



MEMORANDUM

To: Executive Committee of Faculty Council (October 5, 2020)
Faculty Council (October 23, 2020)

From: Professor Tom Coyle
Vice-Dean, Undergraduate

Date: October 19, 2020

Re: **Creation of the Professional Experience Co-op Program**

REPORT CLASSIFICATION

This is a major policy matter that will be considered by the Executive Committee for endorsing and forwarding to Faculty Council for vote as a regular motion (requiring a simple majority of members present and voting to carry).

SUMMARY

Feedback from students and employers indicated that a thorough review of the Professional Experience Year (PEY) Internship Program was needed. After far-reaching consultations, it was recommended to restructure the Engineering Career Centre and the PEY Internship Program in order to meet student demand, better foster employer relationships, satisfy requirements for formal recognition as a co-operative education program and meet the Faculty's aspirations for enhanced experiential learning opportunities.

The PEY Internship Program will be replaced by a new Professional Experience Co-op Program for students entering First Year in September 2020. The PEY Internship Program will be phased out by August 2023 when all students enrolled before September 2020 would have completed their 12-16 month work experience.

Details are provided in the attached proposal.

RECOMMENDATION FOR FACULTY COUNCIL

THAT the creation of the Professional Experience Co-op Program, as described in the major modification proposal attached to Report 3670 Revised, be approved effective September 2020.

University of Toronto Major Modification Proposal: Creation of the Professional Experience Co-op Program

Program Being Modified:	Professional Experience Year (PEY) Internship Program for nine undergraduate academic programs leading to the Bachelor of Applied Science in Engineering Science and the Bachelor of Applied Science in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Materials Engineering, Industrial Engineering, Mechanical Engineering, and Lassonde Mineral Engineering
Proposed Major Modification:	Restructure the PEY Internship Program to create the Professional Experience Co-op Program
Departments/Divisions:	Division of Engineering Science and Departments of Chemical Engineering & Applied Chemistry, Civil & Mineral Engineering, Electrical & Computer Engineering, Materials Science & Engineering, and Mechanical & Industrial Engineering
Faculty:	Applied Science & Engineering (FASE)
Dean's Office contact:	Caroline Ziegler, Faculty Governance & Programs Officer
Proponent:	Prof. Tom Coyle, Vice-Dean, Undergraduate
Version Date:	October 19, 2020

Summary

FASE has offered a 12-16 month Professional Experience Year Internship Program which undergraduate students could take as an optional part of their discipline program (e.g. chemical engineering, civil engineering, etc.) for more than forty years. Students taking the Professional Experience Year Internship Program would complete their undergraduate degree in five years as opposed to the regular four years; otherwise, the courses they would take and the degree they would earn are the same as those who do not participate in the program. Students would enrol in the Professional Experience Year Internship Program in the fall of their third year. During the fall and winter term students would be offered professional development workshops to prepare for the job application and interview process, while applying for positions and interviewing with companies. Students who were successful in obtaining a position would begin their 12-16 month work experience in the summer following third year.

The number of students participating in the program nearly doubled between 2010 and 2016, however the staff complement in the Engineering Career Centre (ECC) which administers the program did not change. By 2016, accumulated feedback from students and employers indicated that a thorough review of the program was needed. Consultation through a variety of forums regarding the ECC and the PEY Internship Program led to recommendations to restructure the ECC and the PEY Internship Program in order to meet student demand, better foster employer relationships, satisfy requirements for formal recognition as a co-operative education program and meet the Faculty's aspirations for enhanced experiential learning opportunities.

To accomplish those objectives, the Professional Experience Year Internship Program will be replaced by a new Professional Experience Co-op Program for students entering First Year in September 2020. The PEY Internship Program will be phased out by August 2023 when all students enrolled before September 2020 would have completed their 12-16 month work experience. The current PEY Internship fees will continue for students who enrolled prior to September 2020.

Applicants to the Faculty of Applied Science & Engineering (FASE) apply to one of nine undergraduate programs or the Track One First Year program through the OUAC application form. Applicants could indicate their interest in the new Professional Experience Co-op Program on the Engineering Applicant Portal or could indicate their interest at any time up to January of their second year directly to the Engineering Career Centre. Students who enter the Professional Experience Co-op Program will participate in required student development and career programming and would be able to participate in a recruitment cycle in the Winter Term of their second year for a four-month work experience the summer after second year, and a second recruitment cycle during their third year for the 12-16 month PEY work experience following their third year of study. Upon successful completion of the PEY, a notation will be recorded on the official university transcript.

Compared to the Professional Experience Year Internship Program, the new Professional Experience Co-op Program includes significantly expanded support for students during their work experience, new business development activities to increase the number and quality of work opportunities, and enhanced student development and career programming, made possible by the restructuring of the program staff and operations.

Academic Rationale

FASE has offered the Professional Experience Year Internship Program to its students since the 1970s. The paid internship of 12-16 consecutive months is typically taken between third and fourth years. Students who elect to participate in the Professional Experience Year Internship Program make industry contacts, gain valuable career skills, and obtain significant professional experience prior to graduation.

The Faculty's *2017-2022 FASE Academic Plan* includes as one of the goals in Chapter 3, Student Experience:

“Encourage all undergraduate students to participate in a significant co-curricular experience and enhance programs to further undergraduate professional development: increase the number and diversity of PEY internships, summer research internships and international experiences.”

Students today are seeking broader experiential education opportunities such as work terms and international experiences. Student demand has highlighted the need for multiple opportunities to develop and receive timely feedback on job search materials such as cover letters, resumes and interview skills along with enhanced industry networking opportunities. There have been steady increases in Professional Experience Year internship enrolment across all engineering programs, as shown in Table 1. This growth is also evident in participation rates of students from Faculties outside of FASE. All of this reflects the demand for and the importance of providing students with the opportunity to gain immersive, hands-on experiential learning.

Table 1: Growth of PEY work terms

Year	Engineering	Non-Engineering	Total
2010-2011	553	87	640
2011-2012	580	94	674
2012-2013	632	111	743
2013-2014	704	114	818
2014-2015	726	166	892
2015-2016	788	219	1007
2016-2017	734	270	1004
2017-2018	779	335	1114
2018-2019	853	361	1214
2019-2020	721	370	1091

For several years, stakeholders have expressed the need for improvements to the Professional Experience Year Internship experience. Students demanded better and more customized employment services. Employers advised that students needed to be better prepared to compete for co-op jobs.

In September 2017, following a self-study and decision to make the changes necessary for the program to be recognized as a co-op program, a new director was hired to review ECC operations. Discovery meetings and consultations ensued with department heads, faculty members, students and senior administrators from FASE. Recommendations were provided to the FASE Dean for consideration of program enhancements. The assessment examined current ECC student services, federal and provincial ministry requirements and comparable programming from Ontario universities that offered co-op programs. The major concerns are summarized in Table 2.

<i>Table 2: Stakeholder Concerns</i>		
Students	Employers	Best Co-op Practices
Support is generic and advice outdated	Students seem less prepared than co-op students from other schools	Site visit and support for students during work experience
Many jobs for some disciplines and few in other	Very capable on the job, but professional skills need improvement	Requirements for recognition as co-op program
Only one opportunity for work experience	Can be difficult to coordinate with staff	Lack of business development

To address the need to better prepare students for the recruitment process and the transition to the work environment, and therefore more fully benefit from the learning potential of the work experiences, the new Professional Experience Co-op Program is designed to provide progressive skills building in an experiential learning context. Students who choose to participate in the new program will be required to complete new student development and career programming. They will have an opportunity to participate in an application and interview process during the winter term of their second year for a 4-month work experience in the following summer, as well as the application and interview process in their third year for the 12-16 month work experience in the summer following third year. The process of preparing for the shorter duration work term delivers to a student an enhanced experiential learning preparatory experience. This is valuable in that it lends to the student building self-awareness, acquiring job search techniques and developing knowledge of the job market; all things that lend to enhanced decision making required to select jobs well and compete at a high level.

During the work experience students will remain in contact with the Professional Experience Co-op Program staff through direct outreach by a staff member to the student (a site visit when possible, otherwise a personal call), and on-line assessments and reflections. At the conclusion of the work experience students will submit a report describing their experience and reflections of the impact of that experience on their career plans.

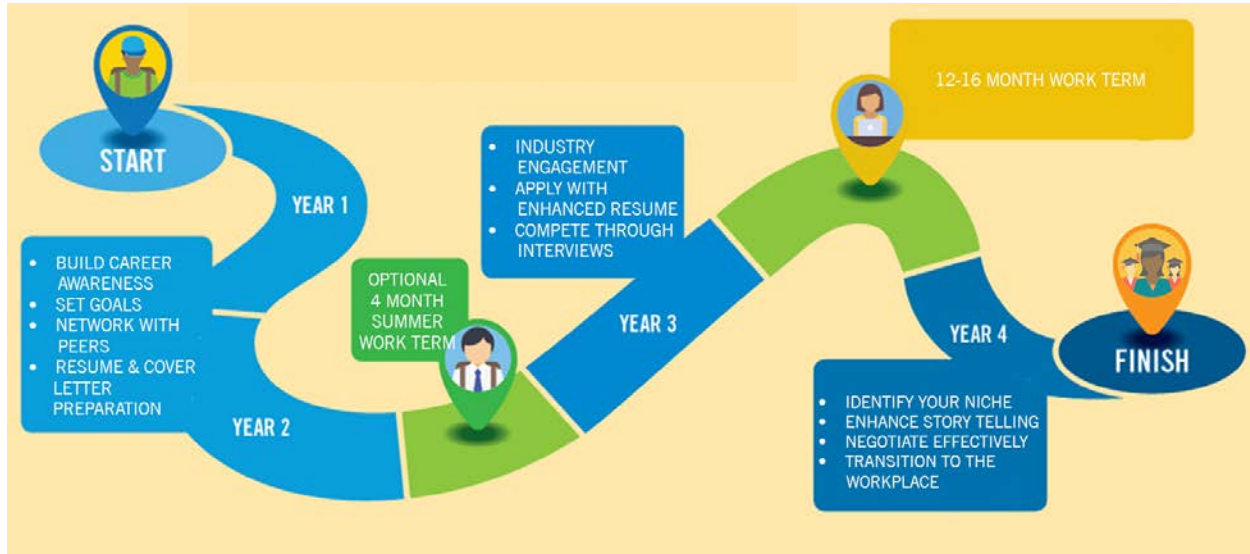
A new staffing structure, including upgraded job descriptions, will permit enhanced support of students during the application and interview process, and during the work experience. The new structure will include positions focused on development of a greater diversity of work opportunities for all engineering and related disciplines. Staffing levels will be sufficient to provide full support for both the 4-month summer work experience and the 12-16 month work experience.

Description of the Proposed Major Modification

The new Professional Experience Co-op Program is designed to provide progressive skills building in an experiential learning context. Applicants to FASE can indicate their interest in the new program on the Engineering Applicant Portal or could indicate their interest at any time up to January of their second year directly to the Engineering Career Centre. Students who have

indicated their interest will be introduced to the objectives, benefits, and requirement of the Professional Experience Co-op Program before they register for the program and begin the Student Development and Career Programming modules.

Figure 1: Professional Experience Co-op Roadmap

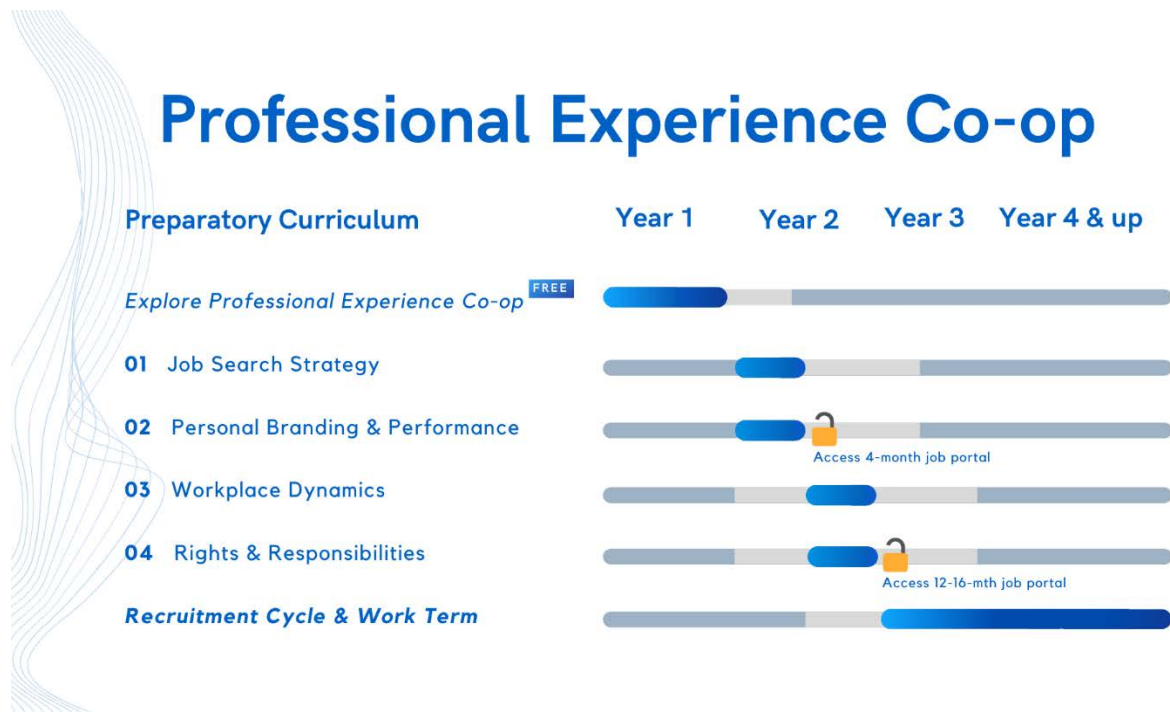


Student Development and Career Programming

Working closely with employers, students, alumni and engineering education experts at the Institute for Studies in Transdisciplinary Engineering Education & Practice (ISTEP) over the last three years, we have developed new Student Development and Career Programming that recognizes the need for both employers and students to participate in a dynamic co-op program that prepares students for success in the workplace and keeps pace with evolving industry needs. The programming is delivered through a combination of online content and in-person workshops and seminars, allowing students to work through the modules sequentially at their own pace.

To register for the Professional Experience Co-op Program, a student will need to engage in the preliminary Explore Professional Experience Co-op programming and complete the prerequisite pre-program self-reflection. By participating in the Explore Professional Experience Co-op programming, students will be able to: articulate the Professional Experience Co-op Program’s objectives, benefits of participating, requirements and fee structure; understand expectations for the program; identify resources to support them while navigating the program; identify their personal strengths and skills; and explore the different industries, career pathways, and opportunities available to them.

Figure 2: Professional Experience Co-op Preparatory Curriculum & Timeline



Once registered in their second year of study, students must complete Professional Experience Co-op Preparatory Modules 1 and 2. Module 1 will support students in their development of a professional network and gain a deeper understanding of the industries and opportunities available to them. Module 2 requires students to submit a cover letter, resume, and mock interview and receive personalized feedback on their recruitment documents and interview performance. Module 2 will also encourage students to recognize the necessary iterative nature of preparing for a recruitment process.

After completing Module 2, students will then achieve access to the four-month work-term recruitment cycle as better prepared and competitive candidates. Students can anticipate entering the four-month work-term recruitment cycle in the winter term of their second year of study. Success in obtaining a 4-month work experience is not required to continue in the Professional Experience Co-op Program, and therefore the 4-month work experience is described as optional.

Following completion of Module 2, students may access Module 3, Workplace Dynamics which includes the following important aspects of the workplace: Professionalism, Communication, Managing Expectations (of self and others), and Navigating Conflict. Module 4, Rights and Responsibilities provides students with information on the following issues: EDI and the workplace, Navigating discrimination and harassment, Expectations while on work-term. Completion of Module 4 unlocks access to the 12-16 month work experience job portal, and marks the beginning of that recruitment cycle.

Participation by University of Toronto students from divisions other than FASE

Access to the Professional Experience Co-op Program by students from divisions other than the Faculty of Applied Science and Engineering will be determined in future by mutual agreement between the Engineering Career Centre of FASE and the division or department in which the student is registered. Once registered in the Professional Experience Co-op Program, all students will have equal access to all facets of the Program. We anticipate that students from most divisions and departments whose students currently participate in the PEY Internship Program will continue to be able to do so.

A breakdown of the numbers of non-FASE students who have participated in the Professional Experience Year Internship program by campus and academic program is given in Table 3.

Table 3.1: Non-FASE students participating in the PEY Internship Program

Discipline	Campus	2019-2020		2018-2019		2017-2018	
		# of Students Registered for PEY Co-op	Work Terms Secured	# of Students Registered for PEY Co-op	Work Terms Secured	# of Students Registered for PEY Co-op	Work Terms Secured
Commerce	STG	17	2	26	6	42	13
Computer Science	STG	342	202	378	235	348	230
Mathematics	STG	19	5	13	4	8	2
Statistics	STG	31	16	10	5	11	3
Pharmaceutical Chemis	STG	10	2	5	3	13	4
Pharmacology	STG	12	6	9	2	19	3
Pharmacology & Toxic	STG	23	8	25	4	24	5
Other	STG	12	10	25	9	15	13
		466	251	491	268	480	273
Computer Science	UTM	122	76	110	72	68	45
Other	UTM	28	22	17	4	16	9
		150	98	127	76	84	54
Computer Science	UTSC	19	12	15	12	10	7
Machine Learning	UTSC	9	3	7	3	1	0
Other	UTSC	13	6	7	2	3	1
		41	21	29	17	14	8
TOTAL		657	370	647	361	578	335

Table 3.2: Non-FASE students participating in the PEY Internship Program, Other Disciplines

Other
Bioinformatics
Cognitive Science
Data Science
Ecology
Economics
Environmental Science
Health and Disease
History
Immunology
Philosophy
Physics
CCIT
Drama
Geographical Info Systems
Geography
Information Security

As is the case for FASE students, those entering first year in 2020 will be the first cohort to have access to the new program. It is understood that, due to the structure of academic programs in other divisions, those students may prefer to begin to participate in second year and may opt-in until January of their second year. Students currently enrolled from other divisions may continue to participate in the old PEY Internship Program.

Assessment of Student Performance

In accordance with University policy, students will be informed of the co-op evaluation process, including the assessment criteria and available appeal mechanisms, before they begin their co-op work terms and co-op assessors will be fully informed regarding University, divisional and course policies concerning evaluation procedures, including any specific assessment procedures. During the work term, as per the University Assessment and Grading Practices Policy, this assessment will include “a mid-way performance evaluation with feedback to the student and written documentation of the final assessment.”

In Career and Professional Programming

The career and professional programming will be delivered in the form of modules, including on-line and in-person delivery modes. The modules must be taken sequentially, with progress from one module to the next determined through a competency-based assessment approach. Specific deliverables are defined for each module, which will be reviewed and assessed by Professional Experience Co-op Program staff. Student feedback will be provided by staff and, when appropriate, alumni and industry professionals. All modules must be completed before students will be able to participate in the recruitment cycle for the 12-16 month work experience.

While on Work Term

Four forms of assessment will be used to evaluate the 12-16 month work term. These assessments expand on the existing assessments used in the PEY Internship Program. They comprise:

1. A new early self-reflection assignment during the first three months of the work term which encourages students to think about what they wish to achieve in the experiential learning exercise. They take this opportunity to contemplate their contributions in the workplace. The early self-reflection prepares students to communicate and express themselves during the work integrated learning exercise and throughout the work term. This assignment is submitted online and reviewed by Professional Experience Co-op Program staff.
2. A midterm evaluation that identifies issues at the midpoint of the work term so that they can be corrected. This assessment takes the form of an evaluation completed by the student's workplace supervisor on whether the student is meeting the employer's expectations related to quality of work, interpersonal and communication skills, initiative and dependability. Both the workplace supervisor and the student provide written comments about the work being done and anticipated outcomes of the work term. The evaluation is submitted online and reviewed by Professional Experience Co-op Program staff.
3. Professional Experience Co-op Program staff will engage each student in a personal one-on-one check-in during the PEY work experience. This will be accomplished by an on-site visit whenever possible. This important activity was not common practice in the former PEY Internship Program.
4. An end-of-term evaluation completed by the workplace supervisor and the student that summarizes the student's performance on 14 measures, including analytic abilities, judgment, quality of work and communication skills. The student also evaluates their overall experience with respect to the training, quality of work, and skill development that they received. The evaluation is submitted online and reviewed by Professional Experience Co-op Program staff.
5. An end-of-term report that outlines the student's major areas of responsibility and specific tasks that were performed during the internship. The student will then focus on one aspect of their work term, which may include their experiential learning, workplace dynamics, leadership development opportunities, a case study of one project they worked on, or some other unique aspect of their experience. This report will be graded as pass/fail by teaching assistants under the supervision of an academic advisor.

A subset of these assessments will be employed to evaluate the four-month work term.

1. An evaluation after the first four to six weeks of the work term that identifies issues so that they can be corrected. This assessment takes the form of an evaluation completed by the student's workplace supervisor on whether the student is meeting the employer's expectations related to quality of work, interpersonal and communication skills, initiative and dependability. Both the workplace supervisor and the student provide written

comments about the work being done and anticipated outcomes of the work term. The evaluation is submitted online and reviewed by Professional Experience Co-op Program staff, who will follow-up as necessary.

2. An end-of-term evaluation completed by the workplace supervisor and the student that summarizes the student's performance on 14 measures, including analytic abilities, judgment, quality of work and communication skills. The student also evaluates their overall experience with respect to the training, quality of work, and skill development that they received. The evaluation is submitted online and reviewed by Professional Experience Co-op Program staff.

Other Program Elements

As part of the implementation of the new Professional Experience Co-op Program the Engineering Career Centre will:

- Create a co-op advisory committee with representation from students, employers, and the university
- Develop a procedure to provide a publicly accessible annual financial summary
- Develop a procedure to provide a publicly accessible annual performance metrics report
- Establish a bursary and/or fee installment deferment program for students with demonstrated financial need which impedes their participation in the program

FASE Calendar Copy Notation

The PEY Internship Program is currently noted in the FASE calendar in several places:

1. As a general notation that introduces the program as an optional path for engineering students and provides general information, and
2. Embedded in each discipline program's description as a reminder that the PEY is available to students. The notation is identical for each discipline degree program.

Existing General Note:

PROFESSIONAL EXPERIENCE YEAR (PEY) INTERNSHIP PROGRAM

www.engineeringcareers.utoronto.ca

222 College Street, Suite 106

416-978-3881

pey@ecf.utoronto.ca

The Professional Experience Year (PEY) Internship Program offered through the Engineering Career Centre (ECC) allows students to apply their engineering knowledge to a 12-16 month project-based professional internship. The length of the internship offers students sufficient time to become involved in large-scale projects, build relationships with employers and reach professional milestones. Students who elect to participate in this optional program make industry contacts, gain valuable career skills and significant professional experience prior to graduation.

The PEY internship program is more than 30 years old and has earned an outstanding reputation in both academic and industry circles. The program offers students an exceptional education, a range of engineering related career paths to choose from and strong, established industry partnerships. It also provides a strong practical foundation for individuals interested in completing graduate studies.

Students from a wide range of faculties and departments—Engineering, Computer Science, Mathematics, Toxicology, Pharmaceutical Chemistry, Commerce, and other Arts & Science programs—have participated in PEY. Students register for the program in their second or third year of study and complete their internship during the following academic year. Almost 900 students are in work terms at over 280 companies for the current PEY 2014-2015 internship year. Some of our past out-of-province and international work term locations include Alberta, British Columbia, Newfoundland, Belgium, Chile, India, Japan, Taiwan, Switzerland, United States, China, Hong Kong, Finland, Singapore, UK and Indonesia. The average internship salary for 2013-2014 was \$46,200.

Proposed General Note:

PROFESSIONAL EXPERIENCE CO-OP PROGRAM

The Fields Institute
222 College Street, Suite 106
416-978-3881
416-978-6649

ask.ecc@utoronto.ca

www.engineeringcareers.utoronto.ca

The Professional Experience Co-op is a professional work integrated learning program in which students apply their engineering knowledge during a four month and a 12-16 month work term. It is offered through the Engineering Career Centre (ECC).

Applicants to the Faculty of Applied Science & Engineering apply to one of eight core discipline programs, the Track One First Year program, or the Engineering Science program through the OUAC application form. Applicants then indicate their interest in the Professional Experience Co-op Program on the Engineering Applicant Portal, or at any time up to January of their second year. Students who enter the Professional Experience Co-op Program will participate in required career preparation programming and may begin a four-month work term after their second year of study followed by the PEY 12-16 month work term after their third year of study. Successful completion of the program will be recorded on the official university transcript.

The length of the 12-16 month work term offers students sufficient time to become involved in large-scale projects, build relationships with employers and reach professional milestones. Students also make industry contacts and gain valuable career skills and significant professional experience prior to graduation.

The Professional Experience Co-op offers students an exceptional experiential learning opportunity and a range of engineering related career paths within established industry partnerships. It also provides a firm foundation for students interested in completing graduate studies, by enhancing their understanding of industry.

Students from divisions outside the Faculty of Applied Science & Engineering may participate in the Professional Experience Co-op Program as they have in the former PEY Internship Program. As is the case for FASE students, those entering first year in 2020 will be the first cohort to have access to the new program. It is understood that, due to the structure of academic programs in other divisions, those students may prefer to begin to participate in second year. Details on requirements are available in the calendar of students' home Divisions.

In 2017-2018, over 1,200 students successfully secured work terms in over 353 companies. Some of our past and current out-of-province and international work terms include Alberta, British Columbia, Newfoundland, United States, Peru, Barbados, Belgium, Netherlands, France, Hungary, Spain, Switzerland, Finland, United Kingdom, Qatar, United Arab Emirates, India, Japan, Malaysia, Mauritius, South Korea, Taiwan, China, Hong Kong and Singapore.

The current calendar copy has a PEY paragraph in each FASE program. These will be updated to describe the new Professional Experience Co-op Program.

Existing Discipline Program Note:

PROFESSIONAL EXPERIENCE YEAR

Students registered within this program, and all other undergraduate programs in the Faculty of Applied Science & Engineering, may elect to enroll in the Professional Experience Year Co-op (PEY Co-op). The PEY Co-op requires that qualified students undertake a paid, full-time 12-16 month continuous work period with a cooperating industry. Details are described in the beginning of this chapter. For more information, consult the Professional Experience Year Office, 45 Willcocks Street 2nd Floor early in session 2F or 3F.

Proposed Discipline Program Note:

PROFESSIONAL EXPERIENCE CO-OP

Students registered within this program, and all other undergraduate programs in the Faculty of Applied Science & Engineering, are eligible to register in the Professional Experience Co-op Program. Students complete required modules, an optional 4 month work term, and a required 12-16 month work term. Completion of these requirements will be recorded on the transcript. Details are described in the beginning of this chapter. For more information, consult the Engineering Career Centre (ECC).

Degree Level Expectations and CEAB Accreditation

The Canadian Engineering Accreditation Board's (CEAB) graduate attributes, listed below, are an integral component of the accreditation process, and apply to all FASE undergraduate programs.

1. Knowledge base for engineering
2. Problem analysis
3. Investigation
4. Design
5. Use of engineering tools
6. Individual and teamwork
7. Communication skills
8. Professionalism
9. Impact of engineering on society and the environment
10. Ethics and equity
11. Economics and project management
12. Life-long learning

The Faculty's Undergraduate Degree Level Expectations (UDLEs), described in Appendix A, are based upon these graduate attributes. They will not change because of the proposed modification. Although the experiential learning component will be higher for students who choose to participate in the Professional Experience Co-op Program, for over 50 years FASE has required 600 hours of engineering professional work experience before graduation as part of its recognition of engineering as an applied science.

All nine of our undergraduate programs were accredited for the maximum period (six years) as a result of our last CEAB accreditation review in 2018. The CEAB has been informed of this proposal and has provided assurances that they will not view this change as the creation of new engineering programs, requiring separate accreditation.

Impact of the Change on Students

Students entering first year in 2020 in FASE or any other division will be the first cohort to have access to the new Professional Experience Co-op Program. There will be no impact on students currently registered in undergraduate programs from divisions who currently participate in the PEY Internship Program, whether they choose to participate in the PEY Internship Program or not.

Consistent with current PEY Internship Program rules, students participating in the new Professional Experience Co-op Program:

- May opt out of the Professional Experience Co-op Program any time participating in the program before their 12-16 month PEY work term.
- Must be in *Proceed on Probation* or *Clear* standing to apply for a work term.

- Will automatically be considered to have opted-out of the Professional Experience Co-op Program if they are not successful in obtaining a 12-16 month work term and will continue in the non-coop offering (or stream?) of their academic degree program.
- May take academic courses credit during their work term only with the knowledge and written approval of their employer.

Consultation

Consultations include the following:

<i>Table 4: Scheduled Stakeholder Consultations</i>	
Group	Date
FASE Undergraduate Curriculum Committee	Sep 2017, Sep 2020
FASE Council (discussion)	Oct 2017 & Feb 2020
FASE Engineering Society Executive	Nov 2017, Aug & Oct 2019, Jan, Mar, July & Aug 2020
Offices of the Vice-Provost, Academic Programs and Planning & Budget	Jan & Mar 2020
FASE Chairs and Directors	Jan & Mar 2020
FAS Dean's Office	Feb 2018, Feb 2019, Nov 2019 & Mar 2020
FAS Department of Computer Science	Aug 2018, Dec 2019, Mar & Aug 2020
UTM Department of Mathematical & Computational Sciences, Vice Dean Academic and Experiential Learning Office	Mar & Aug 2020
Rotman Commerce	Aug 2020

Two Program Consultations (ideation) sessions in October and December 2019 with the following stakeholders:

- Students (Engineering Society representatives, PEY Co-op Peer Mentorship Program participants);
- The Department of Alumni and Advancement;
- The Troost Institute for Leadership Education in Engineering;
- The First Year Office;
- ISTEP;
- Engineering Communication Program;
- Engineering Departmental Academic Advisors and Student Life Liaisons;
- Engineering Strategic Communications;

- PEY Co-op alumni;
- The Division of Student Life’s Career Exploration and Education Unit;
- The Faculty of Arts and Science.

Resources

To deliver the additional four-month summer work term, more extensive student outreach and support during the 12-16 month work term, the increased focus on development of employment opportunities for underserved disciplines, the development and delivery of the enhanced career and professional development programming, and other changes designed to address the shortcomings identified during the extended consultation process require restructuring and expansion of the ECC staff complement.

Historical enrollment numbers have been used to establish the number and type of staff required to deliver co-op education services through the Professional Experience Co-op program. Future projections have been based on analyses of ratios of students to staff in a manner that recognizes the number of staff hours required. (see Appendix B)

The current PEY Internship Program model lacks the student preparation, business development, international strategy and work term support and evaluation administration found not only in the new Professional Experience Co-op program design, but also in all other co-op program offerings at Ontario universities. The current model focuses on the recruitment cycle activity; job postings; arranging interviews; hosting employers; employer engagement; and activities conducted in a recruitment cycle. See Appendix C for a detailed comparison of the new Professional Experience Co-op program with the Professional Experience Year Internship Program. The staff compliment will grow in phases, linked to revenue. Projection of staff hiring for program delivery:

<i>Table 5: Projection of Staff Hiring for Program Delivery</i>					
Role	2020-21	2021-22	2022-23	2023-24	Current Staff
Leadership and support					
Executive Director	1	1	1	1	1
EA	1	1	1	1	1
Subtotal	2	2	2	2	2
Recruitment Cycle + Work Term					
Director	1	1	1	1	0
Assistant Director		1	1	1	0

Co-op Coordinator	8	8	8	10	7
International Coordinator			1	2	0
Business Development	2	2	2	2	0
Subtotal	11	12	13	16	7
Operations and Enrollment					
Manager	1	1	1	1	0
Admin support	3	5	5	5	3
Data and Reporting Analyst			1	1	0
Events Coordinator	1	1	1	1	1
Subtotal	5	7	8	8	4
Student Develop & Preparation					
Director	1	1	1	1	1
SDCP Coordinator	6	6	6	6	2
Subtotal	7	7	7	7	3
TOTAL FTE	25	28	30	33	16

A high-level budget projection for those staffing levels:

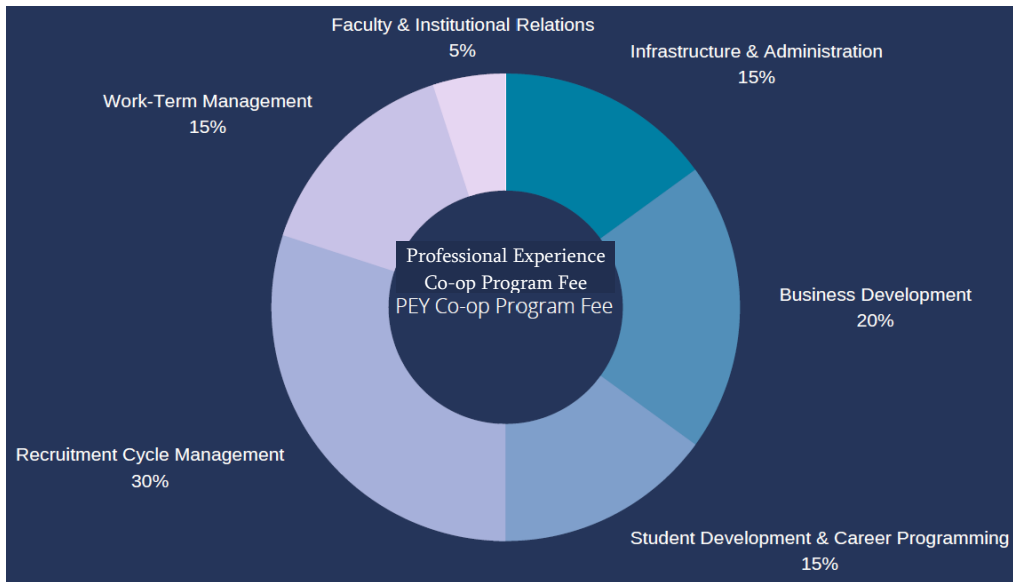
Table 6: Budget Projection for Staffing Levels

Budget Forecast					
	FTE	25	28	30	33
Budget Category	Avg \$ / FTE	Fiscal 2020-2021	Fiscal 2021-2022	Fiscal 2022-2023	Fiscal 2023-2024+ (Steady State)
Salaries - Permanent Staff	75,000.00	1,875,000.00	2,100,000.00	2,250,000.00	2,475,000.00
Benefits	18,750.00	468,750.00	525,000.00	562,500.00	618,750.00
Subtotal Permanent Staff		\$ 2,343,750.00	\$ 2,625,000.00	\$ 2,812,500.00	\$ 3,093,750.00
Salaries - Temporary Staff		100,000.00	100,000.00	100,000.00	100,000.00
Subtotal Salaries & Benefits		\$ 2,443,750.00	\$ 2,725,000.00	\$ 2,912,500.00	\$ 3,193,750.00
Occupancy Services	6,000.00	150,000.00	168,000.00	180,000.00	198,000.00
Equipment & Maintenance	3,000.00	75,000.00	84,000.00	90,000.00	99,000.00
Software	2,500.00	62,500.00	70,000.00	75,000.00	82,500.00
Voice & Data Communication	1,500.00	37,500.00	42,000.00	45,000.00	49,500.00
Supplies & Services	1,000.00	25,000.00	28,000.00	30,000.00	33,000.00
Staff Training	1,600.00	40,000.00	44,800.00	48,000.00	52,800.00
Travel	3,600.00	90,000.00	100,800.00	108,000.00	118,800.00
Subtotal Staff Related Service Delivery Expenses		\$ 480,000.00	\$ 537,600.00	\$ 576,000.00	\$ 633,600.00
Event Marketing & Publications		35,000.00	45,000.00	55,000.00	65,000.00
Specialized Services (Guest Speakers, Venue Rental, Catering, etc.)		90,000.00	130,000.00	130,000.00	130,000.00
Other (Gifts, Hospitality Etc.)		60,000.00	75,000.00	75,000.00	75,000.00
Subtotal Student Service Expenses		185,000.00	250,000.00	260,000.00	270,000.00
Total Expenses		\$ 3,108,750.00	\$ 3,512,600.00	\$ 3,748,500.00	\$ 4,097,350.00
Expense Overhead		20.48%	20.48%	20.48%	20.48%

Analyses of the required staff levels based on historical performance data, assessment of the operational functions, staff salary modeling and projections of student participation rates have led to the estimation of a program fee of \$3,600 per student in 2020-2021. This fee, adjusted as needed to account for inflation and other changes in the cost structure, would assure a full cost recovery for the Professional Experience Co-op Program. See Appendix B for a detailed analysis. A categorical breakdown of the program costs is shown below.

The total program fee will be paid in a series of 6 installments: Fall and Winter terms of a student's second year, Fall and Winter terms of a student's third year, and the Fall and Winter terms of the 12-16 month work experience. Students who register late will need to make-up outstanding installment payments before receiving access to the job portal for the 4-month work experience.

Figure 3: Professional Experience Co-op Program Fee Distribution



We have benchmarked the proposed services and supports and the associated fee with co-op programs offered by other engineering faculties in Ontario, using data available online. As shown below, the new Professional Experience Co-op Program is well in line with these other programs.

Table 7: Ontario Co-op Program Fees and Staffing

2019 Ontario Co-op Program Fees and Staffing							
School	Program	Work term (WT) duration	# of work terms	total # of 4-month WT	Fees structure	Total Fees	# of staff
UTSC	Arts, Science, Manage't Co-op	4,8 or 12 months	2 or 3	1500	\$586 X 8 (Dom) and \$778 X 8 (Int'l)	Domestic:\$4688 Int'l: \$6224	49 (A&S: 32 Mgt: 17)
U of Waterloo	Engineering Co-op	4 months	5 to 6	7500	\$729 per academic term	\$5,832	~50 Eng (153 all co-op)
U of Ottawa	Engineering Co-op	4, 8 or 12 months	5	1000 (all co-op)	\$795 over 5 terms	\$3,975	32
Carleton U	Engineering Co-op	12 - 16 months	4		\$410 Admin (4x) \$410 WT Fee (4x)	\$3,280	22
McMaster U	Engineering Co-op	4, 8, 12 or 16 months	3 to 4	2091	payments made over 5 years	\$1,700	17
McMaster U	Science Co-op	4, 8, 12 or 16 months	3 to 4		3 x \$150 Admin fee plus work term fees	\$3,050	9
Ryerson U	Engineering and Comp Sci	4, 8, 12 or 16 months	5	800	equal installments	\$3,500	10

FASE (current)	ESIP	4	1	50	\$400	\$400	0
FASE (current)	PEY	12 to 16 months	3 to 4	4000	\$1100	\$1100	10
FASE (proposed)	PE Co-op (Engineering and elated)	4, 12, or 16 months	3 to 5	5000	\$450 X 4 + \$900 X 2	\$3600	33

The creation of the Professional Experience Co-op Program may result in small resource implications for the FASE Registrar’s Office, and Engineering Recruitment Office (RCO). More emphasis will be placed on explaining the Professional Experience Co-op Program during the recruitment process so that incoming students will be fully informed of the opportunities, requirements and fees associated with the new program.

For students in the Professional Experience Co-op Program, co-op fees are in addition to tuition and incidental fees. Co-op fees relate to costs associated with the administration of work terms and are calculated in accordance with the Ministry of Colleges and Universities, and University of Toronto policies. The costs recovered through the fees are:

- Salaries and benefits of that portion of each professional and administrative staff position directly related to the provision of placement services and work-term activity (includes obtaining job postings, preparation of students for the work term experience, monitoring work term activity, and debriefing students and employers following the work term).
- Non-salary expenditures attributable to the provision of recruitment services and work-term activities including travel, telephone, mailing/postage, printing, photocopying, publicity, computing, equipment and furnishing, supplies and expenses, and external meetings.
- Maintenance costs, including costs of utilities, custodial service and security of the space used for administrative and professional co-op staff and interviewing or meeting rooms used during the recruitment cycle.

UTQAP Process

<i>Table 8: UTQAP Process</i>	
Step	Date
Development/consultation within PEY Unit	Jan-Feb 2020
Consultation with FASE Dean’s Office and Office of the Vice-Provost, Academic Policy and Planning & Budget	Mar 2020
Provostial Offices Sign-off	Sep 25, 2020
Approval of FASE Faculty Council	Oct 23, 2020
Submission to Provost’s Office	Oct 2020
Reported to Committee on Academic Policy & Programs (AP&P)	Jul 2021
Reported to Ontario Quality Council	Jul 2021

Additional Aspects Implementation

Appendix A: Current Learning Outcomes and Degree Level Expectations

The degree level expectations for graduates receiving the degree of Bachelor of Applied Science or Bachelor of Applied Science in Engineering Science will not change and will be applied to the Professional Experience Co-op Program.

Degree Level Expectations for Graduates Receiving the: Degree of Bachelor of Applied Science and Bachelor of Applied Science in Engineering Science

Faculty of Applied Science & Engineering
University of Toronto

A1. Degree Learning Objectives and Requirements

A1.1 Overall Learning Objectives

The Faculty of Applied Science & Engineering aims to provide all of its undergraduate students with an education that will allow them to be leaders in society in developing solutions to its most pressing problems. Our graduates will be able and inspired to:

- be leading practitioners of engineering and engineering design
- be known for their technical literacy as well as their knowledge of mathematics and the basic sciences and the role of technology in society
- be able to formulate and solve problems in complex systems independently and in teams
- pursue independent lifelong learning within their field of study and more broadly
- be prepared for careers, including graduate programs, that build upon their advanced technical knowledge
- participate meaningfully as leaders in society

In order to achieve this, each graduate will have achieved the following general learning objectives:

- a. Depth of knowledge that cultivates critical understanding and intellectual rigour in at least one engineering discipline.
- b. Competencies in learning and applying knowledge to solve problems facing society and that are fundamental to responsible and effective participation in the workplace, in the community, in scholarly activity, and in personal life:
 - i. Critical and Creative Thinking
 - ii. Oral and Written Communication
 - iii. Quantitative Reasoning
 - iv. Teamwork
 - v. Information Literacy
 - vi. Ethical Thinking and Decision-Making

- c. Breadth of knowledge across mathematics, basic sciences, engineering sciences, engineering economics and engineering design that cut across the engineering disciplines and across a range of nontechnical areas including the humanities and social sciences and an awareness of the impact of technology on society.
- d. Integration of skills and knowledge developed in a student's course of study through a capstone experience in the upper years.

A1.2 Requirements to Graduate

To graduate with a B.A.Sc. degree, each student in the Faculty of Applied Science & Engineering will have completed a full undergraduate program as outlined in the Faculty Calendar within nine calendar years of first registration, exclusive of mandatory absences from his/her program. Current programs include: Chemical, Civil, Computer, Electrical, Industrial, Mineral, Materials and Mechanical Engineering.

The practice of engineering is regulated, by statute, in all Canadian provinces and territories. To become a Professional Engineer, an individual must satisfy the requirements of the licensing bodies.

These requirements include a degree from an accredited program, successful completion of a professional practice examination in engineering law and ethics, and suitable experience. At present, all programs in the Faculty of Applied Science & Engineering are accredited and evaluated regularly by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers. Therefore, graduation from the Faculty may lead to registration in the provincial Associations of Professional Engineers, in accordance with individual policies. No student will be permitted to graduate who does not meet these requirements.

The criteria set out by the CEAB are designed to ensure that each graduate has a foundation in Mathematics and Basic Sciences, a broad preparation in Engineering Sciences and Engineering Design and an exposure to non-technical subject (Complementary Studies) that complement the technical aspects of the curriculum. Basic Sciences must include physics and chemistry and also may include elements of life sciences and earth sciences; they impart an understanding of natural phenomena. Engineering Sciences normally involve mathematics and Basic Sciences but carry knowledge further to creative applications. Complementary studies include the humanities, social sciences, arts, management, engineering economics and communication skills.

Each program in the Faculty consists of a technical component and complementary studies component. The curriculum for students in their early years forms a basis in the fundamental subjects prior to subsequent specialization in the various engineering disciplines. Students are able to choose from a range of technical electives in their senior years. In the senior years, all programs contain a Capstone experience through a design project, which integrates

their skills and knowledge and provide students with the opportunity to carry out original work in their chosen fields of study.

There are a set of common requirements, described below, that cut across all programs in the following categories: Coursework; Promotion; English Proficiency; and Practical Experience. In this context, a course is defined as one half-course equivalent, which may consist of a half course (“S”, “F” or “H”) or half of a full-year “Y” course.

1. **Coursework:** Each program will have courses that provide the following:
 - a. Complementary Studies Electives
 - b. A basic knowledge of Engineering Economics
 - c. Technical Electives
 - d. Courses with substantial design content in Years 1, 2 and/or 3
 - e. Capstone course(s) in Years 3 and/or 4 with strong integrative, design and independent work elements
 - f. Across all four years, programs will provide sufficient opportunities for the development of professional awareness and practice.

2. **Promotion:** All undergraduate programs will consist of eight Fall and Winter Sessions taken in order.
 - a. To gain credit for a session a student must:
 - i. satisfy the academic regulations to proceed to the succeeding session as described in the calendar and
 - ii. not be subsequently required to repeat the session for which credit is to be gained, and
 - iii. achieve a course mark of 50% or greater in every course taken as part of the academic load in a session, and
 - iv. not have any outstanding designations of ‘standing deferred’, ‘incomplete’ or ‘No Grade Available’ for any course in any session.
 - b. To be eligible to graduate, each student must attain a weighted Session Average of 60% or greater in the final session of their program. Any student who does not achieve a weighted Session Average of 60% in their final session (4W), but has attained a weighted Session Average that allows them to proceed to the next session on probation, shall repeat the final session and achieve a weighted Session Average of 60% or greater to graduate.

3. **English Proficiency:** Each student must show an ability to write English coherently and correctly. Every student will also take at least one course that includes a written communication component within their curriculum. Satisfactory completion of the course or courses is required for graduation.
4. **Practical Experience:** The Faculty requires that all students complete a minimum of 600 hours of practical work before graduation.

A2. Degree Level Expectations for the Bachelor of Applied Science

A2.1 Depth and Breadth of Knowledge

The Faculty ensures that a student has mastered a body of knowledge with appropriate depth by requiring that each student completes the requirements of one of the degree Programs of Study (POSt) as described in the Faculty Calendar. The curriculum for students in First Year forms a common basis in the fundamental subjects, including the natural sciences and mathematics, prior to a subsequent specialization in the various engineering disciplines. Each program consists of a technical component and a complementary studies component.

Critical analysis and thinking and analytical skills are emphasized through the student's exposure to an increasingly sophisticated understanding of their program of study. Specialization within the discipline is developed through technical electives taken in the 3rd and 4th years of study. A detailed knowledge of and experience in design is ensured through the Design Course requirements, beginning with courses in the first three years as well as the Capstone course(s) in each program. Opportunity to further develop these skills is provided through a research thesis that is available in most POSts.

The Faculty assures that students have breadth of knowledge in a number of ways. Breadth across engineering is assured through a First Year of study that prepares a student for any of the programs of study. Breadth beyond engineering is developed through the Complementary Studies Electives as well as the Engineering Economics requirement.

A2.2 Knowledge of Methodologies

Every POSt has requirements which demonstrates a student's understanding of the methods of engineering design. Students in all engineering programs must successfully complete courses with substantial design in their first three years and a Capstone design course in their senior years. These courses require students to evaluate the appropriateness of various approaches to analyze and solve the design problem and also to devise and sustain arguments for their design.

In most POSts, students have the opportunity to participate in a research thesis course that familiarizes them with the specific methodologies currently in use in the development of knowledge in their discipline.

A2.3 Application of Knowledge

The application of science and mathematics to solve problems is fundamental to all programs in Engineering and therefore is required in many of the courses within all POST. A minimum level of instruction in Engineering Science and Engineering Design is required, both of which directly involve the application of knowledge.

A2.4 Communication Skills

The Faculty requires students to communicate information, arguments and analysis accurately and reliably, orally and in writing, to specialist and non-specialist audiences. The requirement for courses with substantial engineering design that are required across all programs require a series of technical reports and presentations with direct involvement with our Engineering Communication Program. In addition, our Capstone Design Courses and research theses all involve a written report and most involve oral presentations. The course requirements for instruction in Complementary Studies also adds to the education our students receive in communication skills. Also, the English Proficiency requirement insures a minimum level of writing ability for all graduates.

A2.5 Awareness of Limits of Knowledge

Each POST develops, through a sequence of courses starting at the 100-series or 200-series and culminating at the 300-series or 400-series or 500-series of courses, an understanding of a discipline as it is currently appreciated by educators who are at the same time involved in original scholarship in the subject area. The course content at the upper series level is designed, in part, to provide students with an appreciation of the uncertainties, ambiguities and limitations of knowledge in the specific area.

A2.6 Autonomy and Professional Capacity

The development of an awareness and understanding of professional practice is required for all POST. The required design courses require students to work in teams and also accept responsibility for their own contributions. Students are required to make their own decisions for their own learning through selection of their technical and nontechnical electives. Finally, in completing their course requirements, the Faculty expects strict adherence by students to the Code of Behaviour on Academic Matters, which requires students to not tolerate or encourage the creation of an environment of cheating, misrepresentation or unfairness.

A2.7 Other Degree Level Expectations

The Faculty requires all students to have developed competency in several areas of learning and applying knowledge not identified explicitly in the previous sections. In particular, the Faculty requires students to have developed competencies in quantitative reasoning and in information literacy.

Quantitative reasoning is considered the ability to identify, assemble and interpret quantitative information and make and test hypotheses based on such data. Development of this competency is an explicit part of all POSTs offered by the Faculty.

The Faculty requires all students to develop an advanced understanding of how to obtain information, manipulate and evaluate it and bring diverse sources together to develop a comprehensive understanding of specific issues, solve problems or apply the scientific method to create further knowledge in the discipline. These advanced information literacy skills are developed through the studies in their concentration(s) and are demonstrated in the advanced courses required in each POST.

Appendix B: Key Metrics and Performance Planning Data Points

Table 9: Key Metrics during Recruitment Cycles 2017-2018 through 2019-2020

CRITERIA	2017-2018 Recruitment			2018-2019 Recruitment			2019-2020 Recruitment		
	PEY Internship	ESIP	TOTAL/ AVG	PEY Internship	ESIP	TOTAL/ AVG	PEY Internship	ESIP	TOTAL/ AVG
# of registered students	1603	418	2021	1678	375	2053	1510	532	2042
# of job postings	1563	252	1815	1839	256	2095	1955	384	2339
# of open positions	2370	505	2875	2590	418	3008	3014	650	3664
# of companies who posted jobs	408	106	514	495	101	596	498	124	622
# of companies who hired	258	39	297	368	30	398	357	41	398
# of applications (total)	55137	3691	58828	57955	2787	60742	40701	6869	47570
# of applications per student (range)	1-346	1-99		1-495	1-146		1-432	1-240	
# of applications per student (average)	68	18	43	70	17	44	25	17	21
# of interview schedules*	614	73	687	620	20	640	596	37	633
# of students interviewed (total)**	3931	453	4384	3558	68	3626	2926	152	3078
# of interviews per students (range)	1-23	1-11		1-19	1-3		1-25	1-4	
# of interviews per students (average)	7	3	5	6	2	4	6	2	4
# of work terms	1114	51	1165	1214	39	1253	1091	69	1160

Appendix C: Detailed Staffing, Budget, and Fee Model

Table 10: Detailed Staffing, Budget, and Fee Model

Position	#	Duties	Coordinator Metrics (Individual Staffer)	Annual Numbers	Hours
Executive Director	1	Strategic Leadership for department			
		SDCP, Co-op, Internal & External Stakeholder relations, Budget, Executive Business Development, Program Expansion, Fundraising, University Representation	Cost Recovery Administration, Enrollment Management, Student & Employer Satisfaction		
Executive Assistant	1	Support Management Team, Calendaring, Reporting, Supplies, Bookings, Facilities			
Director, PE Co-op	1	Management and Operations for PE Co-op	# 4-month Work Term Success Yield	1000	
		Student & Employer Recruitment Cycles, Business development, International co-ops, Graduate Student Internships, Outreach, Market Research, Faculty Engagement	# 12-16 month Work Terms	1500	
Assistant Director, PE Co-op	1	Management of Co-op Coordinator team of 10+			
		Student Health and Safety, Work Term (WT) Engagement, Evaluations, Site Visits, Student Cases, Contracts, Accessibility			
Co-op Coordinator	10	Recruitment Cycle (RC) and Work Term Operations	# Co-op Positions	400	400
		Student Consults, Employer Engagement, Postings, Interviews, Offers, Negotiations	# Interviews	500	250
			# Companies	50	400
		* Expectations of Coordinator exceed ratios. There is a need for 3-4 more roles not included to keep costs to a minimum.	# PE Co-op Work Terms - OR -	100	200
			# 4-month Work Terms	200	
			# Student meetings (RC)	200	200
			# Work Term Site Visits	100	200
International Co-op Coordinator	2	International Outreach, Recruitment Cycle and Work Term Operations	# Co-op Positions	100	100

		Student Consults, Employer Engagement, Postings, Interviews, Offers, Negotiations, Safety Abroad Admin, International Visas & Contracts	# Interviews	100	200
			# Companies	50	600
			# PE Co-op Work Terms - OR -	25	200
			# 4-month Work Terms	50	
			# Student meetings (RC)	100	300
			# Visas and Contracts	25 - 50	250
Business Development Officer	2	New Business Opportunities and Co-op Jobs	# Companies with established communication	200 - 300	1000
		Market Research, Develop Business Strategy for Academic Department need, Marketing, New Lead Development, Industry Engagement and Presence	# New Companies Posting	50	500
			# New Jobs	100	200
Director, SDCP	1	Full Management and Operations for Preparatory Programming Portfolio	# 1st Year Students engaged	1000 - 1500	
		Deliver Preparatory Program to Scale, Stakeholder Engagement: Communities of Alumni, Industry, Students, Academic Departments	# 2nd Year Students engaged	1500	
SDCP Coordinators	6	Preparatory Program Development, Design and Delivery for all Enrolled Students; Student Advising, Coordinate Expert-led PD	# Community Stakeholders engaged	20	400
			# 1:1 Student meeting + Feedback	250	500
			# Industry Tours	12	300
			# Workshops arranged	TBD for 2021-2022	500
Director, Operations	1	Registration and Enrollment, Facilities, Budget Tracking, Vendor Relations, Database, Forecasting, Reporting, Data Management			
Administrative Support Staff	5	Co-op Coordinator Admin Support	Function as team to carry out all operation tasks in support of SDCP, RC, Room Bookings, On-Site	# Registered students - 4500	1000

		SDCP Coordinator Admin Support	Interview Coordination, Supplies, Workshops, Catering	# Jobs posted - 5000	1500
		Operations Admin Support		# Applications - 100,000	1500
		Front Reception and Stakeholder Welcome		# Interviews - 5000	2000
				# WT Records - 2500	2500
				# Evaluation - 7000	1000
				# Site Visits - 1000	1000
Data Analyst	1	Data Assessment and Reporting			
		Analyse Industry Trends; Assess Market Data and Hiring Saturation Points; Produce Reports for Stakeholders, Term and Annual Reporting			
Stakeholder and Events Coordinator	1	Employer Recognition Events, Info Sessions, Industry On-Campus Branding Activities, New Employer Engagement, Website	# Info Sessions	44	500
		Industrial Tours and Events	# Industry Tours & External Events	20	400
		Returning Student Conference	# Stakeholder engaged	300	600
			# Internal Events		
			Website + Publications		200
		Average	Total		
Salaries	33	\$80,000			\$2,640,000
Benefits	33	25% = \$20,000			\$660,000
Contract and Temporary Staff	2				\$100,000
Total Salary Expenditure		\$106,250			\$3,400,000

Per Capita Staff Non-Salary Expenditure		Occupancy Services, Equipment and Maintenance, Software, Voice & Data, Office Supplies, Training and PD, Travel	\$733,600		
Departmental Non-Salary Expenditure		Marketing & Publications, Honoraria, Venue Rental, Catering, Hospitality & Vendor Costs	\$170,000		
TOTAL salary + Non-Salary			\$4,303,600		
Fees (assuming 6 equal installments)		Fee Model Includes: First Year students do not pay fees; 2 installments per year; 6 equal installments; attrition of 5% - 5% - 25% (progressively across years 1 to 3)			
	Number of Students in First Year:	1400			
		Six Equal Installments of:	Total Fees Collected		
		\$500	\$3,541,125		
		\$600	\$4,249,350		
		\$700	\$4,957,575		
	Number of Students in First Year:	1500		Example of attrition	
		Six Equal Installments of:	Total Fees Collected	1500	Year 1
		\$500	\$3,794,063	1425	Year 2
		\$600	\$4,552,875	1354	Year 3
		\$700	\$5,311,688	1015	Work Term
	Number of Students in First Year:	1600			

		Six Equal Installments of:	Total Fees Collected		
		\$500	\$4,047,000		
		\$600	\$4,856,400		
		\$700	\$5,665,800		

Appendix D: Comparison of Professional Experience Co-op Program with Professional Experience Year Internship Program

Life Cycle of a Co-op Work Opportunity

There are many behind the scenes tasks involved in achieving a successful PEY work experience outcome for both the student and employer. Below is an attempt to describe in some detail the sequence of tasks required.

1. Market research to identify desirable sectors and companies to target for new work opportunities, especially for disciplines with fewer than two work opportunities for each student
2. Develop marketing and communication strategy which includes print and electronic media
3. Implement a business development process which takes identified leads through to the sourcing of job postings
4. Administer recruitment cycle
 - Vet and post job, respond to student questions, take in applications
 - Submit application pack to employer, employer follow up, schedule interviews
 - Host interviews (room booking, provide employers with parking information, etc.), follow-up with employer
 - Identify candidates to receive offers, administer offers (support for both student and employer during negotiating and securing the work term)
5. International student work permit administration
6. International work term admin: Safety Abroad, work visa, health insurance
7. Work term administration once job is secured
 - Creation of work term record
 - Tax credit administration
8. Work Term Evaluation tool administration (Qualtrics) – accurate student and employer contact info required, numerous amendments as students change work term details
9. In person site visit/skype/phone - student and employer
10. Post work term admin - final work term reports, marking and administering grades with registrar's office

The tasks could all be assigned to a single role or distributed among several roles. In designing the staff structure and workflow, the objective is to make the most efficient use of the staff by assigning tasks requiring specialized skills to staff with those qualifications, and identifying those tasks that can be handled by administrative staff members.

Prior to 2018, many of the tasks listed above were not assigned to any staff members (see *Comparison Tables*). The two PEY Internship Coordinators and three PEY Program Administrators attempted to accomplish tasks 4-7 and 10 but lacked the capacity to satisfactorily meet stakeholder expectations (see the analysis of a time tracking exercise by a PEY Program Administrator, *2017 Internship Administrator time tracking*). In our new staffing structure (see

Comparison Tables), Tasks 1-3 would primarily be the responsibility of the Business Development staff. Most of these tasks (4-9) are overseen by the Co-op Coordinator, however to the extent administrative tasks can be delegated to other staff, opportunity is created for more of the Coordinator's time to be used for one-on-one student meetings.

Employer Relations Activities and Staff Complements

Table 11: Comparison between PEY Internship Program (Prior to 2018) and Professional Experience Co-op Program (2020 and After), Employer Relations and Staff Complements

PEY Internship Program (Prior to 2018)	Comparator	Professional Experience Co-op Program (2020 and After)
	Market Research & Business Development	<ul style="list-style-type: none"> • Dedicated business development staff positions • Develop employment opportunities for all academic areas • Hand off leads to Co-op Coordinators
<i>ESIP was not specifically allocated staff time to support</i>	Manage and Administer 4-month Work Experience Recruitment Cycle	<ul style="list-style-type: none"> • Co-op Coordinators supported by administrative staff Job vetting and posting, applications, shortlisting, interviews, offers, contracts
<ul style="list-style-type: none"> • Internship Coordinators supported by Program Administrators: Job vetting and posting, applications, shortlisting, interviews, offers, contracts 	Manage and Administer PEY Work Experience Recruitment Cycle	<ul style="list-style-type: none"> • Co-op Coordinators supported by administrative staff: Job vetting and posting, applications, shortlisting, interviews, offers, contracts
	Employer Support During Work Term	<ul style="list-style-type: none"> • Online work term evaluation tool (Qualtrics) • Work term site visits • Accommodations and employer support for Accessibility considerations • Contract amendments
	Industry Partner Recognition and Stewardship	<ul style="list-style-type: none"> • Stakeholder relationship maintenance • Awards and recognition • Industry partner stewardship • Employer engagement

<ul style="list-style-type: none"> • 2011-2012: 1000 • 2013-2014: 1200 • 2016-2017: 1500 • 2020-2021: 1750 	Number of Students Registering for PEY Recruitment Cycle	<ul style="list-style-type: none"> • Projected 2022-2023: 1900 assumes 90% of FASE students participate, and number of non-FASE students continues to increase at current rate
<ul style="list-style-type: none"> • Historical complement: 1 Director 1 Assistant Director 2 PEY Internship Coordinators 3 PEY Program Administrators 2 Career Counsellors 	Staff Complement (see <i>documents</i>)	<ul style="list-style-type: none"> • Projected steady state complement after 2024: 1 Executive Director 4 Management Staff 1 Executive Assistant 5 Office Administrative Support Staff 10 Co-op Coordinators 2 International Co-op Coordinators 2 Business Development Staff 6 SDCP Coordinators 1 Data Analyst 1 Stakeholder and Events Coordinator

Student-Facing Activities

Table 12: Comparison between PEY Internship Program (Prior to 2018) and Professional Experience Co-op Program (2020 and After), Student-Facing Activities

PEY Internship Program (Prior to 2018)	Comparator	Professional Experience Co-op Program (2020 and After)
	1 st Year	<ul style="list-style-type: none"> • Welcome to Co-op reception • PEY Edge Conference • SDCP Modules*
	2 nd Year	<ul style="list-style-type: none"> • SDCP Modules* • Mentorship program • Employer information sessions • Industry tours • Industry/Alumni panel presentations • Industry mixers • Optional recruitment cycle for summer work experience
<i>Engineering Summer Internship Program offered as a separate, independent 4-month work experience</i>	Summer	<ul style="list-style-type: none"> • Optional 4-month work experience <ul style="list-style-type: none"> ○ By 6th week: Online self-reflection exercise to establish goals and expectations for work term ○ End of term: Online evaluation completed by workplace supervisor and student. Summarizes performance on 14 measures, including analytic abilities, judgment, quality of work and communication skills. Student evaluates overall experience including training, quality of work, and skill development
<ul style="list-style-type: none"> • Pathways to Success Workshop: Co-op expectations and recruitment cycle information, mandatory • Transition to the Workplace Workshop: Information regarding employer expectations, mandatory • Optional resume, cover letter, interview skills workshops • Career counselling • Recruitment cycle <ul style="list-style-type: none"> ○ Search ○ Submit Applications ○ Interviews ○ Negotiation ○ Secure position 	3 rd Year	<ul style="list-style-type: none"> • SDCP modules* • Mentorship program • Employer information sessions • Industry tours • Industry/Alumni panel presentations • Industry mixers • Recruitment cycle <ul style="list-style-type: none"> ○ Search ○ Submit Applications ○ Interviews ○ Negotiation ○ Secure position

	<p>12-16 Month PEY Work Experience</p>	<ul style="list-style-type: none"> • By 3rd month: Online self-reflection exercise to establish goals and expectations for work term • Personal check-in with each student, through on-site visit whenever possible • Midterm: Online evaluation by student and workplace supervisor to identify issues and guide corrective action if necessary • End of term: Online evaluation completed by workplace supervisor and student. Summarizes performance on 14 measures, including analytic abilities, judgment, quality of work and communication skills. Student evaluates overall experience including training, quality of work, and skill development
<ul style="list-style-type: none"> • Submit work term report, including evaluation of experience by student and employer, to staff for approval 	<p>Return for 4th Year</p>	<ul style="list-style-type: none"> • Submit work term report (essay format) describing experience in terms of career development impact. Graded by supervised TAs (pass/fail), and feedback provided.

* See *Programming - Professional Experience Co-op*