN			2	1	5						16			4
Ottawa	6	14	11	2	3						4			
Polytechnique	20	28	30	7	15	3		5	27		14	4	4	
Queen's		33	44	3	5	19		15			33	2		
Regina				3			16		6					4
RMC		1		1										2
Ryerson	9	16	21	2	9				5		9			9
Saskatchewan	4	24	13		4		8	4			8			
SFU						11					2			
Sherbrooke		13	13		3						6			
Toronto		55	27		38	31			30	17	22	7		
UBC	7	21	27	11	19	3	7	11		8	14	3		4
UBCO			9								4			
UNB	2	20	10	1	5			2			1		2	
UNBC							7							
UOIT					2				1		13		2	3
UQAC			1		1					1	3			
UQAM														
UQAR					1									
UQAT					1									
UQO				4										
UQTR									1		1			
UVic				3	4						5		3	
Waterloo		48	28	10	11		16	3			15		8	17
Western		12	15		9						8		2	3
Windsor			9		10		6		5		3			
York				1							3			1
<b>TOTAL</b>	<b>76</b>	<b>444</b>	<b>500</b>	<b>69</b>	<b>259</b>	<b>76</b>	<b>116</b>	<b>44</b>	<b>94</b>	<b>58</b>	<b>324</b>	<b>35</b>	<b>39</b>	<b>101</b>

## A.3. GRADUATE STUDENT ENROLMENT

### G.1. National

**TABLE G.1.1.**

Total full-time master's students: 2008 to 2012.

YEAR	2008	2009	2010	2011	2012
Cdn Male	4826	4701	5004	5032	4818
Cdn Female	1462	1363	1427	1429	1385
Visa Male	2380	2643	3303	3661	4252
Visa Female	733	765	901	1081	1298
<b>TOTAL</b>	<b>9401</b>	<b>9473</b>	<b>10635</b>	<b>11203</b>	<b>11752</b>

**TABLE G.1.2.**

Total full-time doctoral students: 2008 to 2012.

YEAR	2008	2009	2010	2011	2012
Cdn Male	3192	3161	3503	3286	3390
Cdn Female	855	826	905	875	966
Visa Male	2037	2289	2588	2801	3227
Visa Female	449	537	628	762	894
<b>TOTAL</b>	<b>6533</b>	<b>6813</b>	<b>7624</b>	<b>7724</b>	<b>8477</b>

**TABLE G.1.3.**

Total part-time master's students: 2008 to 2012.

YEAR	2008	2009	2010	2011	2012
Cdn Male	1667	1827	1930	1989	1978
Cdn Female	438	477	513	442	554
Visa Male	136	154	108	200	132
Visa Female	44	47	26	40	40
<b>TOTAL</b>	<b>2285</b>	<b>2505</b>	<b>2577</b>	<b>2671</b>	<b>2703</b>

**TABLE G.1.4.**

Total part-time doctoral students: 2008 to 2012.

YEAR	2008	2009	2010	2011	2012
Cdn Male	243	306	306	372	311
Cdn Female	44	61	48	68	51
Visa Male	40	41	23	44	36
Visa Female	11	10	4	5	6
<b>Total</b>	<b>339</b>	<b>419</b>	<b>381</b>	<b>489</b>	<b>404</b>

**TABLE G.1.5.**

Total full-time equivalent master's students by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	349	409	387	442	382
Chemical	708	835	935	1082	1099
Civil	1728	1776	1871	2068	2060
Computer	299	285	312	337	322
Electrical	3089	2723	2967	3014	3432
Engineering Physics	159	145	153	167	202
Environmental	223	226	243	270	268
Geological	27	25	44	20	19
Industrial or Manufacturing	284	278	339	403	392
Materials or Metallurgical	187	230	243	224	246
Mechanical	1680	1748	1995	1958	2083
Mining or Mineral	152	121	137	160	160
Software	147	138	164	177	203
Other	1112	1379	1785	1805	1826
<b>TOTAL</b>	<b>10144</b>	<b>10319</b>	<b>11575</b>	<b>12126</b>	<b>12694</b>

**TABLE G.1.6.**

Total full-time equivalent doctoral students by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	242	328	359	400	325
Chemical	679	748	822	870	1076
Civil	1017	1094	1145	1191	1282
Computer	118	123	142	157	156
Electrical	2068	2079	2243	2230	2445
Engineering Physics	173	169	217	174	211
Environmental	90	88	99	97	99
Geological	6	9	13	7	8
Industrial or Manufacturing	127	122	144	224	176
Materials or Metallurgical	185	261	318	273	375
Mechanical	1106	1156	1340	1340	1495
Mining or Mineral	140	86	90	102	101
Software	9	18	16	18	18
Other	686	705	812	894	863
<b>TOTAL</b>	<b>6647</b>	<b>6986</b>	<b>7759</b>	<b>7979</b>	<b>8631</b>

**TABLE G.1.7.**

Total full-time equivalent female master's students by discipline:  
2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	152	175	164	191	169
Chemical	242	277	309	337	383
Civil	456	446	514	570	543
Computer	58	55	52	62	58
Electrical	633	488	503	539	671
Engineering Physics	28	26	29	41	43
Environmental	71	69	68	91	110
Geological	5	7	14	8	9
Industrial or Manufacturing	71	69	84	103	113
Materials or Metallurgical	47	69	76	74	73
Mechanical	248	248	277	250	267
Mining or Mineral	39	39	40	48	42
Software	41	33	33	28	36
Other	261	301	366	347	370
<b>TOTAL</b>	<b>2351</b>	<b>2303</b>	<b>2529</b>	<b>2687</b>	<b>2888</b>

**TABLE G.1.8.**

Total full-time equivalent female doctoral students by discipline:  
2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	85	128	131	153	122
Chemical	207	233	264	278	346
Civil	191	219	230	264	309
Computer	29	29	40	44	42
Electrical	319	304	341	370	407
Engineering Physics	25	26	31	25	41
Environmental	31	27	28	25	34
Geological	2	2	3	2	2
Industrial or Manufacturing	27	20	26	37	39
Materials or Metallurgical	40	65	73	60	99
Mechanical	181	176	211	218	253
Mining or Mineral	36	21	18	26	26
Software	1	5	4	3	2
Other	146	134	150	175	162
<b>TOTAL</b>	<b>1320</b>	<b>1388</b>	<b>1548</b>	<b>1680</b>	<b>1882</b>

**TABLE G.1.9.**

Total full-time equivalent foreign master's students by discipline:  
2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	86	107	113	125	114
Chemical	281	322	373	446	523
Civil	395	508	545	644	681
Computer	109	116	139	156	164
Electrical	1046	1005	1340	1498	1892
Engineering Physics	29	23	38	52	61
Environmental	75	83	85	104	118
Geological	4	4	9	1	3
Industrial or Manufacturing	110	106	146	183	170
Materials or Metallurgical	63	95	106	95	107
Mechanical	478	526	628	635	816
Mining or Mineral	71	48	47	68	71
Software	53	45	55	71	95
Other	380	490	636	747	803
<b>TOTAL</b>	<b>3181</b>	<b>3479</b>	<b>4261</b>	<b>4825</b>	<b>5617</b>

**TABLE G.1.10.**

Total full-time equivalent foreign doctoral students by discipline:  
2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	62	101	113	124	101
Chemical	311	349	399	444	555
Civil	380	422	440	504	583
Computer	19	44	66	68	74
Electrical	748	807	917	1030	1194
Engineering Physics	38	49	80	54	83
Environmental	30	24	30	37	46
Geological	2	5	7	3	2
Industrial or Manufacturing	37	39	57	96	86
Materials or Metallurgical	82	129	160	160	219
Mechanical	403	478	584	636	734
Mining or Mineral	58	42	42	51	48
Software	1	6	5	8	7
Other	331	355	324	377	408
<b>TOTAL</b>	<b>2502</b>	<b>2850</b>	<b>3224</b>	<b>3591</b>	<b>4139</b>

## G.2. Provincial

**TABLE G.2.1.**

Total full-time equivalent master's students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	1212	1618	1861	2013	1578
BC	563	689	816	892	851
MB	156	155	170	187	214
NB	196	264	202	187	180
NL	154	157	199	231	277
NS	254	191	266	356	335
ON	3702	4063	4273	4506	4814
QC	3639	2915	3439	3465	4123
SK	269	267	348	290	323
<b>TOTAL</b>	<b>10144</b>	<b>10319</b>	<b>11575</b>	<b>12126</b>	<b>12694</b>

**TABLE G.2.2.**

Total full-time equivalent doctoral students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	795	1071	1144	1241	1233
BC	651	660	729	818	885
MB	174	169	181	205	213
NB	95	171	123	106	114
NL	61	73	82	86	100
NS	110	82	89	144	91
ON	2534	2694	2908	2965	3103
QC	2064	1899	2298	2218	2701
SK	164	167	206	197	190
<b>TOTAL</b>	<b>6647</b>	<b>6986</b>	<b>7759</b>	<b>7979</b>	<b>8631</b>

**TABLE G.2.3.**

Total full-time equivalent female master's students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	253	368	434	439	416
BC	153	187	224	220	196
MB	34	35	39	40	49
NB	55	62	39	35	34
NL	47	41	41	50	69
NS	63	41	42	45	44
ON	897	884	916	1008	1077
QC	778	613	697	757	910
SK	71	72	97	93	91
<b>TOTAL</b>	<b>2351</b>	<b>2303</b>	<b>2529</b>	<b>2687</b>	<b>2888</b>

**TABLE G.2.4.**

Total full-time equivalent female doctoral students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	155	205	223	260	269
BC	139	123	140	165	183
MB	27	23	25	34	39
NB	27	34	27	27	31
NL	8	9	13	14	16
NS	22	19	21	28	21
ON	508	550	594	624	674
QC	394	383	459	486	601
SK	40	40	48	42	48
<b>TOTAL</b>	<b>1320</b>	<b>1388</b>	<b>1548</b>	<b>1680</b>	<b>1882</b>

**TABLE G.2.5.**

Total full-time equivalent foreign master's students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	476	722	900	906	801
BC	200	272	321	399	427
MB	61	62	73	88	109
NB	115	107	88	93	88
NL	105	100	132	163	217
NS	135	103	157	225	247
ON	768	926	1109	1367	1759
QC	1177	1044	1288	1401	1756
SK	145	141	193	183	212
<b>TOTAL</b>	<b>3181</b>	<b>3479</b>	<b>4261</b>	<b>4825</b>	<b>5617</b>

**TABLE G.2.6.**

Total full-time equivalent foreign doctoral students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	383	553	551	620	696
BC	272	363	394	477	522
MB	70	72	84	100	114
NB	57	81	64	65	74
NL	35	41	40	45	56
NS	36	29	37	57	40
ON	800	888	980	1050	1163
QC	778	739	966	1061	1348
SK	71	84	109	116	127
<b>TOTAL</b>	<b>2502</b>	<b>2850</b>	<b>3224</b>	<b>3591</b>	<b>4139</b>

**TABLE G.2.7.**

Total full-time equivalent graduate student enrolment by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK	TOTAL
Biosystems	82	59	43	14		18	323	106	62	707
Chemical	648	120		78		18	845	435	31	2175
Civil	617	247	85	43	43	62	1175	1070		3342
Computer	40	25			71		161	152	29	478
Electrical	543	547	180	39	53	88	2412	1934	80	5877
Engineering Physics	53	140				7	85	129		414
Environmental		34			22		207	50	53	367
Geological		15					13			27
Industrial or Manufacturing			119			19	57	329	44	568
Materials or Metallurgical	98	98				16	184	225		622
Mechanical	423	360		52	26	34	1544	1062	78	3578
Mining or Mineral	44	78				4	87	49		262
Software		13					13	185	10	221
Other	264			68	162	160	811	1098	126	2688
<b>TOTAL</b>	<b>2812</b>	<b>1736</b>	<b>427</b>	<b>294</b>	<b>377</b>	<b>426</b>	<b>7917</b>	<b>6824</b>	<b>513</b>	<b>21326</b>

**TABLE G.2.8.**

Total full-time equivalent female graduate student enrolment by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK	Total
Biosystems	34	20	12	5		4	135	53	28	291
Chemical	201	35		31		4	312	136	9	728
Civil	164	71	16	9	11	24	285	272		852
Computer	12	4			16		27	33	7	100
Electrical	115	99	41	5	11	6	422	366	12	1078
Engineering Physics	8	30				1	15	29		84
Environmental		10			11		80	20	24	144
Geological		4					7			11
Industrial or Manufacturing			20			5	11	108	8	152
Materials or Metallurgical	25	33				3	49	62		172
Mechanical	67	52		4	3	5	222	154	14	520
Mining or Mineral	12	21					19	17		68
Software		1					2	33	1	38
Other	47			12	33	13	164	227	36	532
<b>TOTAL</b>	<b>685</b>	<b>380</b>	<b>89</b>	<b>66</b>	<b>85</b>	<b>65</b>	<b>1750</b>	<b>1510</b>	<b>139</b>	<b>4770</b>

### G.3. Institutional

**TABLE G.3.1.**

Total full-time graduate students by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	1157	1382	1541	1541	1495
Calgary	753	1186	1333	1519	1223
Carleton	299	300	540	572	669
Concordia	2204	1237	1371	1517	1677
Dal	336	263	342	491	415
ETS	494	594	737	804	1161
Guelph	106	115	117	125	132
Lakehead	56	54	51	46	48
Laurentian	29	26	43	38	55
Laval	373	372	520	490	487
Manitoba	318	310	337	378	414
McGill	649	608	739	579	1081
McMaster	534	565	659	643	581
Moncton	24	17	17	13	15
MUN	199	205	260	290	351
Ottawa	332	384	382	466	608
Polytechnique	1125	1049	1142	1259	1273
Queen's	413	415	438	450	433
Regina	133	127	148	173	170
RMC	109	112	119	112	96
Ryerson	614	580	603	582	718
Saskatchewan	290	297	396	300	324
SFU	128	138	196	211	207
Sherbrooke	356	426	473	482	523
Toronto	1215	1286	1388	1450	1549
UBC	843	936	1045	1072	1068
UBCO		37	28	130	140
UNB	243	348	250	226	234
UOIT	41	103	151	151	142
UQAC	124	118	136	134	117
UQAR	14	39	24	16	19
UQAT	20	41	52	47	38
UQTR	60	65	219	92	101
UVic	222	220	231	257	306
Waterloo	1039	1151	1213	1244	1293
Western	475	494	525	566	556
Windsor	345	406	451	456	510
<b>TOTAL</b>	<b>15669</b>	<b>16006</b>	<b>18215</b>	<b>18920</b>	<b>20228</b>

**TABLE G.3.2.**

Total part-time graduate students by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	0	0	0	0	0
Calgary	281	309	333	274	234
Carleton	86	93	161	171	162
Concordia	163	95	97	104	100
Dal	38	24	30	26	17
ETS	182	222	303	450	331
Guelph	25	32	40	37	35
Lakehead	0	0	0	0	1
Laurentian	19	15	6	8	0
Laval	66	66	52	49	55
Manitoba	43	49	52	49	45
McGill	44	38	32	12	58
McMaster	142	493	388	481	464
Moncton	9	9	9	2	0
MUN	51	51	45	53	58
Ottawa	96	94	84	99	110
Polytechnique	225	0	74	88	109
Queen's	38	46	40	38	58
Regina	20	19	21	28	38
RMC	13	17	18	17	20
Ryerson	125	136	112	107	93
Saskatchewan	0	0	0	0	0
SFU	12	12	14	9	8
Sherbrooke	185	228	202	171	153
Toronto	142	145	156	192	214
UBC	73	46	41	36	33
UBCO		0	0	0	0
UNB	54	124	49	51	44
UOIT	15	34	27	32	50
UQAC	3	0	0	0	0
UQAR	2	0	0	0	0
UQAT	0	0	0	0	0
UQTR	21	24	27	21	139
UVic	9	0	0	0	0
Waterloo	286	339	403	397	405
Western	33	48	135	151	55
Windsor	29	23	5	15	19
<b>TOTAL</b>	<b>2529</b>	<b>2833</b>	<b>2955</b>	<b>3167</b>	<b>3106</b>



**TABLE G.3.3.**

Total full-time female graduate students by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	228	282	327	359	365
Calgary	164	266	292	303	301
Carleton	56	59	105	110	137
Concordia	447	245	284	321	363
Dal	80	58	61	72	65
ETS	79	92	124	148	223
Guelph	28	29	26	29	29
Lakehead	8	6	7	5	10
Laurentian	5	3	7	7	9
Laval	72	72	92	101	99
Manitoba	59	56	61	71	85
McGill	142	160	152	128	235
McMaster	128	143	153	164	164
Moncton	6	3	3	3	1
MUN	48	48	51	61	80
Ottawa	117	70	69	104	135
Polytechnique	269	262	290	351	361
Queen's	93	83	101	112	97
Regina	36	34	30	40	45
RMC	24	25	23	25	17
Ryerson	102	101	112	99	117
Saskatchewan	72	77	112	92	88
SFU	29	34	41	41	40
Sherbrooke	61	68	86	85	88
Toronto	307	328	339	369	405
UBC	194	225	264	261	256
UBCO		5	3	28	30
UNB	73	86	55	52	59
UOIT	5	17	22	22	21
UQAC	34	26	33	33	26
UQAR	2	2	2	2	2
UQAT	3	8	10	5	6
UQTR	11	15	19	18	17
UVic	63	41	38	43	49
Waterloo	219	245	274	284	290
Western	103	95	104	116	137
Windsor	75	70	73	79	89
<b>TOTAL</b>	<b>3441</b>	<b>3435</b>	<b>3846</b>	<b>4143</b>	<b>4542</b>

**TABLE G.3.4.**

Total part-time female graduate students by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	0	0	0	0	0
Calgary	54	55	99	39	47
Carleton	22	21	24	34	29
Concordia	22	14	13	22	19
Dal	7	4	3	3	1
ETS	33	38	54	77	67
Guelph	5	6	7	6	8
Lakehead	0	0	0	0	0
Laurentian	7	5	2	1	0
Laval	17	17	10	13	14
Manitoba	8	10	12	11	13
McGill	14	12	7	2	12
McMaster	30	107	68	81	77
Moncton	2	2	2	0	0
MUN	6	6	6	6	11
Ottawa	19	16	15	19	18
Polytechnique	56	0	15	20	28
Queen's	10	10	6	8	13
Regina	6	5	3	6	12
RMC	4	5	4	5	4
Ryerson	20	25	14	8	7
Saskatchewan	0	0	0	0	0
SFU	0	2	3	1	1
Sherbrooke	40	46	45	36	31
Toronto	37	37	36	37	47
UBC	16	14	17	11	10
UBCO		0	0	0	0
UNB	3	26	6	7	4
UOIT	1	5	3	4	9
UQAC	1	0	0	0	0
UQAR	1	0	0	0	0
UQAT	0	0	0	0	0
UQTR	4	6	4	2	81
UVic	3	0	0	0	0
Waterloo	55	67	80	77	83
Western	8	11	29	21	3
Windsor	6	6	2	2	2
<b>TOTAL</b>	<b>518</b>	<b>577</b>	<b>591</b>	<b>560</b>	<b>651</b>

**TABLE G.3.5.**

Total full-time graduate students by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		256	379	40	280	53				98	249	44		96
Calgary	79	374	208		245						158			158
Carleton	33		107	13	275		41			12	80		1	107
Concordia			355		786				49		295		129	63
Dal	18	18	60		87	6			19	15	34	4		154
ETS			115		174		8		32		85		33	714
Guelph	22			38			73							
Lakehead					33		15							
Laurentian												55		
Laval		67	101		120		19			42	127	9		2
Manitoba	43		80		174				118					
McGill		118	152		413					158	240			
McMaster	46	65	54	21	129	62				61	79		11	52
Moncton														15
MUN			40	70	46		22				26			148
NSAC														
Ottawa	19	77	106		210		32				109			55
Polytechnique	105	152	139	149	171	129			166	24	163	39		36
Queen's		80	86		112	19		12			95	29		
Regina				25			42		41				8	54
RMC		34	13		23						16			10
Ryerson		37	154	73	160						222			72
Saskatchewan	62	31			80		6				78			67
SFU						135					72			
Sherbrooke		68	157		157						131			10
Toronto	197	183	199		428					65	338			140
UBC	58	119	171		351	1	34	14		98	144	77		
UBCO			71		35						34			
UNB	11	71	28		35						47			43
UOIT					37						72			33
UQAC							22							95
UQAR														19
UQAT														38
UQTR		24			48				29					
UVic				25	159						109		13	
Waterloo		207	191		462						224			209
Western		139	145		193						79			
Windsor			40		214		37		52	38	130			
<b>TOTAL</b>	<b>693</b>	<b>2120</b>	<b>3150</b>	<b>453</b>	<b>5635</b>	<b>406</b>	<b>351</b>	<b>26</b>	<b>506</b>	<b>612</b>	<b>3435</b>	<b>258</b>	<b>196</b>	<b>2389</b>

**TABLE G.3.6.**

Total part-time graduate students by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta														
Calgary	3	51	81		33						44			21
Carleton	6		39	1	82		7				11		2	14
Concordia			20		38				1		12		20	9
Dal	1		2		1	1				1	0			10
ETS			57		6		3		1		17		23	224
Guelph	2			13			20							
Lakehead					1									
Laurentian														
Laval		1	16		12				5	2	5	3		11
Manitoba	2		20		22				2					
McGill		1	17		7					3	30			
McMaster	6	18	40		59	12			3	20	92			214
Moncton														
MUN			6	3	12		1				8			28
NSAC														
Ottawa	3	5	15		33		2				8			45
Polytechnique	2	4	20	10	7				39	1	10	2		14
Queen's		1	21		9			1			17	10		
Regina				7			10		7				4	11
RMC		6	3		11									
Ryerson		7	10	25	19						26			7
Saskatchewan														
SFU						8								
Sherbrooke														153
Toronto	0	16	56		62					3	70			6
UBC	3	2	17		6			2			1	3		
UBCO														
UNB	3	7	16		5						5			8
UOIT					9						19			22
UQAC														
UQAR														
UQAT														
UQTR		10			18				112					
UVic														
Waterloo		19	53		163						64			106
Western		5	11		12				17		10			
Windsor			2		4		1		3	1	8			
<b>TOTAL</b>	<b>31</b>	<b>153</b>	<b>521</b>	<b>59</b>	<b>630</b>	<b>21</b>	<b>43</b>	<b>3</b>	<b>190</b>	<b>31</b>	<b>457</b>	<b>17</b>	<b>49</b>	<b>902</b>

**TABLE G.3.7.**

Total full-time female graduate students by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		103	104	12	54	8				25	36	12		11
Calgary	33	93	54		57						29			34
Carleton	16		19	4	53		22			3	9			11
Concordia			91		190				11		35		23	13
Dal	4	4	24		6	1			5	3	5			13
ETS			22		24		4		2		6		7	158
Guelph	3			7			19							
Lakehead					2		8							
Laurentian												9		
Laval		23	17		13		8			14	23	1		
Manitoba	12		14		40				20					
McGill		35	49		68					41	42			
McMaster	25	25	18	8	33	13				20	6		2	13
Moncton														1
MUN			10	15	10		10				3			31
NSAC														
Ottawa	9	37	12		32		18				20			8
Polytechnique	53	50	47	32	34	29			60	6	29	16		4
Queen's		24	23		16	1		7			18	9		
Regina				6			17		7				1	14
RMC		9	3		1						2			2
Ryerson		16	38	7	24						22			10
Saskatchewan	28	9			12		5				14			20
SFU						29					11			
Sherbrooke		19	32		19						16			2
Toronto	80	83	64		69					16	70			24
UBC	20	34	50		64	1	10	3		33	20	21		
UBCO			19		7						4			
UNB	4	30	7		4						4			11
UOIT					7						6			8
UQAC							7							19
UQAR														2
UQAT														6
UQTR		7			5				6					
UVic				4	27						17		1	
Waterloo		62	49		90						33			57
Western		50	36		40						11			
Windsor			8		37		11		11	9	13			
<b>TOTAL</b>	<b>286</b>	<b>712</b>	<b>810</b>	<b>95</b>	<b>1038</b>	<b>83</b>	<b>138</b>	<b>10</b>	<b>122</b>	<b>169</b>	<b>505</b>	<b>67</b>	<b>34</b>	<b>472</b>

**TABLE G.3.8.**

Total part-time female graduate enrolment by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta														
Calgary	2	14	17		8						5			2
Carleton	4		6	1	15		1						1	1
Concordia			6		6						2		3	2
Dal														1
ETS			14		2		2				0		5	44
Guelph				2			6							
Lakehead														
Laurentian														
Laval		1	5		1				5	2				
Manitoba			8		5									
McGill		1	5							1	5			
McMaster		4	5		5	3				3	13			44
Moncton														
MUN			1	1	2		1				1			4
NSAC														
Ottawa	1	1	2		3		0				0			10
Polytechnique	1	1	7	2	0				14	1	1	1		0
Queen's		1	7		1						1	3		
Regina				3			5		1				0	3
RMC		3			1									
Ryerson		2	3	1	1									
Saskatchewan														
SFU						1								
Sherbrooke														31
Toronto		8	12		9					1	14			3
UBC	1	1	6		0			1				0		
UBCO														
UNB	1	1	1		1									
UOIT					2						1			5
UQAC														
UQAR														
UQAT														
UQTR		3			2				76					
UVic														
Waterloo		5	13		23						7			35
Western			1		2									
Windsor							1		0		1			
<b>TOTAL</b>	<b>9</b>	<b>46</b>	<b>120</b>	<b>10</b>	<b>90</b>	<b>4</b>	<b>16</b>	<b>1</b>	<b>96</b>	<b>8</b>	<b>51</b>	<b>4</b>	<b>9</b>	<b>186</b>

## A.4. GRADUATE DEGREES AWARDED

### GD.1. National

**TABLE GD.1.1.**

Total master's degrees awarded by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	102	121	125	135	131
Chemical	305	286	319	338	408
Civil	649	682	722	709	891
Computer	127	143	138	140	164
Electrical	1094	1061	1102	1143	1354
Engineering Physics	48	64	76	81	76
Environmental	74	75	86	92	134
Geological	5	8	9	11	9
Industrial or Manufacturing	138	107	114	151	172
Materials or Metallurgical	45	90	68	76	97
Mechanical	586	601	754	784	905
Mining or Mineral	44	43	41	33	66
Software	25	43	54	50	65
Other	420	452	503	718	747
<b>TOTAL</b>	<b>3662</b>	<b>3776</b>	<b>4111</b>	<b>4461</b>	<b>5219</b>

**TABLE GD.1.2.**

Total doctoral degrees awarded by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	26	50	33	44	41
Chemical	110	119	137	125	165
Civil	121	151	178	147	170
Computer	14	30	26	17	25
Electrical	339	293	327	311	330
Engineering Physics	28	31	27	33	38
Environmental	6	17	15	11	16
Geological	1	4	3	2	1
Industrial or Manufacturing	10	27	14	15	18
Materials or Metallurgical	26	41	51	45	52
Mechanical	176	166	150	189	191
Mining or Mineral	31	6	12	13	6
Software	2	2	3	3	0
Other	68	90	76	84	109
<b>TOTAL</b>	<b>958</b>	<b>1027</b>	<b>1052</b>	<b>1039</b>	<b>1162</b>

**TABLE GD.1.3.**

Total master's degrees awarded to women by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	41	56	50	59	63
Chemical	87	88	109	120	131
Civil	180	199	163	201	253
Computer	30	21	23	27	41
Electrical	218	228	213	203	241
Engineering Physics	5	16	12	19	22
Environmental	33	28	23	26	39
Geological	1	3	3	3	6
Industrial or Manufacturing	39	30	23	39	47
Materials or Metallurgical	13	24	20	17	32
Mechanical	98	87	100	111	126
Mining or Mineral	7	13	10	15	18
Software	2	10	12	14	16
Other	110	108	113	140	131
<b>TOTAL</b>	<b>864</b>	<b>911</b>	<b>874</b>	<b>994</b>	<b>1166</b>

**TABLE GD.1.4.**

Total doctoral degrees awarded to women by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	7	17	16	17	17
Chemical	36	40	40	36	50
Civil	25	28	34	43	39
Computer	2	8	5	6	10
Electrical	58	58	40	40	54
Engineering Physics	4	5	7	5	3
Environmental	4	6	7	6	3
Geological	1	0	2	1	1
Industrial or Manufacturing	3	9	4	2	1
Materials or Metallurgical	6	6	9	9	13
Mechanical	26	31	27	20	18
Mining or Mineral	8	2	0	6	2
Software	0	0	1	2	0
Other	18	16	12	15	28
<b>TOTAL</b>	<b>198</b>	<b>226</b>	<b>204</b>	<b>208</b>	<b>239</b>

**TABLE GD.1.5.**

Total master's degrees awarded to foreign students by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	36	32	32	33	32
Chemical	134	97	104	106	183
Civil	155	120	156	200	320
Computer	43	38	23	40	76
Electrical	294	282	368	482	724
Engineering					
Physics	12	19	20	22	25
Environmental	24	21	32	34	48
Geological	1	1	1	2	0
Industrial or Manufacturing	42	32	35	70	75
Materials or Metallurgical	14	28	25	35	47
Mechanical	120	141	152	264	325
Mining or Mineral	14	16	14	11	36
Software	0	13	20	19	26
Other	123	112	152	305	340
<b>TOTAL</b>	<b>1012</b>	<b>952</b>	<b>1134</b>	<b>1623</b>	<b>2257</b>

**TABLE GD.1.6.**

Total doctoral degrees awarded to foreign students by discipline: 2008 to 2012.

DISCIPLINE	2008	2009	2010	2011	2012
Biosystems	4	13	6	3	3
Chemical	26	27	31	42	45
Civil	17	25	39	23	33
Computer	0	9	2	5	7
Electrical	57	36	69	55	89
Engineering					
Physics	0	4	2	6	9
Environmental	1	4	3	6	3
Geological	0	2	0	0	0
Industrial or Manufacturing	0	7	0	2	6
Materials or Metallurgical	3	8	13	11	14
Mechanical	21	31	33	47	36
Mining or Mineral	4	2	6	3	1
Software	0	0	2	0	0
Other	17	16	15	21	33
<b>TOTAL</b>	<b>150</b>	<b>184</b>	<b>221</b>	<b>224</b>	<b>279</b>

**GD.2. Provincial****TABLE GD.2.1.**

Total master's degrees awarded by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	520	418	369	505	644
BC	220	220	259	344	404
MB	59	30	49	45	62
NB	40	52	45	59	65
NL	53	50	47	68	79
NS	76	86	105	114	128
ON	1556	1769	2106	2173	2323
QC	1053	1067	1030	1053	1394
SK	85	84	101	100	120
<b>TOTAL</b>	<b>3662</b>	<b>3776</b>	<b>4111</b>	<b>4461</b>	<b>5219</b>

**TABLE GD.2.2.**

Total doctoral degrees awarded by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	130	116	120	130	154
BC	78	90	95	106	98
MB	24	17	21	27	39
NB	10	17	11	6	13
NL	8	9	12	10	7
NS	14	30	12	14	11
ON	402	438	471	463	500
QC	277	279	276	259	313
SK	15	31	34	24	27
<b>TOTAL</b>	<b>958</b>	<b>1027</b>	<b>1052</b>	<b>1039</b>	<b>1162</b>

**TABLE GD.2.3.**

Total master's degrees awarded to women by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	112	84	63	112	159
BC	62	62	62	111	101
MB	14	5	13	11	15
NB	14	14	11	10	9
NL	13	14	17	11	19
NS	16	23	21	16	24
ON	386	449	450	474	496
QC	219	240	223	221	308
SK	28	20	14	28	35
<b>TOTAL</b>	<b>864</b>	<b>911</b>	<b>874</b>	<b>994</b>	<b>1166</b>

**TABLE GD.2.4.**

Total doctoral degrees awarded to women by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	25	24	13	25	35
BC	13	13	16	18	16
MB	6	4	2	3	4
NB	5	3	3	1	2
NL	0	0	1	2	0
NS	2	16	4	2	1
ON	80	100	108	100	118
QC	62	61	45	54	57
SK	5	5	12	3	6
<b>TOTAL</b>	<b>198</b>	<b>226</b>	<b>204</b>	<b>208</b>	<b>239</b>

**TABLE GD.2.5.**

Total master's degrees awarded to foreign students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	224	145	144	246	373
BC	63	80	83	161	174
MB	27	10	20	22	23
NB	21	25	31	28	39
NL	39	33	29	56	59
NS	34	40	46	80	84
ON	346	324	429	578	800
QC	214	236	290	386	634
SK	44	59	62	66	71
<b>TOTAL</b>	<b>1012</b>	<b>952</b>	<b>1134</b>	<b>1623</b>	<b>2257</b>

**TABLE GD.2.6.**

Total doctoral degrees awarded to foreign students by province: 2008 to 2012.

PROVINCE	2008	2009	2010	2011	2012
AB	21	16	24	26	44
BC	13	18	35	32	39
MB	7	3	3	3	8
NB	4	9	8	2	8
NL	2	2	2	4	4
NS	1	19	1	3	2
ON	57	59	71	73	98
QC	40	49	69	73	67
SK	5	9	8	8	9
<b>TOTAL</b>	<b>150</b>	<b>184</b>	<b>221</b>	<b>224</b>	<b>279</b>



**TABLE GD.2.7.**

Total master's degrees awarded by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK	Total
Biosystems	9	16	5			6	59	23	13	131
Chemical	124	15		11		3	194	50	11	408
Civil	198	97	13	14	2	6	297	247	17	891
Computer	8	6			14		95	33	8	164
Electrical	114	87	22	17	8	8	668	415	15	1354
Engineering Physics	14	30				3	15	14		76
Environmental		23			6	6	80	7	12	134
Geological		5					4			9
Industrial or Manufacturing			22			7	25	106	12	172
Materials or Metallurgical	17	13				4	50	13		97
Mechanical	108	76		13	8	14	448	225	13	905
Mining or Mineral	9	34					9	14		66
Software		2					6	50	7	65
Other	43			10	41	71	373	197	12	747
<b>TOTAL</b>	<b>644</b>	<b>404</b>	<b>62</b>	<b>65</b>	<b>79</b>	<b>128</b>	<b>2323</b>	<b>1394</b>	<b>120</b>	<b>5219</b>

**TABLE GD.2.8.**

Total doctoral degrees awarded by province and discipline: 2012.

DISCIPLINE	AB	BC	MB	NB	NL	NS	ON	QC	SK	Total
Biosystems	5	3	2			1	23	5	2	41
Chemical	32	20		3		2	85	23		165
Civil	30	6	12	2	1	1	70	46	2	170
Computer	5	3			1		8	8		25
Electrical	32	35	17	3	2	4	162	71	4	330
Engineering Physics	7	12				1	3	15		38
Environmental							12		4	16
Geological		1								1
Industrial or Manufacturing			8				3	4	3	18
Materials or Metallurgical	4	5					18	25		52
Mechanical	23	12		3		1	84	64	4	191
Mining or Mineral		1				1	2	2		6
Software										0
Other	16			2	3		30	50	8	109
<b>TOTAL</b>	<b>154</b>	<b>98</b>	<b>39</b>	<b>13</b>	<b>7</b>	<b>11</b>	<b>500</b>	<b>313</b>	<b>27</b>	<b>1162</b>

## GD.3. Institutional

**TABLE GD.3.1.**

Total master's degrees awarded by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	188	206	206	334	329
BCIT		0	0	0	0
Calgary	332	212	163	171	315
Carleton	129	133	148	147	177
Concordia	375	370	373	400	534
Conestoga			0	0	0
Dal	76	86	105	114	128
ETS	125	92	153	178	239
Guelph	27	34	34	40	46
Lakehead	13	23	21	20	14
Laurentian	6	7	6	0	0
Laval	44	44	100	76	75
Manitoba	59	30	49	45	62
McGill	108	150	101	35	122
McMaster	142	179	215	250	225
Moncton	3	6	7	8	1
MUN	53	50	47	68	79
Ottawa	121	91	116	128	165
Polytechnique	270	268	237	254	281
Queen's	87	90	74	92	103
Regina	33	27	35	36	49
RMC	27	33	32	0	26
Ryerson	188	237	269	247	231
Saskatchewan	52	57	66	64	71
SFU	21	15	29	40	37
Sherbrooke	100	118	51	86	61
Toronto	329	359	391	401	482
UBC	176	176	192	237	300
UBCO		6	12	38	22
UNB	37	46	38	51	64
UNBC	0	0	0	0	0
UOIT	8	21	41	67	47
UQAC	9	11	9	11	22
UQAM	0	0	0	0	0
UQAR	2	3	2	5	7
UQAT	4	0	0	5	13
UQO	0	0	0	0	0
UQTR	16	11	4	3	40
UVic	23	23	26	29	45
Waterloo	275	320	436	452	415
Western	97	113	135	132	175
Windsor	107	129	188	195	217
York	0	0	0	2	0
<b>TOTAL</b>	<b>3662</b>	<b>3776</b>	<b>4111</b>	<b>4461</b>	<b>5219</b>

**TABLE GD.3.2.**

Total doctoral degrees awarded by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	75	72	65	71	78
BCIT		0	0	0	0
Calgary	55	44	55	59	76
Carleton	25	37	45	28	23
Concordia	53	45	49	49	70
Conestoga			0	0	0
Dal	14	30	12	14	11
ETS	22	27	28	29	41
Guelph	2	6	6	2	4
Lakehead	0	0	0	0	0
Laurentian	0	0	1	0	0
Laval	19	19	46	42	24
Manitoba	24	17	21	27	39
McGill	54	57	54	26	59
McMaster	46	54	64	52	66
Moncton	0	0	0	0	0
MUN	8	9	12	10	7
Ottawa	34	26	22	24	28
Polytechnique	78	88	71	80	80
Queen's	36	47	43	30	35
Regina	3	13	10	7	13
RMC	2	3	3	0	8
Ryerson	3	13	18	21	25
Saskatchewan	12	18	24	17	14
SFU	5	7	6	8	13
Sherbrooke	39	32	22	25	25
Toronto	109	94	101	106	115
UBC	57	74	69	82	67
UBCO		0	0	2	1
UNB	10	17	11	6	13
UNBC	0	0	0	0	0
UOIT	0	0	0	2	6
UQAC	6	8	4	8	9
UQAM	0	0	0	0	0
UQAR	0	0	0	0	0
UQAT	0	0	0	0	0
UQO	0	0	0	0	0
UQTR	6	3	2	0	5
UVic	16	9	20	14	17
Waterloo	98	97	94	116	115
Western	32	47	55	55	58
Windsor	15	14	19	27	17
York	0	0	0	0	0
<b>TOTAL</b>	<b>958</b>	<b>1027</b>	<b>1052</b>	<b>1039</b>	<b>1162</b>

**TABLE GD.3.3.**

Total master's degrees awarded to women by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	40	41	34	66	87
BCIT		0	0	0	0
Calgary	72	43	29	46	72
Carleton	30	25	36	36	34
Concordia	70	77	76	88	104
Conestoga			0	0	0
Dal	16	23	21	16	24
ETS	21	13	28	29	49
Guelph	9	10	11	10	12
Lakehead	6	6	1	3	3
Laurentian	1	1	1	0	0
Laval	9	9	21	12	17
Manitoba	14	5	13	11	15
McGill	24	42	22	5	23
McMaster	41	43	50	48	56
Moncton	0	4	1	0	0
MUN	13	14	17	11	19
Ottawa	38	21	31	23	28
Polytechnique	66	72	62	68	84
Queen's	20	30	14	20	29
Regina	9	7	4	6	7
RMC	6	4	10	0	6
Ryerson	36	40	47	42	39
Saskatchewan	19	13	10	22	28
SFU	7	5	6	13	9
Sherbrooke	21	22	10	14	12
Toronto	79	98	104	104	107
UBC	51	50	49	83	76
UBCO		1	2	6	3
UNB	14	10	10	10	9
UNBC	0	0	0	0	0
UOIT	0	3	7	11	2
UQAC	2	2	2	4	3
UQAM	0	0	0	0	0
UQAR	0	1	1	1	0
UQAT	1	0	0	0	0
UQO	0	0	0	0	0
UQTR	5	2	1	0	16
UVic	4	6	5	9	13
Waterloo	73	105	95	108	108
Western	18	32	17	34	39
Windsor	29	31	26	35	33
York	0	0	0	0	0
<b>TOTAL</b>	<b>864</b>	<b>911</b>	<b>874</b>	<b>994</b>	<b>1166</b>

**TABLE GD.3.4.**

Total doctoral degrees awarded to women by institution: 2008 to 2012.

INSTITUTION	2008	2009	2010	2011	2012
Alberta	15	19	7	16	18
BCIT		0	0	0	0
Calgary	10	5	6	9	17
Carleton	6	5	8	7	7
Concordia	13	8	8	7	8
Conestoga			0	0	0
Dal	2	16	4	2	1
ETS	9	1	4	5	8
Guelph	1	1	2	1	0
Lakehead	0	0	0	0	0
Laurentian	0	0	0	0	0
Laval	6	6	4	9	5
Manitoba	6	4	2	3	4
McGill	7	17	9	3	12
McMaster	7	7	16	16	20
Moncton	0	0	0	0	0
MUN	0	0	1	2	0
Ottawa	4	6	2	5	10
Polytechnique	17	19	16	20	14
Queen's	8	9	10	7	8
Regina	0	3	4	3	4
RMC	0	1	1	0	1
Ryerson	0	1	4	3	4
Saskatchewan	5	2	8	0	2
SFU	0	1	3	1	1
Sherbrooke	9	8	3	5	6
Toronto	21	20	33	19	31
UBC	10	10	7	16	12
UBCO		0	0	0	0
UNB	5	3	3	1	2
UNBC	0	0	0	0	0
UOIT	0	0	0	0	1
UQAC	1	2	0	5	4
UQAM	0	0	0	0	
UQAR	0	0	0	0	0
UQAT	0	0	0	0	0
UQO	0	0	0	0	0
UQTR	0	0	1	0	0
UVic	3	2	6	1	3
Waterloo	22	33	14	17	26
Western	5	12	13	17	8
Windsor	6	5	5	8	2
York	0	0	0	0	0
<b>TOTAL</b>	<b>198</b>	<b>226</b>	<b>204</b>	<b>208</b>	<b>239</b>

**TABLE GD.3.5.**

Total master's degrees awarded by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		46	91	8	49	14				17	63	9		32
BCIT														
Calgary	9	78	107		65						45			11
Carleton	9		29		52		20			3	19		2	43
Concordia			105		266				18		87		40	18
Conestoga														
Dal	6	3	6		8	3	6		7	4	14			71
ETS			47		30				6		23		10	123
Guelph	9			9			28							
Lakehead					8		6							
Laurentian														
Laval	5	5	21		16					4	22	1		1
Manitoba	5		13		22				22					
McGill		13	15		48					9	37			
McMaster	6	11	11	19	49	14			1	20	17		4	73
Moncton			1											
MUN			2	14	8		6				8			41
Ottawa	5	11	26		45		10				15			53
Polytechnique	18	26	39	33	31	14			57		30	13		20
Queen's		22	10		27	1		4			30	9		
Regina				8			10		12				7	12
RMC		12	1		6						6			1
Ryerson		9	35	67	47						52			21
Saskatchewan	13	11	17		15		2				13			
SFU						28					9			
Sherbrooke		2	20		13						26			
Toronto	30	69	90		97					20	141			35
UBC	16	15	89		54	2	23	5		13	49	34		
UBCO			8		9						5			
UNB		11	13		17						13			10
UNBC														
UOIT					16						11			20
UQAC							7							15
UQAM														
UQAR														7
UQAT														13
UQO														
UQTR		4			11				25					
UVic				6	24						13		2	
Waterloo		34	37		159						58			127
Western		26	46		67						36			
Windsor			12		95		16		24	7	63			
York														
<b>TOTAL</b>	<b>131</b>	<b>408</b>	<b>891</b>	<b>164</b>	<b>1354</b>	<b>76</b>	<b>134</b>	<b>9</b>	<b>172</b>	<b>97</b>	<b>905</b>	<b>66</b>	<b>65</b>	<b>747</b>

**TABLE GD.3.6.**

Total doctoral degrees awarded by institution and discipline: 2012.

INSTITUTION	BIOSYSTEMS	CHEMICAL	CIVIL	COMPUTER	ELECTRICAL	ENGINEERING PHYSICS	ENVIRONMENTAL	GEOLOGICAL	INDUSTRIAL OR MANUFACTURING	MATERIALS OR METALLURGICAL	MECHANICAL	MINING OR MINERAL	SOFTWARE	OTHER
Alberta		18	21	5	13	7				4	9			1
BCIT														
Calgary	5	14	9		19						14			15
Carleton			2		17		2							2
Concordia			21		28						21			
Conestoga														
Dal	1	2	1		4	1					1	1		
ETS														41
Guelph				1			3							
Lakehead														
Laurentian														
Laval		4	4		7					4	5			
Manitoba	2		12		17				8					
McGill		2	8		19					15	15			
McMaster	6	11	8	7	13	3				8	10			
Moncton														
MUN			1	1	2									3
Ottawa		9	3		12		3				1			
Polytechnique	5	12	6	8	6	15			4	6	16	2		
Queen's		9	9		9						6	2		
Regina							2		3					8
RMC		6			2									
Ryerson		2	5		7						7			4
Saskatchewan	2		2		4		2				4			
SFU						12					1			
Sherbrooke		4	7		7						7			
Toronto	17	20	14		26					9	22			7
UBC	3	20	5		27			1		5	5	1		
UBCO			1											
UNB		3	2		3						3			2
UNBC														
UOIT											6			
UQAC														9
UQAR														
UQAT														
UQO														
UQTR		1			4									
UVic				3	8						6			
Waterloo		17	14		53						14			17
Western		11	14		17						16			
Windsor			1		6		4		3	1	2			
York														
<b>TOTAL</b>	<b>41</b>	<b>165</b>	<b>170</b>	<b>25</b>	<b>330</b>	<b>38</b>	<b>16</b>	<b>1</b>	<b>18</b>	<b>52</b>	<b>191</b>	<b>6</b>		<b>109</b>

## A.5. FACULTY MEMBERS BY INSTITUTION

### F.1. Faculty Composition

TABLE F.1.1.

Faculty members by institution: 2012.

INSTITUTION	MALE PROFESSORS	FEMALE PROFESSORS	MALE ASSOCIATE PROFESSORS	FEMALE ASSOCIATE PROFESSORS	MALE ASSISTANT PROFESSORS	FEMALE ASSISTANT PROFESSORS	MALE INSTRUCTORS/LECTURERS	FEMALE INSTRUCTORS/LECTURERS	TOTAL FULL TIME EQUIVALENT
Acadia	4	1	0	0	0	0	2	0	7
Alberta	81	5	36	3	44	11	0	0	180
BCIT	38	5	0	0	0	0	0	0	43
Calgary	64	4	41	12	11	5	7	1	145
Cape Breton	2	0	0	0	0	0	4	0	6
Carleton	47	3	54	3	26	7	6	1	146
Concordia	66	7	50	11	18	9	9	1	170
Conestoga	9	1	0	0	0	0	1	0	11
Dal	45	1	20	9	6	1	13	1	95
ETS	58	11	77	13	13	3	33	5	213
Guelph	11	2	10	4	7	1	1	2	38
Lakehead	12	0	17	2	6	1	0	0	38
Laurentian	10	0	8	1	6	0	8	0	33
Laval	98	9	28	6	15	1	34	15	206
Manitoba	37	3	21	4	10	1	5	1	82
McGill	39	0	59	10	20	8	0	1	137
McMaster	70	5	49	4	10	7	4	1	150
Moncton	9	0	9	1	1	2	17	3	42
MUN	21	2	26	3	5	3	3	2	65
NSAC	2	0	4	0	5	0	8	2	21
Ottawa	51	6	26	10	14	6	5	0	118
Polytechnique	98	10	54	8	39	10	17	2	238
Queen's	66	14	43	5	12	2	9	1	150
Regina	14	2	13	4	3	0	8	1	45
RMC	14	2	24	1	21	6	10	2	80
Ryerson	63	5	35	1	17	7	25	4	157
Saskatchewan	40	2	23	3	9	2	4	2	84
SFU	17	2	9	3	6	1	6	2	46
Sherbrooke	57	2	20	3	10	2	100	19	213
StFX	1	0	1	0	1	0	0	0	3
Toronto	110	8	46	13	30	14	16	4	241
UBC	78	5	38	7	15	3	26	15	187
UBCO	2	1	9	1	16	2	3	3	37
UNB	37	4	14	4	7	1	10	0	76
UNBC	4	0	2	0	0	0	0	0	6
UPEI	1	0	2	0	1	0	1	2	7
UQAC	10	1	7	2	3	1	8	1	32
UQAM	9	0	0	0	0	0	2	0	11
UQAR	9	0	0	0	1	0	0	0	10
UQAT	4	0	6	0	1	0	15	3	29
UQO	12	4	5	0	0	0	10	0	31
UQTR	18	0	9	1	3	0	0	0	31
UVic	22	0	21	6	6	2	2	0	59
Waterloo	110	15	62	8	50	9	17	5	276
Western	35	3	34	6	9	2	6	0	94
Windsor	28	2	24	3	5	3	0	0	65
York	6	0	7	1	10	3	2	0	29
<b>TOTAL</b>	<b>1637</b>	<b>146</b>	<b>1040</b>	<b>175</b>	<b>491</b>	<b>136</b>	<b>457</b>	<b>102</b>	<b>4183</b>

## A.6. CO-OP, INTERNSHIP AND PROFESSIONAL EXPERIENCE PROGRAMS

### C.1. Industry Experience Options by Institution

TABLE C.1.

Co-op, Internships and Professional Experience Programs: 2012.

INSTITUTION	TYPE OF PROGRAM	MANDATORY/OPTIONAL
Alberta	Co-op	Optional
Calgary	Internship	Optional
Carleton	Co-op	Optional
Concordia	Co-op & Internship	Optional
Conestoga	Co-op	Mandatory
ETS	Co-op	Mandatory
Guelph	Co-op	Optional
Laurentian	Co-op	Optional
Laval	Co-op	Mandatory
Manitoba	Co-op & Internship	Optional
McGill	Co-op & Internship	Varies
McMaster	Co-op	Optional
Moncton	Co-op	Optional
MUN	Co-op	Mandatory
NSAC	Co-op	Optional
Ottawa	Co-op	Optional
Polytechnique	Co-op & Internship	Mandatory
Queen's	Internship	Optional
Regina	Co-op & Internship	Optional
Ryerson	Co-op & Internship	Varies
Saskatchewan	Internship	Optional
SFU	Co-op	Mandatory
Sherbrooke	Co-op	Mandatory
Toronto	Internship	Optional
UBC	Co-op	Optional
UNB	Co-op & Internship	Optional
UOIT	Co-op & Internship	Optional
UQAR	Co-op	Optional
UQAT	Co-op	Optional
UQO	Co-op	Optional
UQTR	Co-op	Optional
UVic	Co-op	Mandatory
Waterloo	Co-op	Mandatory
Western	Co-op & Internship	Optional
Windsor	Co-op	Optional

# Appendix B

## ACCREDITED ENGINEERING PROGRAMS BY INSTITUTION

- This listing of accredited programs includes only engineering programs, which lead to a bachelor's degree.
- Institutions listed have voluntarily requested that specific engineering programs be evaluated by the Canadian Engineering Accreditation Board. The terminology requested by the institution is shown.
- A single date which follows the name of a program indicates the year of the first graduating class for which accreditation applies. It also applies to subsequent years and is still in force.
- A double date following the name of a program indicates the period (inclusive of both years) for which the program was accredited. This may occur if the institution has discontinued the program under that specific name or has not requested renewal of accreditation or if the Accreditation Board has denied such renewal.
- The appearance of a third date indicates that accreditation has been renewed from that particular year on, after a time interval.

### ALBERTA, UNIVERSITY OF

Edmonton, Alberta

#### Faculty of Engineering

Agricultural Engineering:	1983-1995
Chemical Engineering:	1965-
Civil Engineering:	1965-
Computer Engineering:	1983-
Electrical Engineering:	1965-
Engineering Physics:	1988-
Materials Engineering:	1999-
Mechanical Engineering:	1965-
Metallurgical Engineering:	1965-2000
Mineral Engineering:	1976-1982
Mineral Process Engineering:	1983-1991
Mining Engineering:	1965-1975, 1983-
Petroleum Engineering:	1978-

### BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Burnaby, British Columbia

#### School of Construction and the Environment

Civil Engineering:	2010-
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#### School of Energy

Electrical Engineering:	2011-
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### BRITISH COLUMBIA, THE UNIVERSITY OF

Vancouver, British Columbia

#### Faculty of Applied Science

Agricultural Engineering:	1965-1978
Bio-Resource Engineering:	1979-2001
Chemical Engineering:	1965-
Chemical and Biological Engineering:	2003-
Civil Engineering:	1965-
Computer Engineering:	2000-
Electrical Engineering:	1965-
Engineering Physics:	1965-
Environmental Engineering (jointly with Northern British Columbia):	2007-
Geological Engineering:	1965-
Integrated Engineering:	2003-
Materials Engineering:	2006-
Mechanical Engineering:	1965-
Metallurgical Engineering:	1965-1987
Metals and Materials Engineering:	1988-2005
Mineral Engineering:	1965-1979
Mining and Mineral Process Engineering:	1980-2005
Mining Engineering:	2004-

### BRITISH COLUMBIA-OKANAGAN, THE UNIVERSITY OF

Kelowna, British Columbia

#### Faculty of Applied Science

Civil Engineering:	2010-
Electrical Engineering:	2010-
Mechanical Engineering:	2010-

### CALGARY, THE UNIVERSITY OF

Calgary, Alberta

#### Schulich School of Engineering

Chemical Engineering:	1969-
Civil Engineering:	1969-
Computer Engineering:	2002-
Electrical Engineering:	1969-
Geomatics Engineering:	1996-
Manufacturing Engineering:	1997-
Mechanical Engineering:	1969-
Oil and Gas Engineering:	2001-
Software Engineering:	2002-
Surveying Engineering:	1982-1997



## CARLETON UNIVERSITY

Ottawa, Ontario

### Faculty of Engineering and Design

Aerospace Engineering:	1992-
Biomedical and Electrical Engineering:	2010-
Biomedical and Mechanical Engineering:	2012-
Civil Engineering:	1965-
Communications Engineering:	2002-
Computer Systems Engineering:	1984-
Electrical Engineering:	1965-
Engineering Physics:	2003-
Environmental Engineering:	1996-
Mechanical Engineering:	1965-
Software Engineering:	2003-
Sustainable and Renewable Energy Engineering:	2012-

## CONCORDIA UNIVERSITY

Montréal, Québec

(formerly Sir George Williams University, 1959-1974)

### Faculty of Engineering and Computer Science

Building Engineering:	1982-
Civil Engineering:	1969-
Computer Engineering:	1983-
Electrical Engineering:	1969-
Industrial Engineering:	1995-
Mechanical Engineering:	1969-
Software Engineering:	2002-

## CONESTOGA COLLEGE

Kitchener, Ontario

### School of Engineering and Information Technology

Mechanical Systems Engineering:	2010-
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## DALHOUSIE UNIVERSITY

Halifax, Nova Scotia

(formerly Dal Tech, 1997-2000 and Technical University of Nova Scotia, 1981-1997 and Nova Scotia Technical College, 1907-1980)

### Faculty of Engineering

Agricultural Engineering:	1974-2000
Biological Engineering:	1997-
Chemical Engineering:	1965-
Civil Engineering:	1965-
Computer Engineering:	2006-
Electrical Engineering:	1965-
Engineering Physics:	1987-1991
Environmental Engineering:	2006-
Industrial Engineering:	1969-
Materials Engineering:	2005-
Mechanical Engineering:	1965-
Metallurgical Engineering:	1965-1977, 1981-2005
Mineral Resources Engineering:	2007-
Mining Engineering:	1965-2006

## ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

Montréal, Québec

(affiliated with l'Université du Québec)

Génie de la construction:	1993-
Génie des opérations et de la logistique:	2008-
Génie des technologies de l'information:	2006-
Génie et gestion de la construction:	1990-1996
Génie électrique:	1990-
Génie logiciel:	2004-
Génie mécanique:	1990-
Génie de la production automatisée:	1990-

## GUELPH, UNIVERSITY OF

Guelph, Ontario

### School of Engineering

Agricultural Engineering:	1973-1995
Biological Engineering:	1973-
Engineering Systems and Computing:	1994-
Environmental Engineering:	1993-
Food Engineering:	1993-2000
Water Resources Engineering:	1973-

## LAKEHEAD UNIVERSITY

Thunder Bay, Ontario

### Faculty of Engineering

Chemical Engineering:	1974-
Civil Engineering:	1974-
Electrical Engineering:	1974-
Mechanical Engineering:	1974-
Software Engineering:	2002-

## LAURENTIAN UNIVERSITY

Sudbury, Ontario

### School of Engineering

Chemical Engineering:	2006-
Extractive Metallurgical Engineering:	1987-2006
Extractive Metallurgy:	1985-1986
Mechanical Engineering:	2011-
Mining Engineering:	1987

## LAVAL, UNIVERSITÉ

Québec, Québec

### Faculté de foresterie, de géographie et de géomatique

Génie du bois:	2002-
Génie géomatique:	2007-

### Faculté des sciences de l'agriculture et de l'alimentation

Génie agroenvironnemental:	2002-
Génie alimentaire:	1997-

## Faculté des sciences et de génie

Génie chimique:	1965-
Génie civil:	1965-
Génie des eaux:	2009-
Génie électrique:	1965-
Génie géologique:	1965-
Génie informatique:	1993-
Génie logiciel:	2006-
Génie des matériaux et de la métallurgie:	1990-
Génie mécanique:	1965-
Génie métallurgique:	1965-1990
Génie des mines et de la minéralurgie:	1990-
Génie minier:	1965-1990
Génie physique:	1965-
Génie rural:	1973-2002

## MANITOBA, THE UNIVERSITY OF

Winnipeg, Manitoba

### Faculty of Engineering

Agricultural Engineering:	1971-1998
Biosystems Engineering:	1996-
Civil Engineering:	1965-
Computer Engineering:	1987-
Electrical Engineering:	1965-
Geological Engineering:	1965-2001
Industrial Engineering:	1987-2005
Manufacturing Engineering:	2003-
Mechanical Engineering:	1965-

## MCGILL UNIVERSITY

Montréal, Québec

### Faculty of Agricultural and Environmental Sciences

Bioresource Engineering:	2005-
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### Faculty of Engineering

Agricultural Engineering (Macdonald College):	1971-2006
Chemical Engineering:	1965-
Civil Engineering:	1965-
Computer Engineering:	1993-
Electrical Engineering:	1965-
Materials Engineering:	2005-
Mechanical Engineering:	1965-
Metallurgical Engineering:	1965-2007
Mining Engineering:	1965-
Software Engineering:	2007-

## MCMASTER UNIVERSITY\*

Hamilton, Ontario

### Faculty of Engineering

Ceramic Engineering:	1974-1998
Chemical Engineering:	1965-
Chemical Engineering & Bioengineering:	2006-
Civil Engineering:	1989-
Civil Engineering & Computer Systems:	1992-1995
Civil Engineering & Engineering Mechanics:	1965-1988
Computer Engineering:	1981-
Electrical & Biomedical Engineering:	2006-
Electrical Engineering:	1965-
Engineering Physics:	1974-
Manufacturing Engineering:	1982-2005
Materials Engineering:	1990-
Mechanical Engineering:	1965-
Mechatronics Engineering:	2009-
Metallurgical Engineering:	1965-1997
Software Engineering:	2001-

\*Graduates of programs at this institution may have completed additional non-technical studies, such as a management or society option, that will be listed on their transcripts. These transcripts contain wording such as "(Discipline) Engineering and Society" or "(Discipline) Engineering and Management". Only the engineering component of these programs is accredited by the Canadian Engineering Accreditation Board; thus, even though these options meet the accreditation requirements, only the base engineering programs are listed here.

## MEMORIAL UNIVERSITY OF NEWFOUNDLAND

St. John's, Newfoundland

### Faculty of Engineering and Applied Science

Civil Engineering:	1975-
Computer Engineering:	2002-
Electrical Engineering:	1975-
Mechanical Engineering:	1975-
Naval Architectural Engineering:	1986-1996
Ocean and Naval Architectural Engineering:	1997-
Shipbuilding Engineering:	1982-1985

## MONCTON, UNIVERSITÉ DE

Moncton, Nouveau-Brunswick

### Faculté d'ingénierie

Génie civil:	1972-
Génie électrique:	1998-
Génie industriel:	1975-2009
Génie mécanique:	1990-

## NEW BRUNSWICK, UNIVERSITY OF

Fredericton, New Brunswick

### Faculty of Computer Science and Faculty of Engineering

Software Engineering: 2006-

### Faculty of Engineering

Chemical Engineering: 1965-  
Civil Engineering: 1965-  
Computer Engineering: 2001-  
Electrical Engineering: 1965-  
Forest Engineering: 1972-  
Geological Engineering: 1984-  
Geomatics Engineering: 1999-  
Mechanical Engineering: 1965-  
Surveying Engineering: 1972-1999

## NORTHERN BRITISH COLUMBIA, UNIVERSITY OF

Prince George, British Columbia

### College of Science and Management

Environmental Engineering  
(jointly with British Columbia): 2007-

## NOVA SCOTIA TECHNICAL COLLEGE

(see Dalhousie University)

NSTC offered accredited engineering programs from 1965 to 1980.

NSTC a offert des programmes de génie agréés de 1965 à 1980.

## NOVA SCOTIA, TECHNICAL UNIVERSITY OF

(see Dalhousie University)

TUNS offered accredited engineering programs from 1981 to 1996.

However, students who enrolled prior to April 1, 1997, and graduated after that date can request that their degree be in the name of TUNS.

## ONTARIO INSTITUTE OF TECHNOLOGY, UNIVERSITY OF\*

Oshawa, Ontario

### Faculty of Engineering and Applied Science

Automotive Engineering: 2009-  
Electrical Engineering: 2009-  
Manufacturing Engineering: 2007-  
Mechanical Engineering: 2008-  
Software Engineering: 2009-

### Faculty of Energy Systems and Nuclear Science

Nuclear Engineering: 2007-

\* Graduates of programs at this institution may have completed additional non-technical studies, such as a management option, that will be listed on their degrees and transcripts. These degrees and transcripts contain wording such as "(Discipline) Engineering and Management". Only the engineering component of these programs is accredited by the Canadian Engineering Accreditation Board; thus, even though these options meet the accreditation requirements, only the base engineering programs are listed here.

## OTTAWA, UNIVERSITY OF

Ottawa, Ontario

### Faculty of Engineering

Biomedical Mechanical Engineering: 2009-  
Chemical Engineering: 1965-  
Civil Engineering: 1971-  
Computer Engineering: 1990-  
Electrical Engineering: 1965-  
Mechanical Engineering: 1971-  
Software Engineering: 2001-

## POLYTECHNIQUE, ÉCOLE

Montréal, Québec

(affiliated with l'Université de Montréal)

Génie aérospatial: 2012-  
Génie biomédical: 2012-  
Génie chimique: 1965-  
Génie civil: 1965-  
Génie électrique: 1965-  
Génie géologique: 1965-  
Génie industriel: 1973-  
Génie informatique: 1989-  
Génie logiciel: 2005-  
Génie des matériaux: 1990-  
Génie mécanique: 1965-  
Génie métallurgique: 1965-1989  
Génie des mines: 1991-  
Génie minier: 1965-1991  
Génie physique: 1965-

## QUÉBEC EN ABITIBI-TÉMISCAMINGUE, UNIVERSITÉ DU

Rouyn-Noranda, Québec

### Unité d'enseignement et de recherche en sciences appliquées

Génie électromécanique: 2000-  
Génie mécanique: 2010-

## QUÉBEC À CHICOUTIMI, UNIVERSITÉ DU

Chicoutimi, Québec

### Département des sciences appliquées

Génie civil: 2012-  
Génie électrique: 2004-  
Génie géologique: 1983-  
Génie informatique: 1992-  
Génie mécanique: 2004-  
Génie unifié: 1981-2009  
Ingénierie de l'aluminium: 2008-

## QUÉBEC À MONTRÉAL, UNIVERSITÉ DU

Montréal, Québec

### Faculté des sciences

Génie microélectronique: 2007-

## QUÉBEC EN OUTAOUAIS, UNIVERSITÉ DU

Gatineau, Québec  
(formerly Québec à Hull, Université du)

### Module de l'ingénierie

Génie informatique: 2002-

## QUÉBEC À RIMOUSKI, UNIVERSITÉ DU

Rimouski, Québec

### Module de génie

Génie des systèmes électromécaniques: 1998-

Génie électrique: 2009-

Génie mécanique: 2009-

## QUÉBEC À TROIS-RIVIÈRES, UNIVERSITÉ DU

Trois-Rivières, Québec

### École d'ingénierie

Génie chimique: 1990-

Génie électrique: 1978-

Génie industriel: 1980-

Génie mécanique manufacturier: 1987-1999

Génie mécanique: 2000-

## QUEEN'S UNIVERSITY

Kingston, Ontario

### Faculty of Engineering and Applied Science

Chemical Engineering: 1965-

Civil Engineering: 1965-

Computer Engineering: 2002-

Electrical Engineering: 1965-

Engineering Chemistry: 1979-

Engineering Physics: 1965-

Geological Engineering: 1975-

Materials and Metallurgical Engineering: 1992-2002

Mathematics and Engineering: 1974-

Mechanical Engineering: 1965-

Metallurgical Engineering: 1965-1991

Mining Engineering: 1965-

## REGINA, UNIVERSITY OF

Regina, Saskatchewan

### Faculty of Engineering and Applied Science

Electronic Information Systems Engineering: 1986-1994

Electronic Systems Engineering: 1995-

Environmental Systems Engineering: 1997-

Industrial Systems Engineering: 1984-

Petroleum Systems Engineering: 2003-

Regional Environmental Systems Engineering: 1990-1997

Regional Systems Engineering: 1984-1989

Software Systems Engineering: 2007-

Systems Engineering: 1981-1983

## ROYAL MILITARY COLLEGE OF CANADA

Kingston, Ontario

### Faculty of Engineering

Aeronautical Engineering: 2009-

Chemical Engineering: 1965-1981, 2001-

Chemical and Materials Engineering: 1992-2001

Civil Engineering: 1965-

Computer Engineering: 1983-

Electrical Engineering: 1965-

Engineering and Management: 1972-1995

Engineering Physics: 1975-1995

Fuels and Materials Engineering: 1982-1991

Mechanical Engineering: 1965-

## RYERSON POLYTECHNICAL INSTITUTE

(see Ryerson University)

RPI offered accredited engineering programs in 1992.

## RYERSON POLYTECHNIC UNIVERSITY (RPU)

(see Ryerson University)

RPU offered accredited engineering programs from 1992 to 2002.

## RYERSON UNIVERSITY

Toronto, Ontario

(formerly Ryerson Polytechnical Institute, 1964-1992, and Ryerson Polytechnic University, 1992-2002)

### Faculty of Engineering, Architecture and Science

Aerospace Engineering: 1992-

Biomedical Engineering: 2012-

Chemical Engineering: 1992-

Civil Engineering: 1992-

Computer Engineering: 2006-

Electrical Engineering: 1992-

Industrial Engineering: 1992-

Mechanical Engineering: 1992-

## SASKATCHEWAN, UNIVERSITY OF

Saskatoon, Saskatchewan

### College of Engineering

Agricultural Engineering: 1965-1992

Agricultural and Bioresource Engineering: 1992-

Chemical Engineering: 1965-

Civil Engineering: 1965-

Computer Engineering: 2009-

Electrical Engineering: 1965-

Engineering Physics: 1965-

Environmental Engineering: 2011-

Geological Engineering: 1965-

Geological Engineering (Geophysics): 1975-1999

Mechanical Engineering: 1965-

Mining Engineering: 1974-1976

## SHERBROOKE, UNIVERSITÉ DE

Sherbrooke, Québec

### Faculté de génie

Génie biotechnologique:	2008-
Génie chimique:	1973-
Génie civil:	1965-
Génie électrique:	1965-
Génie informatique:	1997-
Génie mécanique:	1965-

## SIMON FRASER UNIVERSITY

Burnaby, British Columbia

### School of Engineering Science

Engineering Science:	1986-
Mechatronic Systems Engineering:	2011-

## SIR GEORGE WILLIAMS UNIVERSITY (SGW)

(see Concordia University)

SGW offered accredited engineering programs from 1969 to 1974.

## TORONTO, UNIVERSITY OF

Toronto, Ontario

### Faculty of Applied Science and Engineering

Chemical Engineering:	1965-
Civil Engineering:	1965-
Computer Engineering:	1994-
Electrical Engineering:	1965-
Engineering Science:	1965-
Geo-Engineering:	1983-1990
Geological Engineering:	1965-1974
Geological Engineering & Applied Earth Science:	1975-1982
Geological and Mineral Engineering:	1991-1998
Industrial Engineering:	1965-
Materials Engineering:	1996-
Mechanical Engineering:	1965-
Metallurgical Engineering & Materials Science:	1986-1995
Metallurgy & Materials Science:	1965-1985
Mineral Engineering:	1999-

## VICTORIA, UNIVERSITY OF

Victoria, British Columbia

### Faculty of Engineering

Computer Engineering:	1988-
Electrical Engineering:	1988-
Mechanical Engineering:	1992-
Software Engineering:	2007-

## WATERLOO, UNIVERSITY OF

Waterloo, Ontario

### Faculty of Engineering

Chemical Engineering:	1965-
Civil Engineering:	1965-
Computer Engineering:	1989-
Electrical Engineering:	1965-
Environmental Engineering:	1999-
Geological Engineering:	1986-
Management Engineering:	2012-
Mechanical Engineering:	1965-
Mechatronics Engineering:	2008-
Nanotechnology Engineering:	2010-
Software Engineering:	2006-
Systems Design Engineering:	1974-

## WESTERN ONTARIO, THE UNIVERSITY OF

London, Ontario

### Faculty of Engineering

Chemical Engineering:	1965-1971, 2007-
Chemical and Biochemical Engineering:	1972-2006
Civil Engineering:	1965-
Computer Engineering:	2001-
Electrical Engineering:	1965-
Green Process Engineering:	2012-
Integrated Engineering:	2001-
Materials Engineering:	1968-1999
Mechanical Engineering:	1965-
Software Engineering:	2001-

## WINDSOR, UNIVERSITY OF

Windsor, Ontario

### Faculty of Engineering

Chemical Engineering:	1965-1990
Civil Engineering:	1965-
Electrical Engineering:	1965-
Engineering Materials:	1974-1991
Environmental Engineering:	1991-
Geological Engineering:	1972-1989
Industrial Engineering:	1974-
Mechanical Engineering:	1965-

## YORK UNIVERSITY

Toronto, Ontario

### Faculty of Science and Engineering

Computer Engineering:	2007-
Geomatics Engineering:	2007-
Space Engineering:	2007-

# Appendix C

## CANADIAN DISCIPLINE CATEGORIES AS USED IN THIS REPORT

This section provides a comprehensive listing of programs titles, as provided by the universities, which are currently offered at both the undergraduate (accredited) and postgraduate levels in Canada only. The “discipline” listing is the broad category within which a number of similar programs are grouped. While this report does not provide detailed data on individual programs, the information can be obtained by contacting Engineers Canada.

DISCIPLINE	PROGRAM	
<b>Biosystems</b>	Agricultural Engineering	
	Agricultural and Bioresource Engineering	
	Agricultural and Biosystems Engineering	
	Bio-Resource Engineering	
	Biological Engineering	
	Biomedical Engineering	
	Biomedical and Mechanical Engineering	
	Biomedical Mechanical Engineering	
	Biomedical: Computer Science	
	Biosystems Engineering	
	Chemical and Biological Engineering	
	Food Engineering	
	Forest Engineering	
	Génie agroalimentaire	
	Génie agroenvironnemental	
	Génie alimentaire	
	Génie biomédical	
	Génie biotechnologique	
<b>Chemical</b>	Chemical and Biochemical Engineering	
	Chemical and Materials Engineering	
	Chemical and Petroleum Engineering	
	Chemical Engineering	
	Chemical Engineering & Bioengineering	
	Fuels and Materials Engineering	
	Génie biotechnologique	
	Génie chimique	
	Nanotechnology Engineering	
	<b>Civil</b>	Architectural Engineering
		Building Engineering
		Civil Engineering
Civil and Environmental Engineering		
Génie civil		
Génie de la construction		
Génie et gestion de la construction		
Infrastructure Protection Engineering		
International Security Engineering		
Ingénierie/réhabilitation des infrastructures urbaines		
Urban Planning		
<b>Computer</b>		Computational Engineering and Science
		Computer Engineering
		Computer Networks Engineering
		Computer Systems Engineering
	Electronic Information Systems Engineering	
	Electronic Systems Engineering	
	Engineering Systems and Computing	
	Génie informatique	
Software Engineering and Game Design		
<b>Electrical</b>	Biomedical and Electrical Engineering	
	Communications Engineering	
	Controls Engineering	
	Electrical Engineering	
	Electrical and Computer Engineering	
	Electrical & Biomedical Engineering	
	Energy Systems Engineering	
	Electro-mechanical Design	
	Electronics Engineering	
	Génie des opérations et de la logistique	
	Génie des technologies de l'information	
	Génie électrique	
	Génie électromécanique	
	Génie énergétique	
	Génie microélectronique	
	Information Systems Security Engineering	
	Quality Systems Engineering	
	Sustainable Energy Engineering	
Systems and Computer Engineering		
Telecommunications Technical Management		

<b>Engineering Physics</b>	<ul style="list-style-type: none"> <li>Engineering Chemistry</li> <li>Engineering Mathematics</li> <li>Engineering Physics</li> <li>Engineering Science</li> <li>Génie mathématiques</li> <li>Génie physique</li> <li>Mathematics and Engineering</li> </ul>	<b>Materials or Metallurgical</b>	<ul style="list-style-type: none"> <li>Ceramic Engineering</li> <li>Engineering Materials</li> <li>Extractive Metallurgical Engineering</li> <li>Génie des matériaux et de la métallurgie</li> <li>Génie des matériaux</li> <li>Génie métallurgique</li> <li>Ingénierie de l'aluminium</li> <li>Materials and Metallurgical Engineering</li> <li>Materials Engineering</li> <li>Metallurgical Engineering</li> <li>Metallurgical Engineering and Materials Science</li> <li>Metals and Materials Engineering</li> <li>Mining/Materials Engineering</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Clean Energy Engineering</li> <li>Energy and Environment Systems</li> <li>Environmental Engineering</li> <li>Environmental Systems Engineering</li> <li>Génie des eaux</li> <li>Maîtrise en Science de la Terre</li> <li>Sustainable &amp; Renewable Energy</li> <li>Sciences de la terre et de l'atmosphère</li> <li>Génie ressources et systèmes</li> <li>Regional Environmental Systems Engineering</li> <li>Water Resources Engineering</li> </ul>	<b>Mechanical</b>	<ul style="list-style-type: none"> <li>Automotive Engineering</li> <li>Génie mécanique</li> <li>Mechanical Engineering</li> <li>Mechanical/Industrial Engineering</li> <li>Mechanical &amp; Materials Engineering</li> <li>Mechanical &amp; Manufacturing Engineering</li> <li>Mechanical &amp; Mechatronic Engineering</li> <li>Mechanical Systems Engineering</li> <li>Mechatronics Engineering</li> <li>Mechatronic Systems Engineering</li> <li>Radiation Science Engineering</li> <li>Space Engineering</li> </ul>
<b>Geological</b>	<ul style="list-style-type: none"> <li>Génie géologique</li> <li>Génie des sciences de la Terre</li> <li>Geological and Mineral Engineering</li> <li>Geological Engineering</li> <li>Geological Engineering (Geophysics)</li> </ul>		
<b>Industrial or Manufacturing</b>	<ul style="list-style-type: none"> <li>Advanced Design and Manufacturing Institute</li> <li>Advanced Manufacturing and Process Systems</li> <li>Électronique industrielle</li> <li>Génie de la production automatisée</li> <li>Génie des opérations et de la logistique</li> <li>Génie industriel</li> <li>Génie mécanique manufacturier</li> <li>Génie sécurité et hygiène industrielles</li> <li>Industrial Engineering</li> <li>Industrial Systems Engineering</li> <li>Mechanical Manufacturing Engineering</li> <li>Manufacturing Engineering</li> </ul>	<b>Mining or Mineral</b>	<ul style="list-style-type: none"> <li>Génie des mines</li> <li>Génie des mines et de la minéralurgie</li> <li>Génie minier</li> <li>Génie minéral</li> <li>Génie ressources minérales</li> <li>Maîtrise en génie minéral</li> <li>Mineral Engineering</li> <li>Mineral Process Engineering</li> <li>Mineral Resources Engineering</li> <li>Natural Resources Engineering</li> <li>Mining and Metallurgy Engineering</li> <li>Mining and Mineral Process Engineering</li> <li>Mining Engineering</li> </ul>
		<b>Software</b>	<ul style="list-style-type: none"> <li>Génie logiciel</li> <li>Information Systems Science Engineering</li> <li>Software Engineering</li> <li>Software Engineering &amp; Virtual Systems Design</li> <li>Software Systems Engineering</li> </ul>

**Other**

- Aeronautical Engineering
- Aerospace Engineering
- Civil and Geological Engineering
- Engineering Systems and Computing
- Fire Protection Engineering
- Génie aérospatial
- Génie du bois
- Génie géomatique
- Génie nucléaire
- Génie papetier
- Génie rural
- Génie sciences des pâtes et papiers
- Génie des technologies de l'information
- Génie unifié
- Geodesy and Geomatics
- Geo-engineering
- Geomatics Engineering
- Green Process Engineering
- Ingénierie unifiée
- Integrated Engineering
- Management Engineering
- Management Sciences
- Naval Architectural & Marine Engineering
- Naval Architectural Engineering
- Nuclear Engineering
- Ocean and Naval Architectural Engineering
- Oil and Gas Engineering
- Ocean Engineering
- Petroleum Engineering
- Petroleum Systems Engineering
- Process Engineering
- Pulp & Paper Engineering
- Surveying Engineering
- Systems Design Engineering
- Technologie des systèmes
- TIM (Systems)
- Technology Management

**Year One/Two** Common First and Second Year  
**Common Year** Engineering Entrance  
 Year One - Common

The discipline Engineering Science (E.Sci.) involves science-intensive studies in engineering physics, engineering bioscience, engineering chemistry and other specializations offered by universities with accredited engineering science programs.

Several universities in Canada have common first-year and, in some cases, second-year programs. Students in these programs do not declare a discipline of study in their first year or, as applicable, second year. The total number of students in common first, second and qualifying year programs have been separated from the "Other" category, beginning with the 1997 data. This subdivision will be continued in future years.



# Appendix D

## ASSOCIATED UNIVERSITIES EXPLAINED

### **Dalhousie University, Royal Military College of Canada (RMC), and Associated Universities**

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The bachelor of engineering degree awarded by Dalhousie University is normally conferred in association with one of several associated universities. The program of studies is divided into two parts: the associated universities offer programs in engineering covering the first part of the requirements for the degree and the Faculty of Engineering at Dalhousie offers courses in several departments of engineering covering the second part.

For accreditation purposes, the Canadian Engineering Accreditation Board considers the engineering programs at Dalhousie University to be five-year programs and visits the associated universities as part of the accreditation process. Associated universities, which are included with the accreditation of Dalhousie University programs, are the following:

- Acadia University
- University of Cape Breton
- Dalhousie University
- Mount Allison University  
(as of 2000, no longer offering engineering programs)
- Nova Scotia Agricultural College
- St. Francis Xavier University
- Saint Mary's University
- University of Prince Edward Island

Prior to 1995, the following two associated universities were included with the accreditation of the engineering programs at RMC. Both institutions have stopped offering engineering.

- Royal Roads Military College (prior to 1995)
- Collège militaire royal de Saint-Jean (prior to 1995)

# Appendix E

## SURVEY PROCEDURES AND DATA COMPILATION METHODOLOGY

### Survey Procedures

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Each year, Engineers Canada sends Canadian university faculties of engineering and applied science an online survey requesting statistics on full-time and part-time enrolment in their undergraduate and graduate programs. The institutions are also asked to provide data on the number of undergraduate and graduate degrees that have been awarded for the same calendar year being surveyed. Other information requested includes a gender breakdown for enrolment, as well as the number of foreign (visa) students enrolled in the programs.

Engineers Canada aims to produce a summary of the data by the spring, in order to support such activities as recruitment and planning for the upcoming academic year. The full report on engineering enrolment and degrees awarded is published and distributed several months later.

### Compilation and Interpretation of Data

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The enrolment and degrees awarded data is compiled into the Engineers Canada database. Prior to the publication of this report, summarized tables of the data are returned to the engineering faculties for verification.

The tabulations, which are found in Section A, list the enrolment and degrees awarded for undergraduate engineering programs that have been accredited by the Canadian Engineering Accreditation Board of Engineers Canada. Master's and doctoral programs that are offered by the universities with accredited undergraduate engineering programs are also included. Further information is provided on faculty composition as well as cooperative, internship and professional experience programs.

The data tabulations are further subdivided to provide national, provincial, and institutional level information on enrolment as well as degrees awarded by engineering discipline, gender, and visa students.

Each year, data is collected on undergraduate enrolment in engineering programs that will be seeking accreditation. These are newer programs that have not produced any graduates as of the year of reporting. The Accreditation Board undertakes accreditation of these programs in the year in which the first students will graduate.

### Data Limitations

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Because of the variable nature of the titles applied to university engineering programs, the discipline headings are general in nature. Some of the data reporting may represent the "best fit" of a particular program, as defined in Appendix C of this report.

### Data Utilization

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Information presented in this report can be used for a variety of purposes:

- Enabling engineering students to make informed academic and career choices;
- Allowing employers and governments to determine the availability of qualified professional engineers in traditional and emerging areas of practice;
- Keeping the engineering profession apprised of current and future trends in engineering supply, the development and impact of technology, and the needs of employers to allow the development of appropriate standards for academic programs, entry into the engineering profession, and the maintenance of high practice standards in the interests of public safety and well-being; and,
- Assisting universities in preparing academic curricula and planning engineering programs that reflect advanced academic standards and emerging fields of study.

Further breakdown of the data can be requested by contacting Engineers Canada at:



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