COURSE SYLLABUS

CAMOSUN COLLEGE

COURSE TITLE: MATH-109-Finite Mathematics

CLASS SECTION:

TERM: 2025W

COURSE CREDITS: 3

DELIVERY METHOD(S): LECTURES

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Ləḱʷəŋən (Songhees and Kosapsum) and WSÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

INSTRUCTOR DETAILS

NAME: NAME: Bogdan Verjinschi

EMAIL: Verjinschi @camosun.bc.ca

OFFICE: E244

HOURS: see below

	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:30-10:20		M109-001 Y201		M109-001 Y201
10:30-11:20		M109-001 Y201		M109-001 Y201
11:30-12:20		OFFICE HOUR		OFFICE HOUR
12:30-1:20	M100-002 Y325		M100-002 Y316	M100-002 Y219
1:30-2:20	OFFICE HOUR		M100-002 Y316	M100-002 Y219
2:30-3:20			OFFICE HOUR	
3:30-5:20	M109-002 Y217		M109-002 Y227	
	M109-002 Y217		M109-002 Y227	

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

This course provides an introductory survey to material that is of particular interest to business, biology and social science students. Topics include a review of linear equations; sets and counting, including permutations and combinations; probability, including Bayes' Theorem, random variables, expected value and the binomial distribution; matrix operations; solving systems of linear equations using a variety of methods, including Gauss-Jordan elimination and inverse matrices; linear programming using a geometric approach; Markov chains; annuities and amortization of loans; and basic logic, including implication and equivalence.

PREREQUISITE(S):

One of:

C in Math 11

C- in Pre-calculus 12

C+ in MATH 072

C in MATH 073

C+ in MATH 075

C in MATH 077

C+ in MATH 135

C in MATH 137

CO-REQUISITE(S):

EQUIVALENCIES:

COURSE LEARNING OUTCOMES / OBJECTIVES

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

Solve counting problems using sets and/or the multiplication principle, and recognize and solve problems involving permutations and combinations.

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.

Solve linear systems of equations using techniques, including Gauss-Jordan elimination and inverse matrices.

Solve linear programming problems using a graphical approach.

Derive simple annuity formulas and use them to solve amortization problems.

Translate statements into symbolic form and vice versa. Construct truth tables for propositions, including implications. Use truth tables to verify equivalencies.

A: Textbook:

Barnett • Ziegler • Byleen • Stocker MyLab Math with Integrated Review Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences, 14e ©2019

STEP 1 Go to https://www.camosuncollegebookstore.ca/buy_textbooks.asp?

Sign in, and select Math 109 to purchase the access code for

Finite Mathematics W/My Math Lab Access & Etext*Barnett ISBN: 9780135244623Copyright: 19Publisher: Prentice H Edition: 14

STEP 2 Follow the instructions from D2L: Content/Course Info

M109-001_2025W_Student_Registration_Handout_verjinschi38281 PDF document

B: Calculator: Sharp EL-531 (or EL-510R) scientific calculator

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

week	DATE	L1	L2	L3	L4	NOTES
1	Jan 6-10		1.1a Linear Equations	1.1b Inequalities	1.2a Graphs & Lines	
2	Jan 13-17	1.2b Lines/word problems	3.1 Simple Interest	3.2 Compound & Continuous	3.3 F.V. Annuity	**A1**[1.1-3.2] MLM
3	Jan20-25	3.4 PV Annuity Amortization	4.1a Linear 2X2	4.1b	4.2a Augmented Matrix	**A2**[3.3-3.4] MLM
4	Jan 27-31	4.2b Augmented Matrix	**T1[1.1 -3.4] =7s**	4.3 Gauss-Jordan Elimination	4.4a Matrices Basic Operations	
5	Feb 3-7	4.4b Matrices Basic Operations	4.5a Inverse of a Square Matrix	4.5b	4.6 Matrix Systems of Linear Equations	
6	Feb10-15	4.6b	5.1 Inequalities2var	5.2a Systems LinearIneq2var	5.2b	**A3** [4.1-4.6] MLM
7	Feb17-22	Reading Break	Reading Break	Reading Break	Reading Break	
8	Feb 24-28	53a LinearProgr2D	53b	7.1 LOGIC	7.1 LOGIC	**A4**[51,53] MLM
9	March 3-7	**7.2 SETS**	**T2 [4.1-5.3] =9s**	**7.3** Basic Counting	**7.4** P (n, r)	
10	March 10-15	**7.4** C (n, r)	**8.1** Sample Space, Probability	**8.2** Union, Intersect, Complement	82b	**A5**[7.1-74] MLM
11	March 17-22	**8.3** P(A|B), intersect, independence	**8.3 b**	**8.4** Bayes' Formula	**8.5** Random Variable, Pr. Distribution; E(x)	
12	March 24-29	8.5b	9.1 Properties of Markov Chain	9.2 Regular Markov Chains	92b	**A6**[7.4-8.5] MLM
13	March 31-Apr 4	10.4 Bernoulli Trials, Binomial Distribution	**T3 [7.1-8.5] =9s**	10.4 Bernoulli Trials, Binomial Distribution	10.4	
14	Apr7-11	R	R	R	R	

CHAPTER/sections
Chapter 1 Linear Equations and Graphs
1.1 Linear Equations and Inequalities
1.2 Graphs and Lines
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
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
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
Chapter 7 Logic, Sets, and Counting
7.1 Logic
7.2 Sets
7.3 Basic Counting Principles
7.4 Permutations and Combinations
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
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

EVALUATION OF LEARNING

DESCRIPTION		WEIGHTING
My Math Lab Assignments (best 5 of 6)		5%
3 Tests (There are no make-up tests.)		55%
Final Exam Apr. 14 - 25 - Final Exam Period		40%
	TOTAL	100%

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is required. Deadlines can be reviewed on the CAL exams page. https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams

Final Exam: There will be a comprehensive three-hour final exam scheduled during the Final Exam Period (April17-25).

All tests count. If you must miss one test <u>due to illness or family affliction</u>, *contact me via e-mail , phone, or in person before the test to make alternate arrangements.*

If you don't provide a reason for a missed test, you may get a zero on that test. There will be no "make-up" tests.

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
W4	TEST 1	W Jan 29
W9	TEST 2	W March 5
W13	TEST3	W Apr2
April 14 - 25	FINAL EXAM	

COURSE GUIDELINES & EXPECTATIONS

Have a good review of the material every weekend. Some of the sections covered in this course could be very difficult so please be sure you spend enough time to understand the concepts presented in class and that you can work the assigned problems (HW).

If you need help, please see me, my Office is E244, or go to The Camosun Math Help Center E224

SCHOOL OR DEPARTMENTAL INFORMATION

The Camosun Math Help Center in located in E224

For details please see:

https://camosun.ca/services/academic-supports/help-centres/math-help

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit camosun.ca/services.

Support Service	Website
Academic Advising	camosun.ca/services/academic-supports/academic-advising
Accessible Learning	camosun.ca/services/academic-supports/accessible-learning
Counselling	camosun.ca/services/health-and-wellness/counselling-centre
Career Services	camosun.ca/services/co-operative-education-and-career-services
Financial Aid and Awards	camosun.ca/registration-records/financial-aid-awards
Help Centres (Math/English/Science)	camosun.ca/services/academic-supports/help-centres
Indigenous Student Support	camosun.ca/programs-courses/iecc/indigenous-student-services
International Student Support	camosun.ca/international
Learning Skills	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills
Library	camosun.ca/services/library
Office of Student Support	camosun.ca/services/office-student-support
Ombudsperson	camosun.ca/services/ombudsperson

Support Service	Website
Registration	camosun.ca/registration-records/registration
Technology Support	camosun.ca/services/its
Writing Centre	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Integrity

Students are expected to comply with all College policy regarding academic integrity; which is about honest and ethical behaviour in your education journey. The following guide is designed to help you understand your responsibilities: https://camosun.libguides.com/academicintegrity/welcome

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.13.pdf for Camosun's Academic Integrity policy and details for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

Camosun College is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging appropriate academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a documented disability and think you may need accommodations, you are strongly encouraged to contact the Centre for Accessible Learning (CAL) and register as early as possible. Please visit the CAL website for more information about the process of registering with CAL, including important deadlines: https://camosun.ca/cal

Academic Progress

Please visit https://camosun.ca/sites/default/files/2023-02/e-1.1.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit https://camosun.ca/sites/default/files/2021-05/e-2.2.pdf for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit https://camosun.ca/registration-records/tuition-fees#deadlines.

Grading Policy

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.5.pdf for further details about grading.

Grade Review and Appeals

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf for policy relating to requests for review and appeal of grades.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal (see Medical/Compassionate Withdrawals policy). Please visit https://camosun.ca/services/forms#medical to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence Policy: https://camosun.ca/sites/default/files/2021-05/e-2.9.pdf and camosun.ca/services/sexual-violence-support-and-education.

To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-370-3841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at https://camosun.ca/sites/default/files/2021-05/e-2.5.pdf to understand the College's expectations of academic integrity and student behavioural conduct.

Looking for other policies?

The full suite of College policies and directives can be found here: https://camosun.ca/about/camosun-college-policies-and-directives

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.