MATHEMATICS 2130
TECHNICAL WRITING IN MATHEMATICS

The primary goal of this course is to develop students' skills in the area of writing of a mathematical nature. The general format of the course consists of a series of four projects. Each project entails a problem to be solved or investigated. Students work individually or in groups while determining the underlying mathematics for each problem, as well as how to approach the problem. Invariably, the computer is used as a tool in analysing the problem at hand. Once the problem is either solved or has been sufficiently investigated, a formal report is prepared to convey the analysis of the problem and its solution. Typesetting and graphics software tools (most notably LaTeX) are used to prepare reports that are of professional quality.

The nature of this course is such that it is not a lecture course. Instead, the course takes the form of an independent study situation, in which the course instructor generally serves as a guide and consultant. Working in groups during the steps prior to writing reports and computer programs is highly encouraged, and often students find this interaction to be rewarding.

Several of the problems posed will be open-ended. For some, there may not be a solution, or identifying a solution as optimal may be infeasible. Such problems allow for students to experience the thrill of mathematical discovery, as well as to encourage each individual's creative freedom. When writing reports, the goal is not so much to show that the problem was solved, but rather to demonstrate to the reader that the problem was satisfactorily investigated and understood, with that understanding then being conveyed to the reader.

Text. There is no formal text for the course. A printed course manual is supplied, with additional materials being made available on the course Web site and/or by e-mail.

Marks. Grades in the course are based upon written reports for four projects.

Calendar Description. **2130 Technical Writing in Mathematics** is a project oriented course combining mathematical investigation and technical writing. By using computer programming, graphical and typesetting tools, students will explore mathematical concepts and will produce technical reports of professional quality. The latter will combine elements of writing and graphics to convey technical ideas in a clear and concise manner.
Prerequisites: Admission to Applied or Pure Mathematics major and Mathematics 1001 and (Computer Science 1510 or 1710 or 2710 or 2602 or permission of the Head of Department).

Notes: 1. First priority for enrolment in this course is given to students who are Applied or Pure Mathematics majors. Other students wishing to register should direct inquiries to the head of department.
2. This course qualifies as a Research/Writing course in the Faculty of Arts.

Offered. Fall and Winter