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<tr><td></td><td><i>School of Arts & Science</i>
<i>MATHEMATICS DEPARTMENT</i>

MATH 109 section 002
Finite Mathematics
2008</td></tr>
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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:	Nick Marsden		
(b)	Office Hours:	Monday-Friday 9:30-10:20am		
(c)	Location:	Ewing 258		
(d)	Phone:	250-370-3499		
(e)	Email:	nmarsden@camosun.bc.ca		
(f)	Website:			

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	Finite Mathematics Sixth or Seventh Edition Author - Howard L. Rolf
(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.)

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CHAPTER 1: FUNCTIONS AND LINES

    #    Text     Time
    1   1.1, 1.2   1    Functions, Graphs and Lines
    2    1.3       1    Mathematical Models and Applications of Linear
Functions


CHAPTER 2: LINEAR SYSTEMS

    #    Text     Time
    3    2.1      1.5   Systems of Two Equations
    4    2.2      1.5   Systems with Three Variables; Matrix
Representations
                       of Linear Systems
    5    2.3       4    Gauss-Jordan Method for General Systems
                            TAKE-HOME TEST
    6    2.4       .5   Matrix Operations
    7    2.5       .5   Multiplication of Matrices
    8    2.6       2    The Inverse of a Matrix
    9    2.7       1    The Leontief Input-Output Model
                  1         TEST 1, Lessons 1 to 9
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CHAPTER 3: LINEAR PROGRAMMING

    #    Text     Time
   10    3.1       .5   Linear Inequalities in Two Variables
   11    3.2       .5   Solutions of Systems of Inequalities: A Geometric
Picture
   12    3.3       1    Linear Programming: A Geometric Approach


CHAPTER 4: LINEAR PROGRAMMING: THE SIMPLEX METHOD

    #    Text     Time
   13    4.1       1    Setting Up the Simplex Method
   14    4.2       2    The Simplex Method
   15    4.4       1    Mixed Constraints
   16    4.5       1    Multiple Solutions, Unbounded Solutions, and No
Solutions


CHAPTER 6: SETS AND COUNTING

    #    Text     Time
   17    6.1       .5   Sets
   18    6.2       .5   Counting Elements in a Subset Using a Venn
Diagram
   19    6.3       2    Basic Counting Principles
                            TAKE-HOME TEST
   20    6.4       1    Permutations
   21    6.5       1    Combinations
   22    6.6       1    A Mixture of Counting Problems
                  1         TEST 2, Lessons 10 to 22
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CHAPTER 7 + Section 8.6: PROBABILITY

#	Text	Time	
23	7.1	1	Introduction to Probability
24	7.2	1	Equally Likely Events
25	7.3	1	Compound Events: Union, Intersection & Complement
26	7.4	2	Conditional Probability
27	7.5	1	Independent Events
28	7.6	1	Bayes' Rule
29	8.6	1	Binomial Distribution
30	7.7	2	Markov Chains
			TAKE-HOME TEST

CHAPTER 10: LOGIC

#	Text	Time	
31	10.1	1	Statements
32	10.2	1	Conditional Statements
33	10.3	1	Equivalent Statements
34	10.4	1	Valid Arguments
		1	TEST 3, Lessons 23 to 34

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CHAPTER 8: STATISTICS

#	Text	Time	
35	8.1	1	Frequency Distributions
36	8.2	1	Measures of Central Tendency
37	8.3	2	Dispersion: Range, Variance & Standard Deviation
38	8.4	1	Random Variables and Probability Distributions of Discrete Random Variables
39	8.5	1	Expected Value
40	8.7	1	Normal Distribution
41	8.7	1	Using the Normal Distribution to Approximate the Binomial Distribution
			TAKE-HOME TEST

CHAPTER 5: MATHEMATICS OF FINANCE

#	Text	Time	
42	5.2	1	Compound Interest
43	5.3, 5.4	2	Annuities
		1	TEST 4, Lessons 35 to 43

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Final exam, Lessons 1 to 43

5. Basis of Student Assessment (Weighting)
(Should be linked directly to learning outcomes.)

(a)	Other (eg, Attendance, Project, Group Work)	See below
(b)	Assignments	See below
(c)	Term tests	50%. Will throw out worse test if class participation and assignments are satisfactory
(d)	Final exam	50%. or 100% if higher than term mark

1. TERM MARK. You will be doing a number of take-home tests. These can be done in consultation with other students in your class, but with the help of nobody else. They will be overdue if not handed in at the beginning of the class on the due date, but can be handed in up to one day late with only a one mark deduction.

   The term mark is the average of the scores on your in-class tests. However, if the average of your take-home test scores is at least 70% AND your in-class participation is satisfactory, I will throw out your worst test before I calculate the average.

   If you miss an in-class test for ANY reason, you will get a zero. There will be no make-ups. But with decent take-home test scores and class participation, that zero will be tossed out.

2. FINAL EXAM. The final exam for this course is to be written by all students on the day and time scheduled. The examinations for this term will be held Dec 8-16, 2008. Please make sure you are available during this period.

3. MARK FOR THE COURSE. Your course mark is the larger of:

   a) The average of your term percentage and your final exam percentage
   b) Your final exam percentage

   The Math Department reserves the right to raise your course mark if it is judged that your in-class tests and final exam were more difficult than those in other years or other sections.

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

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5

70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	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 E-1.5 at **camosun.ca** for 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
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.

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.