## Mathematics 162 Mathematics for Computing

Quarter 2, 2004

Instructor: George Ballinger Office: Technologies Building (TEC) 219 E-mail: ballinge@camosun.bc.ca (note: there is no "r" in e-mail address) Web Site: camosun.bc.ca/~ballinge/ Telephone: 370-4471 Schedule:

8:30 am - 9:20 am 9:30 am – 10:20 am Math 260 (Civil) **JW108** Math 260 (Civil) ĴW108 Math 260 (Civil) TEC175 Math 260 (Civil) TEC175 10:30 am - 11:20 am 11:30 am – 12:20 pm Office Hour Office Hour Office Hour 12:30 pm – 1:20 pm Math 162-01 (Comp) CBA101 Office Hour Math 162-01 (Comp) CBA101 Math 162-01 (Comp) CBA101 1:30 pm - 2:20 pm Office Hour Math 162-01 (Comp) **JW108** Office Hour Office Hour 2:30 pm – 3:20 pm Math 162-02 (Comp) TEC177 Math 162-02 (Comp) JW108 Math 162-02 (Comp) **TEC173** Math 162-02 (Comp) **TEC173** Important Dates: January 5 First day of classes January 19 Tuition fees due date January 27 Term Test 1 of 3 February 13 Reading Break (no classes) February 17 Term Test 2 of 3 February 23 Withdrawal date deadline March 9 Term Test 3 of 3 March 19 Last day of classes March 22-26 Final Exam Period (specific date, time, and location TBA in February) Calendar Description: Topics: logic, inference, predicate logic, mathematical induction, set theory, combinatorics, probability, expectation, measures of central tendency and dispersion, normal distribution, statistical inference. [3 Credits] (Source: Camosun College 2003-2004 Calendar) Textbook: M. Sullivan and A. Mizrahi, Finite Mathematics: An Applied Approach, Ninth Edition,

John Wiley & Sons, Inc., New Jersey, 2004.

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Course Content: Section 6.1: Sets

Section 11.1: Propositions

Section 11.2: Truth Tables

Section 11.3: Implications; The Biconditional Connective; Tautologies

Section 11.4: Arguments

Section 11.5: Logic Circuits

Handout: Boolean Algebra

Handout: Mathematical Induction

Section 6.2: The Number of Elements in a Set

Section 6.3: The Multiplication Principle

Section 6.4: Permutations

Section 6.5: Combinations

Section 7.1: Sample Spaces and the Assignment of Probabilities

Section 7.2: Properties of the Probability of an Event

Section 7.3: Probability Problems Using Counting Techniques

Section 7.4: Conditional Probability

Section 7.5: Independent Events

Section 8.1: Bayes' Formula

Section 8.2: The Binomial Probability Model

Section 8.3: Expected Value

Section 8.4: Applications

Section 8.5: Random Variables

Section 9.1: Introduction to Statistics: Data and Sampling

Section 9.2: Representing Data Graphically: Bar Graphs; Pie Charts

Section 9.3: Organization of Data

Section 9.4: Measures of Central Tendency

Section 9.5: Measures of Dispersion

Section 9.6: The Normal Distribution

Note: Occasionally additional topics may be included in this course. A student absent

from class is responsible for finding out what material was covered.

**Assignments:** Suggested homework problems will be posted regularly on the course web site. You are expected to work on exercises in the textbook as part of your studying for the course;

however, they are not to be handed in.

**Study Time:** It is recommended that approximately 4-8 hours per week (or more for students with a weak background) be spent studying for this course outside of class time.

**Math Room:** Technologies Building (TEC) 142 (phone: 370-4492): This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).

**Calculator Policy:** Only ordinary scientific calculators (i.e. non-graphing and non-programmable) are permitted on term tests and the final exam.

**Grade Calculation:** The final grade will be calculated according to the following breakdown: 3 Term Tests: 50%

1 Comprehensive Final Exam: 50%

**Grade Scale:** Final letter grades are assigned as follows (subject to the conditions above): 0-49 50-59 60-64 65-69 70-74 75-79 80-84 85-89 90-94 95-100

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