Computing Science Course Outlines

MACM 101 - D300 Discrete Mathematics I

Instructor(s): Toby Donaldson

SFU Surrey

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

Instructor's Objectives:
This course is an introduction to discrete mathematics. The course will focus on establishing basic discrete mathematics principles and motivate the relevance of those principles by providing examples of applications in Computing Science.

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

Topics:
- Counting
- Logic and Quantifiers
- Set Theory
- Formal Reasoning and Induction
- Functions and Relations
- Number Theory
- Growth of Functions
- Automata theory and Formal languages

Grading:
There will be several graded assignments, one or more midterms, and a final exam. The details will be discussed in the first week of classes.

Required Books:
Discrete and Combinatorial Mathematics (an Applied Introduction), Ralph P. Grimaldi, Addison-Wesley, 5/e, 9780321385024

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).