

COURSE SYLLABUS



COURSE TITLE: MATH 109: Finite Mathematics

CLASS SECTION: 003

TERM: Winter 2025

COURSE CREDITS: 3

DELIVERY METHOD(S): FACE TO FACE

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

INSTRUCTOR DETAILS

NAME: LEAH HOWARD

EMAIL: HowardL@camosun.ca

OFFICE: CBA 151, Interurban

HOURS: Tues 11:30-1:20, Wed 9:30-10:20, Thurs 11:30-12:20, Fri 9:30-10:20

WEBSITE: www.leahhoward.com

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.

CALENDAR DESCRIPTION

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.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Any non-graphing calculator that has the nPr and nCr functions. The SHARP EL531 is recommended and can be purchased at the Camosun Bookstore.

There is no required textbook. Suggested homework problems are on D2L and full solutions are on the course website.

A detailed pacing schedule can be found on the last page of this outline.

Chapter 3 Sets and Counting

Chapter 4 Probability

Chapter 5 Expected Value and Binomial Distribution

Chapter 1 Equations and Inequalities

Chapter 2 Linear Programming

Chapter 6 Matrices

Chapter 7 Markov Chains

Chapter 8 Financial Math

Chapter 9 Logic

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). <https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
There will be a 10-minute open-book quiz at the beginning of class on Wednesdays, starting in Week 2. It will be based on the previous week's lectures. Your two lowest quiz marks will be dropped.	6% total
Test 1 (50 minutes, covers 3.1-3.6, 4.1-4.2)	18%
Test 2 (50 minutes, covers 4.3-4.6, 5.1-5.2, 1.1)	18%
Test 3 (50 minutes, covers 1.2-1.4, 2.1-2.2, 6.1-6.2)	18%
Final Exam (three hours, covers the whole course)	40%
	TOTAL
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](#) policy for more information.

<https://camosun.ca/sites/default/files/2021-05/e-1-14.pdf>

COURSE GUIDELINES & EXPECTATIONS

The secret to success in this course is doing your suggested homework problems after each section. If you have questions: Ask me after class, come to office hours, or email me.

SCHOOL OR DEPARTMENTAL INFORMATION

Free math help is available in the Math Lab, TEC 142. Hours are posted on the door.

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.

Math 109 Schedule, Winter 2025

Jan 6-10	3.1-3.3
Jan 13-17	3.4-3.6
Jan 20-24	4.1-4.2
Jan 27-31	4.3-4.4 Test 1 is Fri Jan 31
Feb 3-7	4.5-4.6, 5.1
Feb 10-14	5.2, 1.1
Feb 17-21	Reading Week
Feb 24-28	1.2-1.3 Test 2 is Fri Feb 28
Mar 3-7	1.4, 2.1 and 2.2
Mar 10-14	6.1-6.2
Mar 17-21	6.3-6.4 Test 3 is Fri Mar 21
Mar 24-28	6.5, 7.1-7.2
Mar 31-Apr 4	8.2-8.4
Apr 7-11	9.1-9.3

There will be a ten-minute open-book quiz at the beginning of class every Wednesday, starting in Week 2. It will be based on the lecture notes from the previous week.

Tentative Test Coverage

Test 1: 3.1-3.6, 4.1-4.2

Test 2: 4.3-4.6, 5.1-5.2, 1.1

Test 3: 1.2-1.4, 2.1-2.2, 6.1-6.2

Math 109 Suggested Homework

These questions are for your own practice.
You don't have to hand them in.

Section	Odd-Numbered Questions
1.1	11-19, 23, 27-33, 39, 43
1.2	11, 15-21, 29, 31, 35-43
1.3	3, 5, 9, 11, 15, 19, 25, 31
1.4	11, 15-21, 31, 41, 47
Ch 2	Section 2.2 # 33, 47. Section 2.1 #7 How many packages of Assortment A and B yield the maximum profit? Ignore parts a to e, and follow the method from class.
3.1	1-5, 13 (omit parts b to e), 21, 23, 27, 31, 49, 55-61
3.2	1-5, 9-31, 37, 45-49
3.3	1-13, 27, 29, 33-43, 51, 61, 71
3.4	1, 3, 9-13, 21-25, 33-41, 55, 59
3.5	1-9, 27, 33-45, 51, 57
3.6	1, 3, 7-13, 17, 21, 25-29, 35
4.1	1, 3, 11-17, 23
4.2	15, 19, 25, 27, 31-35, 39-45
4.3	Section 4.2 # 13, Section 4.3 # 1, 3, 7, 9, 17, 19, 25, 39-45
4.4	1, 3, 17, 21, 29, 33-39, 43, 53
4.5	3-7, 13, 15, 29
4.6	3, 7, 15, 21
5.1	7-11, 15-21, 25, 29, 41
5.2	3, 5, 21, 25, 43, 45, 49, 51, 53d mean only
Ch 6	All Questions (odd and even)
7.1	15, 17, 23-31, 45-51, 79-83
7.2	9, 13, 15, 23-27, 51 (#23 to #27: ignore the limiting matrix)
8.2	33-37, 43-49, 61, 75
8.3	7, 11, 15, 17, 27-33
8.4	9, 11, 15, 17, 29, 31
Ch 9	All Questions (odd and even)