CAMOSUN COLLEGE	***School of Arts & Science*** ***MATHEMATICS DEPARTMENT*** **MATH 109-1** **Finite Mathematics** **2007W**

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

Ω *Please note: this outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*

1. Instructor Information

(a)	Instructor:	Chi-Ming Leung		
(b)	Office Hours:	M,Tu 3:40-4:20;Tu,Th,F 10:30-11:20; Th 3:30-5:00		
(c)	Location:	CBA 147		
(d)	Phone:	4448	Alternative Phone:	
(e)	Email:	leungc@camosun.bc.ca		
(f)	Website:	http://leung.disted.camosun.bc.ca		

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the student will be able to:

1. Solve linear system problems using the Gauss-Jordan Elimination Method and the Inverse Matrix Method.
2. Use the Simplex Method to solve linear programming problems, including those with mixed constraints.
3. Solve basic counting problems using permutations and combinations.
4. Perform calculations that apply the basic properties and concepts of probability, including Bayes' Rule and Markov Chains.
5. Compute and interpret descriptive statistics.
6. Perform computations using the normal and binomial distributions.
7. Determine the validity of arguments by using truth tables and by using the basic laws of logic.
8. Derive simple annuity formulas and apply them to solve amortization problems.

3. Required Materials

(a)	Texts	Howard, L. Wolf, Finite Mathematics, 6th Edition, Brooks/Cole, Thomson, 2005
(b)	Other	

4. Course Content and Schedule

(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

Outline

Functions and Lines

Text	Hours	Topic
1.1,1.2	1	Functions, Graphs and lines
2.3	2	Gaussian Elimination
Total hours	3	

Linear System

Text	Hours	Topic
2.1	2	Systems of Two Equations
2.2	2	Systems with Three Variables
2.3	4	Gauss-Jordan Method for General Systems of Equations
2.4	0.5	Matrix Operations
2.5	1.5	Multiplication of matrices
2.6	3	The Inverse of a Matrix
2.7	1	Leontif Input-Output Model in Economics
Total hours	14	

Linear Programming

Text	Hours	Topic
3.1	0.5	Linear Inequalities in Two Variables
3.2	0.5	Solutions of Systems of Inequalities
3.3	1	Linear Programming: A Geometric Approach
Total hours	2	

Linear Programming: The Simplex Method

Text	Hours	Topic
4.1	1	Setting Up the Simplex Mathod
4.2	2	The Simplex Method
4.4	1	Mixed Constraints
4.5	1	Multiple Solutions, Unbounded Solutions, No Solutions
Total hours	5	

Mathematics of Finance

Text	Hours	Topic
5.1	Read	Simple Interest
5.2	1	Compound Interest
5.3	1	Annuities and Sinking Funds
5.4	1	Present Value of an Annuity and Amortization
Total hours	3	

Sets and Counting

Text	Hours	Topic
6.1	1	Sets
6.2	1	Counting Elements in a Subset Using a Venn Diagram
6.3	2	Basic Counting Principles
6.4	1	Permutations
6.5	1	Combinations
6.6	1	A Mixture of Counting Problems
Total hours	7	

Probability

Text	Hours	Topic
7.1	0.5	Introduction to Probability
7.2	0.5	Equally Likely Events
7.3	2	Compound Events: Union, Intersection, and Complement
7.4	1	Conditional Probability
7.5	1	Independent Events
7.6	2	Bayes' Rule
7.7	2 (optional)	Markov Chains
Total hours	9	

Statistics

Text	Hours	Topic
8.1	1	Frequency Distributions
8.2	1.5	Measures of Central Tendency
8.3	1.5	Measures of Dispersion: Range, Variance, and Standard Deviation
8.4	1	Random Variables and Probability Distributions
8.5	1	Expected Value of a Random Variable
8.6	2	Binomial Experiments and Binomial Distribution
8.7	2	Normal Distribution
Total hours	10	

Logic

Text	Hours	Topic
10.1	1	Statements
10.2	1	Conditional Statements
10.3	1	Equivalent Statements
10.4	2	Valid Arguments
Total hours	5	

Lecture	58 hours
Test	8 hours
Leeway	4 hours
Total	70 hours

5. Basis of Student Assessment (Weighting)

(Should be linked directly to learning outcomes.)

(a)	Assignments	10%
(b)	Quizzes	40%
(c)	Exams	50%
(d)	Other (eg, Attendance, Project, Group Work)	

6. Grading System

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Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
95-100	A+		9

90-94	A		8
85-89	A-		7
80-84	B+		6
75-79	B		5
70-74	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at **camosun.ca** or information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal:* A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**.
It is the student's responsibility to become familiar with the content of

this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED