Mechanical Engineering with Applied Mathematics

Department of Mechanical and Materials Engineering

The Department of Mechanical and Materials Engineering, in collaboration with the Faculty of Science, offers a five-year concurrent degree which leads to a B.E.Sc. degree in Mechanical 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 Mechanical 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.
Mechanical Engineering with Applied Mathematics cont’d


**Second year Engineering program** (2011-2012):  Applied Math 2413, MME 2202a, MME 2204a, MME 2259a, MME 2260a, MME 2213b, MME 2273b, MME 2285b, Stat Sci 2143b, Eng Sci 2211G, 0.5 non-technical elective taken from the approved list.

**Third year Engineering program**: Applied Math 3413a, MME 3303a, MME 3379a, MME 3381a, ECE 3373a, MME 3307b, MME 3334b, MME 3360b, MME 3380b, ECE 3374b.

**Fourth year Engineering program**: MME 4499, Business 2299, Eng Sci 4498G, six 0.5 technical electives.

**Major in Applied Mathematics Module**:

- Calculus 2502a/b, 2503a/b (replaced by Applied Math 2413)
- Applied Math 2811b
- Applied Math 3811a/b
- Applied Math 3813a/b
- Applied Math 3815a/b
- 0.5 Applied Math course at the 2000 level (in place of Applied Math 2813b)
- 0.5 Applied Math course at the 2000 level (in place of Differential Equations 2402a)
- Statistical Sciences 2657a (replaced by Stat Sci 2143b)
- One of: Mathematics 2120a/b, 2122a/b, 3120a
- One of: Applied Math 4815a/b, 4817a/b
- One of: Applied Math 4613a/b, 4617a/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.*