Electrical Engineering with Applied Mathematics

Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering, in collaboration with the Faculty of Science, offers a five-year concurrent degree which leads to a B.E.Sc. degree in Electrical Engineering and a (three-year) B.Sc. degree with a Major in Applied Mathematics. This program would be suited for those students interested in acquiring fundamental engineering knowledge as well as learning modern Applied Mathematics.

The B.E.Sc. in Electrical Engineering is a four year program while the B.Sc. with a Major in Applied Mathematics is of three years duration. However, some courses can be counted towards both degrees and the end result is that a program has been established which allows the student to graduate with both degrees in five years. Students take the common first year of Engineering courses. After second year, for the next three years, a combination of courses from the third and fourth years of the B.E.Sc. degree and the second and third years of the B.Sc. degree are taken depending on timetabling and prerequisites.

Admission and Program Structure

In order to be eligible to enter the B.Sc. with a Major in Applied Mathematics, a minimum mark of 60% in Applied Math 1413 and Applied Math 1411a/b is required. In order to be considered for the concurrent program, students must apply and be admitted to the Applied Mathematics module by the Office of the Dean of the Faculty of Science after completion of the required prerequisite courses. At least 8 courses counted towards the B.Sc. degree must be taken from the offerings of the Faculty of Science. In addition students must take 1.0 course from each of Category A and Category B (see calendar for listing of course categories). As well, 2.0 designated essay courses must be taken (Eng Sci 2211F/G and Eng Sci 4498F/G will count as 1.0 of the essay requirement. A maximum of 10.0 courses may be double tied to both degrees. The final course selection must be approved in consultation with both the Faculty of Engineering and the Faculty of Science.

First year Engineering program (2009-2010): Applied Math 1413, Eng Sci 1050, Physics 1026, Applied Math 1411a/b, Chemistry 1024a/b, Eng Sci 1021a/b, Eng Sci 1022a/b/y, Eng Sci 1036a/b, 1.0 non-technical elective.

Second year Engineering program (2010-2011): Applied Math 2415, Computer Science 1037a, ECE 2205a, ECE 2277a, ECE 2240a, Eng Sci 2211F, ECE 2231b, ECE 2233b, ECE 2236b, ECE 2241b, MME 2234b.

Third year Engineering program: Applied Math 3415a, ECE 3330a, ECE 3332a, ECE 3337a, ECE 3370b, ECE 3331b, ECE 3333b, ECE 3336b, ECE 3375b, Stat. Sci. 2141b, 0.5 non-technical elective taken from the approved list.

Fourth year Engineering program: Business 2299, ECE 4416, ECE 4429a, ECE 4437a, Eng Sci 4498G, five 0.5 technical electives.

Major in Applied Mathematics Module

- Calculus 2502a/b, 2503a/b (replaced by Applied Math 2415)
- Applied Math 2811b
- Applied Math 2813b
- Applied Math 3811a/b
- Applied Math 3813a/b
- Applied Math 3815a/b
- 0.5 Applied Math course at the 2000 level (in place of Differential Equations 2402a)
- Statistical Sciences 2657a (replaced by Stat Sci 2141b)

- One of: Mathematics 2120, 2122a/b, 3120a
- One of: Applied Math 4613a/b, 4617a/b
- One of: Applied Math 4815a/b, 4817a/b

Note: This document is for guideline purposes only. Once a student is admitted to the concurrent program, they will receive an outline from the Faculty of Science detailing the courses which will be used for the B.Sc. degree.

The official version of the academic calendar can be found at: http://www4.registrar.uwo.ca/Calendars/index.cfm