MACM 101 - D100 Discrete Mathematics I

Instructor(s): Ryan McBride

Calendar Objective/Description:
Introduction to counting, induction, automata theory, formal reasoning, modular arithmetic.

Instructor's Objectives:
This course is an introduction to mathematical reasoning underlying much of computer science: discrete mathematics. We will cover mathematical logic (both propositional and predicate) and proof techniques (including induction), counting principles, and a variety of discrete structures, with Computer Science applications.

Prerequisites:
BC Math 12 (or equivalent, or any of MATH 100, 150, 151, 154, 157 Quantitative/Breadth-Science

Topics:
- Propositional logic
- Predicate logic
- Basic proof techniques
- Sets, functions and relations, including growth of functions
- Mathematical induction and its variants
- Recursive definitions and structural induction
- Counting principles
- Basic probability

Grading:
A combination of assignments, midterms, tutorial quizzes and a final exam. Details to be discussed at the start of the semester.
Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

Recommended Books:

Academic Honesty Statement:
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).