UNIVERSITY OF WINDSOR
UNIVERSITY PROGRAM REVIEW (UPR)
FINAL ASSESSMENT REPORT AND IMPLEMENTATION PLAN: ELECTRICAL AND COMPUTER ENGINEERING UNDERGRADUATE AND GRADUATE PROGRAMS
January 2025

Executive Summary of the Cyclical Program Review of the Department of Electrical and Computer Engineering Programs

In accordance with the University's Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external review and the internal responses of the undergraduate and graduate programs in the Department of Electrical and Computer Engineering.

In addition to identifying the strengths of the programs, together with opportunities for program improvement and enhancement, the report prioritizes the recommendations that have been selected for implementation and sets out a plan (including the agent(s) responsible for addressing the recommendations and deadline dates) for follow-through. Timelines for monitoring the implementation of the recommendations are built into the process, with areas reporting mid-cycle on their progress to the Senate Program Development Committee, or earlier where there are significant concerns requiring urgent follow-up.

The Department of Electrical and Computer Engineering 2020-2021 Self-Study submitted to the Office of Quality Assurance on February 13, 2024, included: 1) a summary of recommendations and actions from the last review; 2) descriptions and an analysis of the programs, their learning outcomes, curriculum structure, and student experience; 3) information on enrolments as well as financial, physical, and human resources; and 4) the program data including the standard data package provided by the Office of Quality Assurance. Included in the appendices to the Self-Study were faculty member CVs, the Leddy Library report, course descriptions, syllabi, ECE undergraduate curriculum map, and student satisfaction surveys data.

The Department of Electrical and Computer Engineering programs were reviewed by Dr. Muhammad Jaseemuddin, (Department of Electrical, Computer, and Biomedical Engineering, Metropolitan University of Toronto), Dr. Zeljko Zilic, (Faculty of Engineering, McGill University), and Dr. Joel Cort, Faculty of Human Kinetics, University of Windsor. In addition to assessing the Self-Study, the Review Team conducted a two-day on-site visit on March 27-28, 2024, which included meetings with faculty, students, administrative and technical staff, Departmental Committees, the Co-op office, the Associate Vice-President, Academic, the Acting Dean of the Faculty of Engineering, the Head of the Department of Electrical and Computer Engineering, and the Dean of the Faculty of Graduate Studies.

In their report (May 15, 2024), the Review Team confirmed that the undergraduate and graduate programs meet the IQAP evaluation criteria and are aligned with the University's mission, vision, and academic plans. Admissions requirements and program requirements are clear, appropriate, and aligned with degree-level expectations. Learning outcomes also are clearly mapped to university and COU-approved degree-level expectations and, in the case of the undergraduate program, the CEAB accreditation standards. There is regular review and renewal of curriculum, in consultation with an industry advisory board, with programs evaluated for continuous quality improvement and industry relevance. The Review Team commended the department on its experiential learning opportunities at both the undergraduate and graduate levels, and particularly highlighted its well-equipped and advanced laboratories and the success of the co-op program in leading to employment post-graduation. The programs are delivered by research-intensive faculty members with exceptional publication records and supported by dedicated lab and administrative staff, all committed to providing an exceptional and supportive student experience.

While the Review Team generally agreed that assessment methods were appropriate and in alignment with the learning outcomes, some concern was expressed with large graduate classes limiting the ability to conduct projects within those courses and impacting the achievement of learning outcomes for both MEng and MASc students. Funding for international PhD students and greater clarity on MEng pathways to the job market through, for instance, more relevant courses were also identified as possible areas of focus.

Overall, the Review Team commended the Department, noting that it "has highly qualified faculty, efficient support staff, well-equipped laboratories, and effective policies and procedures in place to offer competitive accredited undergraduate and state-of-the-art research-based graduate programs." While the reviewers noted that the MEng program is of good quality, they did raise concerns around lack of enrolment classes resulting in some large classes, which impacts the student learning experience.

The Head of the Department of Electrical and Computer Engineering and the Dean of the Faculty of Engineering submitted their responses to the External Reviewers' Report (July 2024), addressing the recommendations, identifying follow-up actions, and providing clarification or corrections, as appropriate. The Senate Program Development Committee (PDC) Final Assessment Report and Implementation Plan (January 2025) considered all the above documentation. The Executive Summary and Implementation Plan, along with any response from the area on the final recommendations, were submitted to Senate in March 2025.

Final Recommendations and Implementation Plan (in priority order)
Final recommendations were arrived at by the Program Development Committee, following a review and assessment of the External Reviewers report and the response from the Dean of the Faculty

Recommendation 1: That the Department submit its recommendations for changes to the MASc graduate committee composition to the Faculty of Graduate Studies Council, which oversees the policy and requirements for graduate committee composition as approved by Senate and listed in the graduate calendar, and the Department consider establishing a simpler and more effective process, based on clear and standard guidelines and procedures, whereby the advisor is responsible for evaluating the research proposal and monitoring the progress. The committee should be formed only for the final examination to evaluate the written and oral presentation of the thesis. (Suggestions to the Faculty of Graduate Studies Council on the graduate committee size could include: that its size should be reduced by eliminating the need for a member from outside the department and that it should include more relevant members from the area of research with the exception of the chair who could be a faculty member from the department but not from the area of research.)
Agents: Head
Completion by: Fall 2026 (mid-cycle report)

Recommendation 2: That the Department report on efforts to establish an MEng program coordinator or to otherwise ensure support and coordination of the ECE MEng program and students, including progress on the hiring of two teaching intensive positions with responsibilities for academic advising of MEng students, and on continued cooperation and consultation between the Head, the Associate Dean Professional Programs, and the Manager of Student Success and Academics in the scheduling and coordination of course offerings.
Agents: Head
Completion by: Fall 2026 (mid-cycle report)

Recommendation 3: That the Department review and report on its formal and informal processes and mechanisms for receiving, and also for addressing, student feedback, including processes and mechanisms for submitting feedback and concerns individually, collectively, or through student representatives.
Agents: Head
Completion by: Fall 2026 (mid-cycle report)

Recommendation 4 (minor): That the Department report on efforts to have representation of all areas of concentration on the curriculum committee.
Agents: Head
Completion by: Fall 2026 (mid-cycle report)

Recommendation 5 (minor): That the Department either retire Special Topics courses or formally create them as Senate-approved stand-alone courses with a regular course code (PDC Form D).
Agents: Head, Graduate Committee, Curriculum Committee
Completion by: Fall 2026 (mid-cycle report)

Recommendation 6 (minor): That the Department make a case to the Dean of Engineering and the Dean of Graduate Studies for enhancing incoming scholarships for PhD students.
Agents: Head, Dean of Engineering, Dean of Graduate Studies
Completion by: Fall 2026 (mid-cycle report)