Final Assessment Report

Electrical Engineering/Computer Engineering (BASc), Electrical and Computer Engineering (MEng, MASc, PhD), Electric Power Engineering (MEng, GDip)

March 2024

Executive Summary

External reviewers found that the Electrical Engineering (BASc), Computer Engineering (BASc), Electrical and Computer Engineering (MEng, MASc, PhD), and Electrical Power Engineering (MEng, GDip) programs delivered by the Department of Electrical and Computer Engineering were in good standing.

"All programs reviewed are outstanding. At the undergraduate level, the EE and CE programs provide students with a proper foundation and ample opportunities to explore their personal interests in the latter part of the programs through a long list of specialized courses. Similarly, the MASc and Ph.D. programs are well structured, well managed, and supported. Research facilities are excellent."

A total of seven recommendations were provided by the reviewers, regarding departmental culture, co-op experience, graduate student recruitment, graduate funding, and EDI considerations. In response, the program created a plan outlining the specific actions proposed to address each recommendation as well as a timeline for implementation. The next cyclical review for this program is scheduled for 2027-2028.

Enrollment over the past three years*

	EE (BASc)	CE (BASc)	ECE (MASc)	ECE (MEng)	ECE Co-op (MEng)	EPE (MEng)	ECE (PhD)	EPE (GDip)**
2023-2024 (CURRENT YR)	440	1507	121	195	57	27	210	0
2022-2023 (LAST YR)	388	1473	126	204	12	26	218	0
2021-2022 (THREE YRS)	430	1465	129	295	0	24	226	0

*Based on Active Student extract from Quest on April 11, 2024
**Based on data extract from Records on April 19, 2024

Background

In accordance with the University of Waterloo's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response of the Electrical Engineering (BASc), Computer Engineering (BASc), Electrical and Computer Engineering (MEng, MASc, PhD), and Electrical Power Engineering (MEng, GDip) programs delivered by the Department of Electrical and Computer Engineering. A self-study (Volume I, II, III) was submitted to the Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs on Feb.28, 2022. The self-study (Volume I) presented the program descriptions and learning outcomes, an analytical assessment of the programs, including the data collected from a student survey, along with the standard data package prepared by the Office of Institutional Analysis & Planning (IAP). The CVs for each faculty member with a key role in the delivery of the program(s) were included in Volume II of the self-study.

From Volume III, two arm's-length external reviewers were selected by the Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs: Dr. Horacio Marquez, Professor of Electrical & Computer Engineering, University of Alberta, and Dr. Miriam Capretz, Professor of Electrical & Computer Engineering, University of Western Ontario.

Reviewers appraised the self-study documentation and conducted a site visit to the University on May 30 to June 3, 2022. An internal reviewer from the University of Waterloo, Dr. David Hammond, Professor of Public Health Sciences, was selected to accompany the external reviewers. The visit included interviews with the Vice-President, Academic & Provost; Associate Vice-President, Academic and Associate Vice-President, Graduate Studies and Postdoctoral Affairs; Dean of the Faculty of Engineering; Faculty Associate Deans of Undergraduate and Graduate Studies; Chair of the Department, as well as faculty members, staff and current undergraduate and graduate students. The Review Team also had an opportunity to view video

recordings of laboratories and meet with laboratory staff, representatives from the library, and Co-operative Education.

Following the site visit, the external reviewers submitted a report on their findings, with recommendations. Subsequently, the program responded to each recommendation and outlined a plan for implementation of the recommendations. Finally, the Dean responded to the external reviewers' recommendations, and endorsed the plans outlined by the program.

This final assessment report is based on information extracted, in many cases verbatim, from the self-study, the external reviewers' report, the program response and the Dean's response.

Program Characteristics

Undergraduate Programs
The objectives of the Computer Engineering and Electrical Engineering undergraduate programs are to provide students with a solid theoretical foundation in computer engineering/electrical engineering, expertise in analysis and design techniques in all the major subject areas within these broad disciplines, and practical experience in the application of their methods. The Computer Engineering program is positioned internally and externally as broadly centred about the interface between software and digital hardware while the Electrical Engineering program covers the areas of communications, circuits, devices, power, and controls.

The Computer Engineering and Electrical Engineering undergraduate programs are accredited by the Canadian Engineering Accreditation Board (CEAB), which performs a site visit and intensive review every six years. CEAB accreditation is legally required in order to offer engineering programs and earning an accredited degree is the first step for students on the path to becoming licensed professional engineers.

Both the Computer Engineering and Electrical Engineering undergraduate programs include co-operative education (co-op). Each student must complete a minimum of five successful Work Terms, five Professional Development courses, and write five Work Term Reflections in order to graduate.

Graduate Programs
The goal of the MASc program is to prepare students with advanced skill sets that are relevant to the industry's needs in the future and another category of students who are ready to pursue further research and proceed to undertake doctoral studies. Students admitted to the MASc program come from a wide variety of engineering undergraduate programs. A smaller number

of students come from related disciplines in computer science, physics and mathematics. A student who graduates from the ECE Department with an MASc degree will have a strong theoretical/experimental background in his/her field of research plus a broad knowledge in related fields within Electrical and Computer Engineering.

The objective of the PhD program is to train students to become independent researchers. The program is intended to provide graduate students with the required theoretical/experimental knowledge and research methodology to accomplish independent and original research work. The criteria for a successful PhD are the pursuit of knowledge and excellence as well as technical expertise. The PhD thesis should demonstrate original research that provides significant contributions to knowledge. Graduates with PhDs are primarily suited to positions in academia, in industrial or governmental research centres and in entrepreneurship. A total of 86 faculty members from the ECE Department are included in the list of Approved Doctoral Dissertation Supervisors (ADDS) of the University. Although junior faculty members are able to sole-supervise Master's level students, they are only allowed to co-supervise doctoral students until they obtain the ADDS status.

The MEng program focuses on knowledge and skill development through advanced graduate level courses. Students admitted to the MEng program are required to take eight courses. A student who graduates from the ECE Department with a MEng degree will have a strong theoretical background and development skills, which are appropriate for both analysis and design needs of the industry. By appropriate selection of courses, the MEng students could augment their degrees with additional credentials.

The on-line MEng (Electric Power Engineering) and GDip (Electric Power Engineering) programs focuses on advanced level training, skill development, and education of electric power engineering professionals employed in the power sector (companies and utilities) in Canada and internationally. Students completing this program have the option to obtain a Graduate Diploma (GDip) by successfully completing six courses or the MEng degree by successfully completing nine courses.

Summary of Strengths, Challenges and Weaknesses based on Self-Study

Strengths
- The ECE Department offers a large range of undergraduate and graduate programs. All programs are highly reputed and have well-established structures and frameworks.
- Due to our high academic standards and strong reputation world-wide, the ECE Department attracts high quality domestic and international students.

- The ECE Department has an outstanding faculty with several being internationally reputed for their leading-edge research in respective areas and having received major recognitions.
- The ECE undergraduate programs have established a world-wide reputation for their outstanding co-op program offered at the University of Waterloo.
- The PhD program has established itself very well in the global arena with students regularly publishing in the top journals (IEEE Transactions), receiving external awards, etc.
- The ECE MEng program has become one of the most attractive graduate programs at the University of Waterloo for international applicants, as evident from the large pool of applications it attracts every year. With seven new Specializations created within the MEng Program, it offers the programs graduates the opportunity to specialize in specific areas of high interest such as Artificial Intelligence & Machine Learning, Biomedical Engineering, Sustainable Energy, etc.

Challenges
- One of the challenges the ECE Department faces is of attracting our own best undergraduate students to our graduate programs, because they proceed to the attractive jobs which they easily secure after graduation.
- Another challenge is attracting a sufficient number of domestic applications for the PhD program.
- Funding for international MASc students has significantly reduced in recent years, and therefore it is a challenge to attract the best international students for the MASc program.
- Several graduate "other" courses have been cancelled recently due to instructor shortages. The ECE Department is in the process of hiring eight faculty members, five of which are new positions. These new hires will substantially increase our capacity to mount courses.

Weaknesses
- Particular MEng Specializations are heavily loaded with student enrolment due to popularity, which increases load on the faculty that have to teach the core courses in these areas.

- Undergraduate Electrical Engineering (EE) students have been transferring to the Computer Engineering program such that some third- and fourth-year EE technical electives have low enrolment (less than 20). Most of these transfers happen in the first two years presumably due to the difficulty in attaining co-op work placements in the EE field. A faculty member has been appointed to champion EE for undergraduate students. They will address this issue on several fronts: high school student outreach, promotion and extra activities for EE undergraduates, and working with co-op to increase junior EE co-op jobs.

Summary of Key Findings from the External Reviewers

"The most significant characteristic of the undergraduate programs reviewed, both CE and EE, is the co-op nature of the education at UW. Without a doubt, the Faculty of Engineering at UW is the gold standard in engineering co-op education in Canada… Student quality is one of the Department's strongest assets. Interest in the undergraduate programs is evident based on the number of applications received each year and the high admission grades of students admitted... The Department has developed two robust MEng programs (MEng and the online MEng-Power). Both programs are well subscribed and appear to generate continuous revenue. The Department should look for ways to partially channel some of the revenue generated by these programs to support tuition fees for international MASc students partially. The review team understand that, over time, these funds may have become part of the Department's revenue stream and diverting funds to other purposes may be a challenge."

Program Response to External Reviewers' Recommendations

1. The students, in the meeting, reflected poorly on the departmental culture. The culture within the cohort appears to be competitive and described by some as "toxic." Part of the problem might originate in a possible lack of coordination between the first-year office, which handles the first-year cohort, and the ECE office, which takes students in the second year. To avoid/alleviate creating competitive environments in the cohorts, the ECE office and the 1st year office should coordinate the students' transition to a collegial and friendly environment.

   Program Response
   The ECE Department cares strongly that undergraduate students have a positive and supportive culture. A new Class Professor structure was introduced in Fall 2022 with the intent to facilitate relationships between ECE students of different years and between students and faculty. Two faculty members are working with the ECE Society to schedule social activities (such as 3D printing workshops and ice-cream Sunday events), information sessions (such as picking electives or planning for grad school), and to host Student Rep meetings with instructors. The sessions are open to all years of ECE students, except for the

Student Rep meetings, which are held per cohort. From Spring 2022 we re-started townhall sessions for the students with the Associate Chair of Undergraduate Studies and the Undergraduate Office Manager. They did not happen during Covid but have been restarted as it is important to get student feedback on the programs and to make the students felt heard.

The ECE Department also appoints two faculty members as undergraduate advisors, and another two undergraduate office staff members serve as advising coordinators in order to support the students' academic experience in the department. In addition, ECE Department has a fulltime staff position for a Student Wellness Coordinator who is wholly engaged with ensuring that the students wellness aspects are addressed to in an empathetic and prompt manner. Every academic term, the Student Wellness Coordinator organizes several activities for the students which are focused toward their wellness, to relieve the academic stress through joint study sessions, socials, etc. The Associate Chair Undergraduate Studies meets with a sample set of students from each cohort to discuss their course progresses, any issues arising from the delivery of courses, ongoing during the term, etc.

The recommendation to coordinate the student's transition from the 1st Year Office to the ECE Office is already being done. We have a "Welcome to ECE" session early in the 2A Term to introduce them to faculty and staff responsible for their program. It has been reworked this Fall term to make it more engaging.

ECE has the benefit of a student-run ECE Society for undergraduates. They run a peer-mentoring program that the Department will offer to support, for example by funding snacks for mentor/mentee meetings. Another good initiative of the ECE Society is resume critiques for first year students by upper year students. It is a valuable help to the first years and helps foster a sense of goodwill. We will offer to support the society in its delivery. Two representatives elected by the ECE Society were included to the ECE Undergraduate Studies Committee (curriculum committee) in 2022.

The ECE Department has undertaken recently, in June 2025, an undergraduate curriculum review which is led by the Associate Chair Undergraduate Studies, and the ECE Undergraduate Studies Committee. The main purpose of this review is to explore possible avenues to reduce the academic stress on the students through some re-organization of the courses.

Dean's Response
Since I became Dean, I have tried to reduce the perceived "hyper-competitive" environment amongst our undergraduate students. We have already taken many tangible steps to do this, including the removal of the "ranking system"; a peer ranking system was used in each undergraduate cohort based on term averages to rank students against each other. This is a major shift away from a practice that has existed in Waterloo Engineering since inception and

in the longer term should result in a culture shift away from competition towards collaboration. We have completely restructured our undergraduate office, including the 1st year and are actively finding ways to create connections between advising in the 1st year office and each department.

2. The students interviewed highly value the co-op experience, but it comes at a price. Coop interviews often happen near the end of the term, conflict with midterm exams/ project deadlines, and add significant stress to students. The reviewers suggest looking at ways to coordinate co-op interviews with course assignments.

We have now introduced a new scheduling system wherein a specific week every term is designated, when all the mid-term exams are to be held, and classes are suspended (with appropriate makeup lecture slots at other weeks). With this arrangement, the students are clearly aware of the one specific week in the term for their midterm exams, and can accordingly coordinate their coop interviews. There is also a provision for make-up exams in consultation with the course instructors.

Program Response
Co-op interviews occur in two main cycles. The first cycle occurs during weeks 2-5 with applications, interviews and then matches. The second cycle occurs during weeks 6-9 and while it overlaps midterms, students can sign up for interview slots that do not conflict with their tests. After that, new jobs are posted once per week and students have two days to submit applications. Applying to co-op jobs while maintaining a full course load is indeed hard work but co-op is one of the main reasons that students come to Waterloo and students consistently report high satisfaction with it in 4B exit interviews. That said, it would be good to minimize distractions during midterms and other high points of the academic term. The associate chair for undergraduate studies followed up with the co-op liaison to Engineering, Eva Skuza. She said the following.
• Students can also easily switch dates and times of interviews with other students, if needed.
• Students who are experiencing a high level of interviews can submit an Interview Relief Form to be removed from one or several interviews and face no penalty
• Students who experience concerns during an interview can connect with co-op staff to have their application removed from consideration and face no penalty (this is called a Request to Withdraw Application or RWA)
• Students also have access to co-op staff via the CEE Hub during interview days to solve any concerns or problems related to interviews on short notice; the phone and email of the CEE Hub is monitored by knowledgeable co-op staff Monday to Friday

In addition to giving students the tools to manage their interview schedule, co-op has a representative on the Faculty Operations Committee where discussions are under way to

reduce student workload across all programs.

The timetable scheduling has been improved recently, to have all mid-term exams within one specific week, which significantly helps students to arrange their coop interviews at other weeks.

Dean's Response
I am fully supportive of the comments made by the Department and have nothing further to add.

3. Many students in the first two-three academic terms transfer from EE to CE. One of the factors contributing to this appears to be related to the experience of their first co-op, as they tend to be related to computer programming or software-related activities. To decrease the number of students transferring from EE to the CE program, the reviewers suggest EE provide an overview of the program and its building blocks and how they related to opportunities in the job market in the earlier terms of the program.

Program Response

Starting in Fall 2023, ECE transitioned from a mixed model (3 cohorts of approximately 2/3 CE and 1/3 EE undergraduate students each) to two cohorts of CE students and one cohort of EE students. This change will make transfers from EE to CE more difficult because there are a limited number of seats in each cohort. It is also hoped that EE students will feel less isolated and more motivated to stay with their peers. The 2A "Welcome to ECE" session can then be focused on the EE program for EE students and the CE program for CE students. We will invite an EE faculty member to discuss their program with the EE students and give them an idea of what to look forward to. The lab staff have also started recording lab videos to highlight upper year EE labs. For example, this video for ECE331 semiconductor lab (https://youtu.be/ucinw-QHVDo) was released in August and enrollment rose from 19 to 25.

This re-organization of separate cohorts for CE and EE programs, introduced since Fall 2023 entry, has been very successful so far.

Dean's Response
I am fully supportive of the comments made by the Department and have nothing further to add.

4. Attracting undergraduate students to pursue graduate work in ECE is difficult at any Canadian university; likely more difficult at the UW, given the solid industrial focus inherent in the co-op education provided. To attract undergraduate students into the graduate programs, increase research opportunities for undergraduate students, consider adding a co-op option

for MASc and Ph.D. programs and promote direct entry into the Ph.D. program.

Program Response

In early 2022 the ECE Graduate Studies Committee developed a proposal for a Co-op option in all our graduate programs (MEng, MASc and PhD). However, this proposal was rejected at the departmental level for various reasons and only the Co-op option for the course-based MEng program was approved. In Fall 2022 academic term the ECE Department welcomed the first batch of students to its MEng Co-op program, and since then, this program has been in high demand with increasing application numbers. In the coming months and years, the ECE department will closely monitor the employment rates, the types of employment positions that students obtain, employer satisfaction, and the demand for this Co-op program. If this program is successful based on these metrics, we will expand its enrolment and re-consider expanding it to our research-based graduate degrees.

The MEng (Coop) program, introduced in Fall 2022 has been very successful over the past three years. The employment rates have been close to 100% and students have been richly benefitted from this program as they can support their studies through the income generated during the coop term, as well as gain valuable Canadian work experience. The enrolment in MEng (Coop) is now at par with the regular MEng program.

Over the past five years, the Faculty of Engineering has made efforts to expand the direct-entry PhD program. To help promote this program, first, we will make it easier for applicants to directly apply to the PhD program. Currently, prospective students are encouraged to apply to the MASc program and then indicate their interest in a PhD from within their application package. Second, we will review the admission requirements for direct-entry PhD students and consider harmonizing the minimum grade requirements with the regular PhD program.

The admission numbers will show that in the past couple of years, 2023-2024, our PhD application numbers and consequent admission numbers have shown an upward trend, which is highly encouraging. The ECE Department made some major overhaul of the PhD funding model in Fall 2023 (with enhanced scholarships and teaching assistantships), which can be attributed to be the reason for this trend. In Fall 2024, Dean of Engineering enhanced th funding model further, with significant support from the Faculty, which has helped boost our numbers.

The ECE department provides various opportunities for our undergraduates to conduct research. The typical avenues for undergraduate research are the URA program (part-time

researcher) and the USRA program (full-time researcher during a co-op term). While these programs are advertised on various Waterloo webpages, an effort will be made to reach out to students in second and third year to ensure they are aware of the programs. Additionally, we have a fourth-year project course (ECE499) where students can work closely with a faculty member on a one term project which culminates in a report on the project. More efforts will be made to promote this course to third year students. Similarly, we will promote the Accelerated Master's Program which can be used by our undergraduate students to fast track a MASc degree.

Dean's Response
I am fully supportive of the comments made by the Department and have nothing further to add.

5. The review team believes that, strategically, the Department would be better served by making the Ph.D. program their priority – increasing the number of Ph.D. students while simultaneously downplaying, to some extent, the MASc program.

Program Response
The PhD program is extremely important to the ECE Department and we hope to attract more direct-entry PhD students. The PhD program is a priority among our faculty and administration. We recently made it possible for our course-based master's students (MEng students) to apply for the PhD program. However, the Department feels that the MASc program has an important role to play, particularly in training of domestic HQP and preparing them for the Canadian industry or research. The international MASc students do undergo financial hardships after the significant reduction in IMAE funding.

The MASc program, with its shorter duration, is often more attractive to domestic applicants. The department facilitates and encourages strong MASc students to transfer to the PhD program during their first year of graduate studies. The ability to transfer students from the MASc program to the PhD program is attractive to some faculty members because it can be used to minimize risks; faculty members can work closely with a student before committing to four years of guaranteed funding. The MASc program also serves as landing spot for weak PhD students that are not cut-out for doctoral studies.

In some ways, there is already a natural downplaying of the MASc program because of low acceptance rates and reduced funding for international students. However, downplaying the MASc degree makes our program less flexible, and we view it as an important entry point for aspiring researchers.

Dean's Response

This recommendation aligns well with efforts in our Faculty to reimagine our
PhD program by focusing on this program, increasing the stipends provided to PhD students
and offering co-curricular professional development opportunities for PhD students

With the new funding model developed by ECE Department in Fall 2023, and the updated
funding model from Dean of Engineering since Fall 2024 has helped the current PhD students
significantly, financially, and also shown to be attracting more applicants to the program in
recent years. Trends also shw that the MASc Program is essentially catering to domestic
students, which is a esirable outcome. Trends also show that the MEng program, which
traditionally has been drawing international students, is now attracting a significant number
of domestic students, which is a healthy indicator.

6. Alternatively, to alleviate the funding issue for MASc international students, partially channel
   the revenue from the MEng program to support the tuition differential for international
   students, as the MEng programs are well subscribed and generate continuous revenue.

   Program Response

   The suggestion is being considered and we hope to create such a mechanism in the coming
   years. It involves various stakeholders at different administrative levels of the university and
   so it may take time to iron out the details. This option was explored but without success.
   There was no allowable provision for subsiding the MASc program from the tuition generated
   by the MEng program.

   Dean's Response

   I am fully supportive of the comments made by the Department and have nothing further to
   add.

7. EDI needs to be improved by providing more support for women, black, and Aboriginal
   students. Also, attention should be given to attracting more minorities (students and faculty
   members) to the programs.

   Program Response

   The Department considers EDI aspects very important. We have already appointed a fulltime
   staff position as Student Wellness Coordinator and a faculty member serving as Teaching &
   Learning Champion (TLC). The Wellness Coordinator is responsible for addressing many and
   various issues arising from the large diversity in our student cohorts and to inculcate the
   culture of inclusivity. The TLC serves as a mentor for the faculty members in their teaching

activities, in particular the new faculty members. In the coming term the Department plans to appoint an EDI Champion who will work closely with the Faculty of Engineering to support their efforts; IBET scholarship. It has not been possible to appoint an EDI Champion for the ECE Department specifically, because of resource issues. However, at the Faculty of Engineering level, we have an Associate Dean for EDI who oversees all aspects of equity, diversity and inclusivity, and advises the Department for any steps to be taken or any initiatives being undertaken. The ECE Department fully coordinates with the Associate Dean EDI. The Student Wellness Coordinator, the Teaching & Learning Champion, the ECE Associate Chairs (undergraduate and graduate) and ECE Chair, are all mindful of EDI matters and take them into consideration needfully.

The IBET (Indegenous peoples and Black, Engineering & Technology) Scholarship was a Faculty level competition and does not relate to ECE Department specifically.

Dean's Response
At the Faculty level we have an Associate Dean portfolio that includes aspects related to EDI and we are creating an EDI champion in each academic unit so that a community of practice can be established.

Recommendations Not Selected for Implementation

Not Applicable

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Implementation Plan

	Recommendations	Proposed Actions	Responsibility for Leading and Resourcing (if applicable) the Actions	Timeline for addressing Recommendations
1.	Improve departmental culture.	1. Launch new class-professor structure to enhance ECE undergrad community. 2. Undergraduate townhalls. 3. Reworked Welcome to 2A sessions. 4. Support ECE Society initiatives. 5. Add student reps to Undergrad Studies Committee. 6. ACUS now meets with student groups per cohort, every term, to receive feedback 7. Several new engagement and support initiatives introduced for students 8. Undergraduate curriculum review initiated	1. Associate Chair, Undergraduate Studies (ACUG) 2. ACUG 3. Undergrad Studies Manager 4. ACUG 5. ACUG 6. ACUS 7. Student Wellness Coordinator 8. ACUS and Department Chair	1. Implemented from 2022 to 2024 and now replaced by #6-8. 2. July 2022 and each term thereafter 3. Completed 4. Completed 5. Completed 6. Ongoing since Fall 2024 7. Ongoing 8. December 2025
2.	Enhance undergraduate Co-op experience.	1. Continue discussions with co-op at FOPS to reduce student load. 2. Midterm exam schedules have been streamlined.	1. Associate Dean, Undergrad Studies 2. ACUG	1. Ongoing 2. Completed in Fall 2024
3.	Provide an overview of EE and CE programs, building blocks, job opportunities to undergraduate students to reduce inter program transfer.	1. Incoming EE students into their own cohort. 2. EE-specific welcome session in 2A. 3. Produce videos highlighting EE electives.	1. Department Chair 2. ACUG 3. Teaching lab director	1. Already implemented since September 2023 2. Completed Completed

4.	Attract undergraduate students to pursue graduate work in ECE: increase research opportunities for undergraduate students, consider adding a co-op option for MASc and Ph.D. programs and promote direct entry into the Ph.D. program.	1. Review data/statistics from MEng Co-op Program to determine viability of expanding it to other programs. 2. Streamline the admission process for direct entry PhD students. 3. Promote existing undergraduate research opportunities.	1. Associate Chair Graduate Studies 2. ACGS 3. ACGS	1. After each co-op term starting in Spring 2023 2. Completed 3. Ongoing
5.	Prioritize the Ph.D. program.	1. Promote and streamline the admission process for the direct-entry PhD program. 2. Encourage strong MASc students to transfer to the PhD program. 3. New PhD funding model introduced in ECE 4. Enhanced PhD funding model introduced	1. Associate Chair Graduate Studies (ACGS) 2. ACGS 3. ECE Department Chair 4. Dean of Engineering	1. Completed 2. Ongoing 3. Completed in Fall 2023 4. Completed in Fall 2024
6.	MASc Int'l Student Funding: Channel the revenue from the MEng program to support the tuition differential for international students.	This was discussed at various levels but without success, not approved by the University.	Department Chair and Associate Chair Graduate Studies	NA
7.	EDI Considerations: Provide more support for women, black, and Aboriginal students.	The Department has created a staff position as Student Wellness Coordinator and a Teaching & Learning Champion (TLC). The appointment of EDI Champion was not possible because of resource constraints. The Faculty has an Associate Dean responsible for EDI issues and who works with the ECE Department Chair, TLC, and Associate Chairs as necessary.	Department Chair	Completed in Winter 2024.

The Department Chair/Director, in consultation with the Dean of the Faculty shall be responsible for the Implementation Plan.

Date of next program review   **2027-2028**
                                                                                                                 Date

Signatures of Approval

(signature)   December 18, 2024
Chair/Director   Date

AFIW Administrative Dean/Head (*For AFIW programs only*)   Date

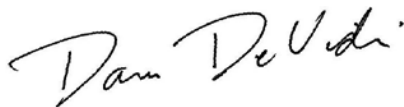Mary Wells *Digitally signed by Mary Wells Date: 2024.12.18 11:24:17 -05'00'*

Faculty Dean   Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

(signature)

                                                                                                  April 10, 2024
Associate Vice-President, Academic   Date
(For undergraduate and augmented programs)
On Behalf of the Associate Vice-President, Graduate Studies and Postdoctoral Affairs