



CAMOSUN COLLEGE
School of Arts & Science
Department of Mathematics & Statistics

MATH-109-D01
Finite Mathematics
WINTER 2021

COURSE OUTLINE

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

Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1. Instructor Information

(a) Instructor	Bogdan Verjinschi
(b) Office hours	Mo, Tu, W: 10 :30 - 11:20 p.m. by email, D2L Collaborate
(c) Location	D2L/ Collaborate
(d) Phone	Please email Alternative: NA
(e) E-mail	verjinschi@camosun.bc.ca
(f) Website	https://online.camosun.ca/d2l/home (D2L Collaborate lectures) https://www.pearson.com/mylab (MyLabMath (MLM) portal for E-text, HW, tests, grades)

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) **Textbook**

MyLab Math with Pearson eText -- for Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences, with Integrated Review, 14/e Barnett

(b) **Calculator:** Sharp EL-531 Scientific Calculator or <https://www.calculator.net/scientific-calculator.html> (free online)

4. Course Content and Schedule

Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences, with Integrated Review, 14/e Barnett

	CHAPTER/sections	# of sections	NOTES
TEST1 <i>Jan 21</i>	Chapter 1 Linear Equations and Graphs 1.1 Linear Equations and Inequalities 1.2 Graphs and Lines	2	W1,2
TEST2 <i>Feb 4</i>	Chapter 3 Mathematics of Finance 3.1 Simple Interest 3.2 Compound and Continuous Compound Interest 3.3 Future Value of an Annuity; Sinking Funds 3.4 Present Value of an Annuity; Amortization	4	W2,3
TEST3 <i>Feb 25</i>	Chapter 4 Systems of Linear Equations; Matrices 4.1 Review: Systems of Linear Equations in Two Variables 4.2 Systems of Linear Equations and Augmented Matrices 4.3 Gauss-Jordan Elimination 4.4 Matrices: Basic Operations 4.5 Inverse of a Square Matrix 4.6 Matrix Equations and Systems of Linear Equations	6	W4,5
TEST4 <i>March 11</i>	Chapter 5 Linear Inequalities and Linear Programming 5.1 Inequalities in Two Variables 5.2 Systems of Linear Inequalities in Two Variables 5.3 Linear Programming in Two Dimensions: A Geometric Approach	3	W7,8
TEST5 <i>March 25</i>	Chapter 7 Logic, Sets, and Counting 7.1 Logic 7.2 Sets 7.3 Basic Counting Principles 7.4 Permutations and Combinations	4	W9,10
TEST6 <i>Apr 8</i>	Chapter 8 Probability 8.1 Sample Spaces, Events, and Probability 8.2 Union, Intersection, and Complement of Events; Odds 8.3 Conditional Probability, Intersection, and Independence 8.4 Bayes' Formula 8.5 Random Variable, Probability Distribution, and Expected Value	5	W11,12
Also for the final	Chapter 9 Markov Chains 9.1 Properties of Markov Chains 9.2 Regular Markov Chains Chapter 10 Data Description and Probability Distributions 10.4 Bernoulli Trials and Binomial Distributions	3	W13,14
		27 sections	27/13 =2.08s/week

IMPORTANT DATES

January 11 Most Winter '21 credit programs/courses commence.

January 22 Fee Deadline Winter '21

February 15 Family Day College closed

February 16 Reading Break begins for Winter '21 February 16–February 19

February 19 Final Examination Schedule posted for Winter '21 Exams

March 16 Last Day to Drop/Audit Without Academic Penalty

April 2 Good Friday College closed

April 5 Easter Monday College closed

April 17 Last day of instruction for most Winter '21 courses

April 19–April 27 Examination period for Winter '21

5. Basis of Student Assessment (Weighting)

(a) **Assignments** (34%): 12 Weekly MLM Homework Assignments (*A1& A12 are 2% each, A2 to A11 3% each*)

(b) **Tests** (36%) 6 tests on MLM

TEST 1 Jan 21 **TEST 2** Feb 4 **TEST 3** Feb 25 **TEST4** March 11 **TEST 5** March 25 **TEST 6** Apr 8

If you miss a test, a zero will be assigned unless you contact me via e-mail **before** the test to make other arrangements.

(c) **Final Exam** (30%): comprehensive, on MLM.

**All final exams will occur during the final exam period, April 19–April 27.
Students MUST be available to write the final exam at the scheduled time.**

*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)

Competency Based Grading System

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

<http://camosun.ca/services/help-centres/math-help.html>

8. College Supports, Services and Policies



Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource center, help center, learning skills, sexual violence support & education, library, and writing center. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

1. 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		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. 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 <http://camosun.ca/about/policies/index.html> 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 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	<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.