MATHEMATICS AND STATISTICS AND COMPUTER APPLICATIONS

Section 71.85

Faculty

Undergraduate Program Director
GREGORY BUTLER, PhD *University of Sydney*; *Professor*

Location

Sir George Williams Campus
Engineering, Computer Science and Visual Arts Complex, Room: EV 003.139
514-848-2424, ext. 3000

Objectives

The Faculty of Engineering and Computer Science and the Faculty of Arts and Science have created a program of study which combines a comprehensive education in computer science and mathematics. This program resides in both Faculties. In the Faculty of Engineering and Computer Science, it is offered under the aegis of the Bachelor of/Baccalaureate in Computer Science, Computer Applications Option. According to their preferences and aspirations, students may apply either for a Bachelor of/Baccalaureate in Computer Science program, Bachelor of/Baccalaureate in Science program, or Bachelor of/Baccalaureate in Arts program. The Arts and Science offering is described in §31.200. The Computer Science program is described below.

Curriculum

The Computer Applications Option may be taken with a Major in Mathematics and Statistics. It provides a foundation for integrated studies in computer science and mathematics.
The mathematics component of the program includes topics that overlap with computer science, such as modelling, symbolic computation, and combinatorics, as well as the standard topics of a mathematical curriculum.

Structure of the Program

The program consists of 90 credits.

Mathematics and Statistics Option	Credits
Computer Science Core (see §71.70.2)*	33.00
Complementary Core (see §71.70.2)	6.00
Mathematics and Statistics Core	36.00
Computer Science Electives (see §71.70.2)	3.00
General Electives (see §71.70.2)	12.00
	90.00

*COMP 232 may be replaced by MAST 217. COMP 233 must be replaced by MAST 221.

Mathematics and Statistics Core		Credits
COMP 339	Combinatorics*	3.00
COMP 361	Elementary Numerical Methods**	3.00
COMP 367	Techniques in Symbolic Computation***	3.00
COMP 465	Design and Analysis of Algorithms	3.00
MAST 218	Multivariable Calculus I	3.00
MAST 219	Multivariable Calculus II	3.00
MAST 232	Mathematics with Computer Algebra	3.00
MAST 234	Linear Algebra and Applications I	3.00
MAST 235	Linear Algebra and Applications II	3.00

MAST 324	Introduction to Optimization	3.00
MAST 331	Mathematical Modelling	3.00
MAST 333	Applied Statistics	3.00
		36.00

*COMP 339 is cross-listed with MATH 339.
**COMP 361 may be replaced by MAST 334.
***COMP 367 is cross-listed with MAST 332.

Admission Requirements

The Computer Science and Mathematics and Statistics program is restricted to students who are enrolled in or simultaneously applying for the Computer Science Applications Option and who are qualified for the mathematics component. Applicants must fulfill the admission requirements for the Computer Science Option in Computer Applications (see §71.10.2) and be accepted into the Computer Applications Option. For admission requirements for the mathematics component, see §31.200.