Program:	**Electrical and Computer Engineering**	
Degrees Offered:	MEng, MESc, PhD	
Approved Fields:	Research: Applied Electrostatics & Electromagnetics Biomedical Systems Communications Systems & Data Networking Microsystems & Digital Signal Processing Power Systems Engineering Robotics and Controls Software Engineering MEng Communications Systems & Data Networking Power Systems Engineering Robotics and Controls Software Engineering Cybersecurity and Computer Forensics (new field)	
External Consultants:	Dr. Sofiene Affes Institut National de la Recherche Scientifique	Dr. Qusay H. Mahmoud University of Ontario Institute of Technology
Internal Reviewers:	Dr. Margaret McGlynn Faculty of Social Science	Ms. Renee Willmon Department of Anthropology
Date of Site Visit:	May 15-16, 2014	
Evaluation:	*Good with Report January 1, 2016*	
Approved by:	*SUPR-G on November 17, 2014* *SCAPA on Nov 26, 2014*	

Executive Summary

The external reviewers commented favourably on the strength of the ECE faculty, noting that there are outstanding researchers in all of the fields along with a balance both in terms of seniority and distribution of fields which bodes well for the future development of the program. They are impressed with their high level of funding, the relevance of their research, the quality of the lab equipment and infrastructure and their ability to attract industry partners.

The reviewers are enthusiastic about the proposed new field in Cybersecurity and Computer Forensics, commenting that it is both timely and relevant, and pleased that the department has hired a new faculty member in this field.

The reviewers note that the faculty each supervise a fairly large number of graduate students quite effectively while offering a reasonable number of graduate courses, though the courses are not evenly distributed across the fields. Their assessment is that the department cannot undertake any further growth without further faculty positions.

There is some pressure on the current graduate course offerings caused by the two-stream graduate program. The MEng students are looking for more courses with a practical, hands-on focus, while the research students are looking for more intensive theoretical courses. The current practice of having both sets of students in the same, double-numbered course with different assignments and different expectations is causing some dissatisfaction. The reviewers suggest that the strategic use of reading courses for research students might alleviate some of their concerns, and an additional focus on

internships for MEng students would be beneficial both in terms of developing industry experience and potentially alleviating financial pressures. They also recommend some specialized courses for the MEng students, including one on "Ethics and Law" to help them with the PEng.

During the review there was some confusion among both faculty and students over the number of courses required for the PhD program and which courses taken as part of a Master's degree at Western or elsewhere could be counted towards PhD course requirements. The reviewers recommend that this matter be clarified and broadly communicated to both faculty and students.

The reviewers question the SGPS policy of not allowing junior faculty members sole supervision of a PhD student until they had graduated an MSc student, though they note that senior ECE faculty and administration generally support the policy.

They also note that the department is eager to increase its domestic enrolments and suggest drawing the Accelerated Master's Program and the Mitacs internship opportunities to the attention of the current undergraduate population.

There has been a lack of continuity in the staff administering the programme over the past few years and at the time of the review the department was without an AO.   Both faculty and students expressed great regard for the current staff and concerns that without some immediate reorganization of their workload and management they might choose to leave the department.

Significant Strengths of Program:
- New field in cybersecurity
- Research strength of faculty
- Quality of research labs

Opportunities for improvement & Enhancement:
- Development of some courses tailored to the particular needs of both MEng and research students
- Greater synergies within the department and across departments e.g. access to equipment in other labs, courses in other departments etc.
- Renovation of office space and common space, especially for MEng students

Recommendations for implementation:	Responsibility	Resources	Timeline
Offer more practical courses for MEng students	Department	Faculty time	1 year
Review the advising structures for MEng students to ensure they are getting appropriate guidance on course selection and professionalization	Department	Faculty time	1 year
Add "Ethics and Law" course as elective non-technical course for MEng	Department	Faculty time	1 year
Renovate MEng common space and office space for research students	Faculty	Financial	1 year
Offer some non-technical electives online to increase access for research students	Faculty	Financial / faculty time	1 year
Clarify course requirements for the PhD program	Department	None	1 year
Review GTA assignments and workload	Faculty	Faculty time	1 year
Reorganize the staff workload, including the management of CREATE and UNENE, to alleviate retention problems	Department / Faculty	Financial	1 year