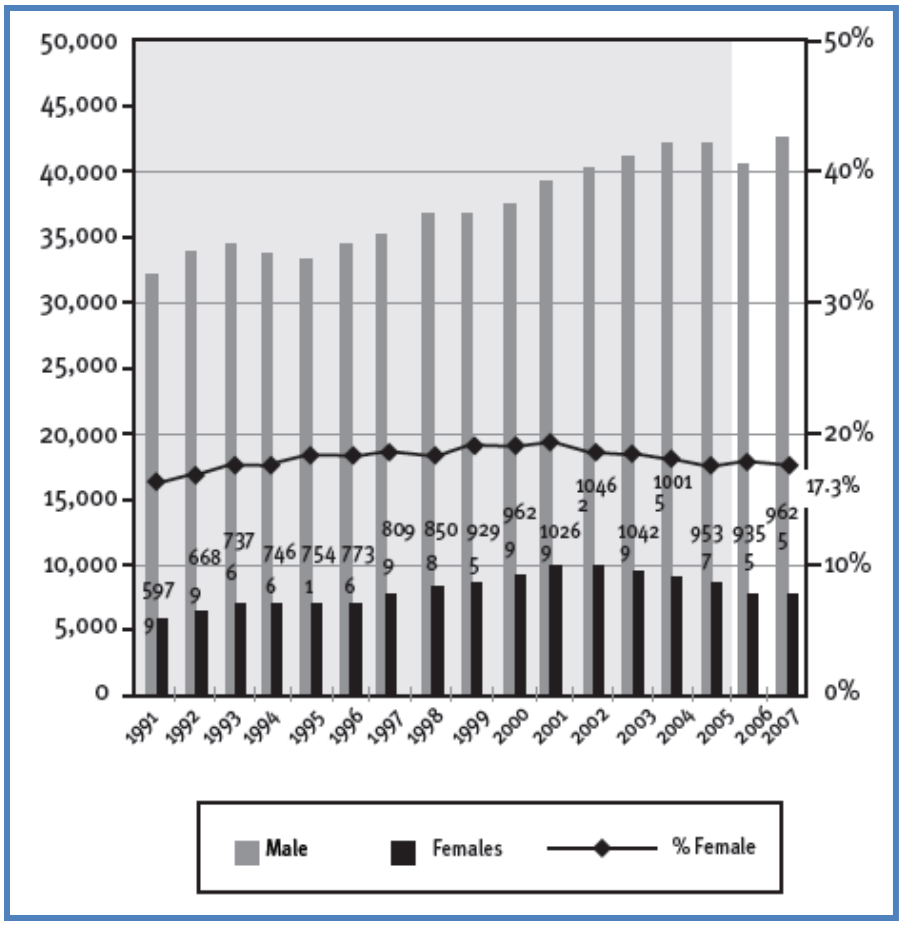
Statistics for Women in Engineering (Canada and Ontario)

- Today, only 7% of all licensed engineers in Ontario are women. (http://www.ospe.on.ca/weac.html)
- ... "The absolute numbers" of female engineering students have dropped by 7% over the past five years, while those of their male peers have increased by 14.6%. (http://www.ospe.on.ca/Newsroom/GlobeandMail_May508.html)
- 9,588: Number of women enrolled in engineering programs across Canada, compared with 45,266 men [2005]. (http://www.ospe.on.ca/Newsroom/GlobeandMail_May508.html)
- At Ontario's University of Guelph 29% of the 488 engineering students for all years are women. (http://www.ospe.on.ca/Newsroom/GlobeandMail_May508.html)
- At Ontario's University of Guelph 45.8% of biological engineering students and 39.8% of environmental engineering students are women, while just 4.8% of systems and computing engineering students are female. (http://www.ospe.on.ca/Newsroom/GlobeandMail_May508.html)
- At Ryerson, last fall there were 2,147 male students and 400 female students in all undergrad engineering programs. (http://www.ospe.on.ca/Newsroom/GlobeandMail_May508.html)
- Since 2001, the proportion of female engineering students has dropped nearly every year, to just 17.3% in 2007, and a mere 17.1% in 2008. (http://www2.macleans.ca/2009/09/17/getting-into-the-game/)
- The female share of undergraduate enrolments peaked in 2001 (20.7%), falling thereafter to 17.5% in 2005. In absolute numbers, female enrolments peaked in 2002, falling thereafter. The female share is back to where it was in the early 1990's. In other words, there has been virtually no sustained progress. (http://www.ospe.on.ca/pdf/2009/OGrady%20May%205-09%20-%20print%20version.pdf)
- In 2005, 22.4% of the University of Waterloo's bachelor's degrees granted in engineering disciplines were to women. This compares very favourably to North American levels – member schools of the American Society for Engineering Education (ASEE) in 2004 averaged 20.3% of undergraduate degrees awarded to women. (http://www.engineering.uwaterloo.ca/Vision2010/documents/Vision2010_Plan_WIE.pdf)
- In 2005, 22.4% of master's degrees and 17.9% of PhD degrees awarded in engineering disciplines at Waterloo were to women, compared with ASEE averages of 21.9% and 17.8% respectively. (http://www.engineering.uwaterloo.ca/Vision2010/documents/Vision2010_Plan_WIE.pdf)

Importance of Female Engineering Role Models

- A 2002 study of women working in the engineering profession highlights the importance women place on mentoring and professional development as part of their career development. (http://www.engineerscanada.ca/e/pr_women.cfm)
- Young people generally prefer to work with mentors and role models who are like themselves (probably because they perceive that these models will have experienced difficulties and challenges similar to their own), and this is especially difficult for women in science and engineering fields. Seymour and Hewitt report that "women in departments with no female faculty at all experienced more difficulty than other women in believing that their own presence in the major was normal." (http://www.wepankc.org/c/journal/get_document?group_id=1013&article_id=547&version=1.0&field_name=Document-Upload&document_name=Gender-Informed%20Mentoring%20Strategies.pdf)
- The presence of a single token woman is not much better [than having none]; since multiple female role models are important to send the message that there are alternative ways to be a woman in science. The result is, as Wankat and Oreovicz note, "Women faculty get less faculty support than men but need more." (http://www.wepankc.org/c/journal/get_document?group_id=1013&article_id=547&version=1.0&field_name=Document-Upload&document_name=Gender-Informed%20Mentoring%20Strategies.pdf)
- A mentor can provide personal information about a career. This can be very important for young people making career decisions, especially for young women considering a career in science and engineering. (http://www.wisest.ualberta.ca/mentorship.cfm)

Canadian Undergraduate Enrolment in Engineering by Gender



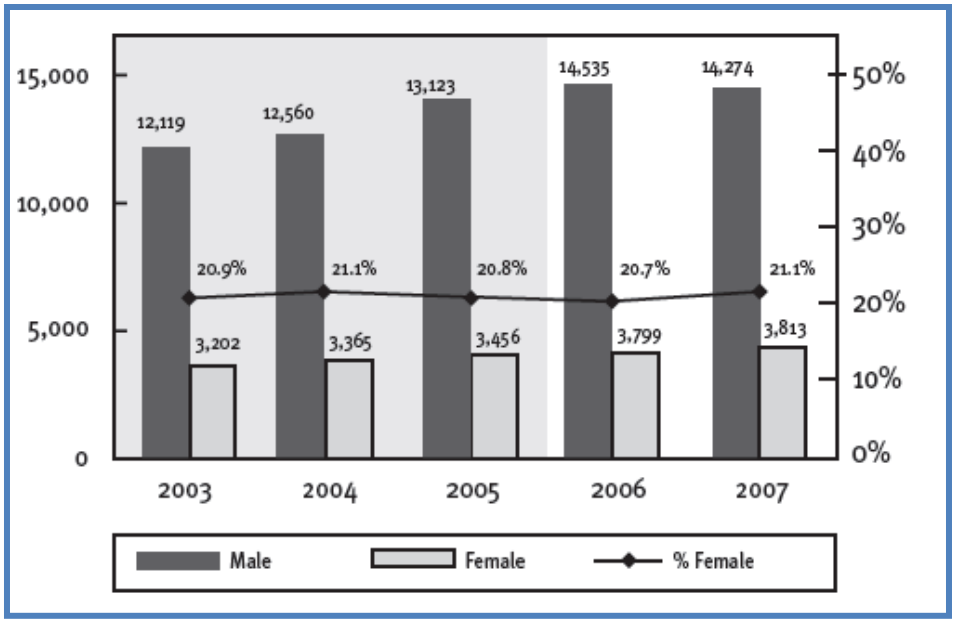
(Image Source: http://www.engineerscanada.ca/files/w_report_enrolment_eng.pdf)

Shown to the left is the Canadian undergraduate enrolment in engineering from 1991 to 2007. The proportion of female engineering students rose for a full 10 years, to a peak of 20.7 % in 2001 and then began to decline. Over the past five years or more, female students have been consistently better represented in four engineering disciplines: chemical, biosystems, environmental, and geological engineering. In 2007, female enrolment was highest in environmental engineering (36.7 %) and chemical engineering (36.2 %). Women also made up nearly one-third of enrolment in biosystems engineering (32.9 %) and geological engineering (31.7 %). The lowest concentrations of female students in 2007, as in past years, were in software engineering (9.6 % female), computer engineering (9.7 %), and mechanical engineering (10.3 %)" (http://www.engineerscanada.ca/files/w_report_enrolment_eng.pdf)

Canadian Graduate Enrolment by Gender

The proportion of female graduate students in engineering was up slightly – from 20.7 % in 2006 to 21.1 % in 2007. A marginal increase in the number of female graduate students, accompanied by a small decrease in male graduate students, created the year-over-year improvement in the gender balance. That said, the percentage of female students has remained steady over the 2003 - 2007 period.

The proportion of female students is higher at the graduate level (21.1 %) than in undergraduate engineering (17.2 %). Further, enrolment of female graduate students has increased steadily over the past five years, more or less keeping pace with male enrolment. In contrast, female enrolment at the undergraduate level has been trending downward. (http://www.engineerscanada.ca/files/w_report_enrolment_eng.pdf)



(Image Source: http://www.engineerscanada.ca/files/w_report_enrolment_eng.pdf)