



COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/math.html>

Ω Please note: the College electronically stores this outline for five (5) years only.
It is **strongly recommended** you keep a copy of this outline with your academic records.
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Dr. Michelle Edwards
(b)	Office Hours:	Tuesdays and Thursdays 5:30-6:30pm
(c)	Location:	Ewing 254
(d)	Phone:	
(e)	Email:	medwards@camosun.bc.ca
(f)	Website:	D2L (online.camosun.ca)

2. Intended Learning Outcomes

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

1. Solve counting problems using sets and/or the multiplication principle, and recognize and solve problems involving permutations and combinations.
2. Apply the basic properties and concepts of probability to solve problems from fields such as medicine and quality control. Determine the probability distributions for random variables and calculate expected values. Where appropriate, evaluate probabilities using the binomial distribution. Explore systems evolving from one state to another using Markov chains.
3. Solve linear systems of equations using techniques, including Gauss-Jordan elimination and inverse matrices.
4. Solve linear programming problems using a graphical approach.
5. Derive simple annuity formulas and use them to solve amortization problems.
6. Translate statements into symbolic form and vice versa. Construct truth tables for propositions, including implications. Use truth tables to verify equivalencies.

3. Required Materials

- (a) Finite Mathematics and its Applications, custom edition for Camosun College (4th edition).
- (b) As per Math Department policy, the only calculator permitted for use on the tests and the final exam is the Sharp EL-531X (or the discontinued EL-531W) scientific calculator. No other make/model of calculator is permitted, nor are other electronic devices such as phones, iPods, electronic translators, etc.

4. Course Content and Schedule

1. Linear Equations and Straight Lines
 - 1.1 Coordinate Systems and Graphs
 - 1.2 Linear Equalities and Inequalities
 - 1.3 The Intersection Point of a Pair of Lines
 - 1.4 The Slope of a Straight Line
2. Sets and Counting
 - 2.1 Sets
 - 2.2 A Fundamental Principle of Counting
 - 2.3 Venn Digrams and Counting
 - 2.4 The Multiplication Principle
 - 2.5 Permutations and Combinations
 - 2.6 Further Counting Problems

- 3. Probability
 - 3.1 Introduction
 - 3.2 Experiments, Outcomes, Sample Spaces and Events
 - 3.3 Assignment of Probabilities
 - 3.4 Calculating Probabilities of Events
 - 3.5 Conditional Probability and Independence
 - 3.6 Tree Diagrams
 - 3.7 Bayes' Theorem
- 4. Random Variables
 - 4.1 Random Variables, Probability Distributions and Expected Value
 - 4.2 Binomial Random Variables
- 5. Matrices
 - 5.1 Solving Systems of Linear Equations I
 - 5.2 Solving Systems of Linear Equations II
 - 5.3 Arithmetic Operations on Matrices
 - 5.4 The Inverse of a Matrix
 - 5.5 The Gauss-Jordan Method for Calculating Inverses
- 6. Linear Programming
 - 6.1 Linear Inequalities in Two Variables
 - 6.2 Systems of Linear Inequalities in Two Variables
 - 6.3 Linear Programming in Two Dimensions: A Geometric Approach
- 7. Markov Chains
 - 7.1 Properties of Markov Chains
 - 7.2 Regular Markov Chains
- 8. The Mathematics of Finance
 - 8.1 Interest
 - 8.2 Annuities
 - 8.3 Amortization of Loans
- 9. Logic
 - 9.1 Introduction to Logic
 - 9.2 Truth Tables
 - 9.3 Implication
 - 9.4 Logical Implication and Equivalence

5. Basis of Student Assessment (Weighting)

In Class Assignments (lowest 2 will be dropped)	4%
Take Home Assignments	10%
Test 1 – Thursday October 6th	12%
Test 2 – Thursday November 3rd	12%
Test 3 – Thursday December 1st	12%
Final Exam	50%

As stated in the current college calendar, “students are expected to write tests and final examinations at the scheduled time and place.” Exceptions will only be considered due to **emergency** circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

6. Grading System

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	<i>Incomplete:</i> 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	<i>In progress:</i> 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. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>
CW	<i>Compulsory Withdrawal:</i> 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 the College web site in the Policy Section.

Math Lab:

The Lansdowne Math Lab is located in the Ewing Building Room 224 (phone: 250-370-3503). **Free** one-on-one tutoring is available here for you to seek help with homework or understanding concepts covered in class. This is a drop in, first come first serve service. Hours are posted at <http://camosun.ca/services/help-centres/math.html>.

D2L:

This course will use **Desire2Learn (D2L)**, an online course management system, as our website. All course related materials, grades, and announcements (including test coverage and any changes to homework due dates) will be available on D2L. **It is your responsibility to ensure you have access to D2L and that you check it regularly.**

Academic Integrity:

The Department of Mathematics and Statistics has prepared a "red handout" called *Student Guidelines for Academic Integrity* to help you interpret college policies involving student conduct, academic dishonesty, plagiarism, etc. It is your responsibility to become familiar with the contents of the document and the college policies it references.

Class Time:

While we will not take attendance in this course it is expected that you will attend each class and be an active learner. This includes active listening and participating with in class discussions, attempting any problems the class is working on, and working on in class assignments. While you may not find it necessary to take notes in class, please come prepared with paper, pencils, a calculator, a ruler, etc. for other in class activities. Bringing your textbook to class is not required, but you may find it useful (especially on days we have in class assignments).