



“The Canadian Federation of Engineering Students believes that the quality of engineering internship programs across Canada is inconsistent and often substandard, and that engineering programs have a responsibility to revise their practices in order to offer students better value for their program fees.”

The Students’ Position

- Student satisfaction with internship program quality is low across Canada, representing general dissatisfaction with the value of internship services offered at engineering schools.
- The lack of regulation across engineering internship programs leads to greater variation and lower standards for the services that are offered to students, compared to other areas of engineering education.
- The flaws in internship programs vary considerably across institutions, meaning that an effective response to internship program issues must occur on a localized basis.

The Issue

Note: student work terms in Canadian engineering programs are alternatively referred to as “internships” or “co-ops” at different institutions. However, the criteria for classifying these two terms is not consistent between institutions. For the purposes of this stance, the word “internships” is used consistently for student work terms of any length or any degree of financial compensation.

At many Canadian engineering schools, internship programs are an optional addition to a standard four year degree, while at other institutions (e.g. University of Victoria, University of Waterloo, Memorial University of Newfoundland) internships are a mandatory component of all degrees (Engineers Canada 2017). In mandatory programs, students take four 12-16 week work terms. In non-mandatory programs, the length of internships varies between 4-16 month terms. The Canadian Engineering Accreditation Board, which accredits Canadian engineering programs, does not closely regulate the content or practices of internship programs, and the accreditation criteria only provide an example of the allotment of Accreditation Units for a school which:

“has an internship program for which students may register for between two and four four-month work terms. Students must write a report on each work term which is reviewed by their work-term supervisor and a faculty member.” (CEAB 2017)

The Accreditation Board further provides K-Factor criteria for schools to estimate the Accreditation Units that an internship program can count for during each term (CEAB 2017).

Some engineering schools also opt to accredit their internship program through Co-operative Education and Work-Integrated Learning Canada, or CEWIL Canada (formerly CAFCE), which accredits work experience programs across several academic disciplines (CEWIL 2017). Of the 34 schools that provided statistically relevant results on their internship programs for the CFES National Student Survey, 21 had their engineering internship programs accredited through CEWIL, while 13 did not (CFES 2018). When ranking the overall value of their internship program on a 5-point scale, CEWIL-accredited schools reported an average of 2.71, while non-CEWIL-accredited schools reported an average of 2.95 (CFES 2018). This suggests that there is no positive relationship between CEWIL accreditation and the program benefits offered to engineering internship students, and this accreditation is neither sufficient nor necessary for running an effective internship program. CEWIL-accredited schools may even be seeing lower overall ratings because of a complacent, mistaken

assumption that this accreditation is a guarantor of program quality. The lack of general, standardized regulation means that while the content and quality of accredited engineering programs is very consistent across Canada, the practices of their internship programs can vary far more dramatically.

Engineering students participate in internship programs in order to gain relevant work experience in their field of study. These programs are valuable because they give students direct work experience that can help them to develop and apply engineering skills and begin their careers. Internship programs also provide a source of income for many students struggling to pay tuition and living expenses, and may provide a healthy break from academic stressors: The CFES National Student Survey found that students enrolled in internship programs reported lower stress and better overall mental health than their non-internship counterparts (CFES 2018).

The CFES National Student Survey was circulated in the fall of 2017, and received responses from 3936 engineering students across 44 accredited schools, including 1526 students enrolled in internship programs (CFES 2018). The survey identified that the most prominent issue surrounding internships was the apparent lack of value gained in exchange for the financial burden of participating in an internship program (CFES 2018). In the extreme case, students finding internships outside of the university's system wonder why they are forced to pay into a program which provides them with no benefit. For students using school resources, they often experience poorly moderated job postings, restricted communication with employers, unreasonable restrictions on accepting or rejecting jobs, and a deliverable which often feels like make-work rather than a valuable addition to their engineering education. Mentions of common issues were counted throughout the open-ended survey data, and we found that students most often took issue with the:

- inability to reject offers: ~35%
- inability to communicate with employers: ~36%
- lack of adequate advising services: ~28%
- lack of quality job postings: ~41%
- competition from other students: ~51%
- costly fees: ~38%

(CFES 2018)

The National Student Survey data suggests that the aggregate experience of students in Canadian Engineering internship programs is negatively skewed. However, the prevalence of these individual issues varied considerably between institutions, with over 70% of students at one institution reporting a certain problem that fewer than 5% of students at another institution would report (CFES 2018). The performance of individual programs also widely between on each metric, with schools performing very well in some metrics and very poorly in others (CFES 2018). This variation means that there is no one-size-fits-all solution to engineering internship programs, and potential improvements must be enacted at the levels of individual schools.

Ultimately, the solution to the internship issue as a whole is a school choosing to invest in the quality of the student experience. For a majority of schools the internship program is opt-in, which means there is no consequence for having a marginally adequate program (Engineers Canada 2017). In mandatory internship programs students who do not get internship placements as required experience difficulty graduating, placing the burden of generating value entirely on the student. To mitigate this problem and other such issues, the CFES and its partners in regional organizations have a responsibility to assist member societies and their faculties with a push for individualized solutions to their internship program issues.

What the CFES is doing

- The CFES included internship quality as a focus area for its 2017 National Student Survey and its associated research, in order to determine the scope of internship program issues across Canada.
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What the CFES plans to do

- The CFES will work with its partners to create resources for sharing basic information about engineering program practices across Canada, and for advocating to faculties for effective changes.
- The CFES will investigate the merits of advocating to Co-operative Education and Work-Integrated Learning Canada to improve their accreditation of engineering internship programs.

Recommendations to Partners, Stakeholders, and Other Entities

- The CFES calls on its associated regional organizations (WESST, ESSCO, QCESO, ACES) to partner in developing internship program resources to assist with individualized advocacy efforts at member schools.
- The CFES calls on the National Council of Deans of Engineering and Applied Sciences (NCDEAS) to encourage the engagement of its members in the process of responding to concerns relevant to the internship programs at their institution.

Sources

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