Math 162 Technical Mathematics for Computing

This course is designed for students in the Computer Technology Program at Camosun College. Topics include: Introduction to Logic, Laws of Logic, Conditional Statements, Algebra of Sets, Logic Circuits, Boolean Algebra, Karnaugh Maps, Logical Inference and Direct Proofs, Indirect Proofs, Induction, Counting Techniques, Introduction to Probability, Introduction to Statistics, Pictures of Data, Measures of Central Tendency, Measures of Variation, Interpretations of Standard Deviation, Expected Value, the Binomial Distribution, and the Normal Probability Distribution.

ORGANIZATION:

In-class workload: 4 hours lecture
Out-of-class workload: 4 to 8 hours per week
Prerequisites: Math 12 or MATH 173 or MATH 179 or assessment

TEXTS: (Bring the texts to class)

Trushel, Peter J. and Chi-Ming Leung, *Math 162 Logic and Statistics*, Camosun College bookstore 2000.
Trushel, Peter J. and Chi-Ming Leung, *Math 162 Logic Student Workbook*, Camosun College bookstore 2000.
(Optional) Raymond Lai, *Math 162 Solution Key*, Camosun College bookstore 2002.

OUTLINE:

Logic Topics

Hours	Reference (week)	Topic
2	logic 1(1)	Introduction to Logic
1	logic 2(1)	Laws of Logic
2	logic 3(1)	Conditional Statements
2	logic 4(2)	Algebra of Sets
1	logic 5(2)	Logic Circuits
2	logic 6(3)	Boolean Algebra
1	logic 7(3)	Karnaugh Maps
2	logic 8(4)	Logical Inference and Direct Proofs
2	logic 9(4)	Indirect Proofs
2	logic 10(5)	Induction

Statistics and Probability Topics

Hours	Reference (week)	Topic
2	stats 1(5)	Counting Techniques
2	stats 2(6)	Introduction to Probability
1	stats 3(7)	Introduction to Statistics
2	stats 4(7)	Pictures of Data
2	stats 5(7)	Measures of Central Tendency
2	stats 6(8)	Measures of Variation
2	stats 7(9)	Interpretations of Standard Deviation
2	stats 8(9)	Expected Value
2	stats 9(10)	Binomial Distribution
2	stats 10(10)	The Normal Probability Distribution

EVALUATION:

Assignments: As soon as we finish a section, try the exercises in the texts. They do not contribute directly to the final mark, but questions on the tests and final exam. will be similar to these exercises.

Test (50%):   There will be 4 tests (**Monday Jan. 20**, **Monday Feb. 10**, **Monday Mar. 3** and **Monday Mar. 17**). They count for 50% of the final mark. There is NO makeup. Medical excuse must be accompanied by your physician's note. Complete solutions will be posted online at http://www.camosun.bc.ca/~lai. Sample tests and exams are available at http://www.camosun.bc.ca/~trushel/math162.

Final Exam (50%):   There is NO makeup.

GRADING:

A+	95-100%	B+	80-84	C+	65-69	F	0-49	
A	90-94	B	75-79	C	60-64			
A-	85-89	B-	70-74	D	50-59			

Instructor: Raymond Lai
e-mail: lai@camosun.bc.ca   **Web Site:** http://www.camosun.bc.ca/~lai
Office: Room CBA 152   **Phone:** (250) 370-4491
Reference web site: http://www.camosun.bc.ca/~trushel/math162
Office hours: As posted or by appointment

	Monday	Tuesday	Wednesday	Thursday	Friday
07:30-08:20	Office Hour	Office Hour	Office Hour	Office Hour	Office Hour
08:30-09:20	Math 162 (CC 123)		Math 162 (CBA 121)	Math 162 (CBA 121)	Math 162 (TEC 173)
09:30-10:20					
10:30-11:20				Office Hour	
11:30-12:20	Office Hour				Office Hour
12:30-13:20					
13:30-14:20					
14:30-15:20					
15:30-16:20					
Math Lab Assistance					

Hints:
1. Attend all classes.
2. Start working on the exercises as soon as a section is covered.
3. Studying in groups is an efficient way to learn mathematics; on the other hand, learn to solve problems yourself.
4. Interurban Math Lab: Technology Centre TEC142. 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).

Name	Phone No.	Name	Phone No.