

COURSE SYLLABUS



COURSE TITLE: MATH-100-1: Calculus 1
CLASS SECTION: RH06
TERM: W2022
COURSE CREDITS: 4
DELIVERY METHOD(S): Face to face Lecture

Camosun College campuses are located on the traditional territories of the Ləkʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.
Learn more about Camosun's [Territorial Acknowledgement](#).

For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>.

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Jean-Marc (JM) Miszaniec
EMAIL: MiszaniecJ@camosun.bc.ca
OFFICE: E Wing E252
PHONE: 250-370-3075 ext: 3135
HOURS: By Appointment

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

For mathematics and science students. Topics include: limits, derivatives of algebraic, trigonometric, logarithmic and exponential functions, applications of differentiation and the Fundamental Theorem of Calculus. Students will complete some assignments using Maple.

PREREQUISITE(S):

One of:

B in Pre-calculus 12; B in MATH 097; A in MATH 107; B in MATH 115; A in MATH 173

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Notes: Only one of MATH 100 or MATH 108 may be used towards a Camosun College credential.

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Find the limit of elementary functions as the independent variable approaches some finite value or approaches infinity.
2. Define continuity.
3. Find the derivative of simple functions using the definition.
4. Find the derivative of functions (polynomial, trigonometric, logarithmic and exponential functions) using the product, quotient and chain rule.
5. Find the derivative using implicit differentiation.
6. Solve problems involving rates of change.
7. Find relative and absolute extrema of functions.
8. Sketch graphs of functions identifying such features as relative extrema, intervals where the function is increasing and decreasing, points of inflection, intervals where the function is concave up and concave down, and asymptotes.
9. Solve problems that involve maximizing or minimizing some variable associated with the problem.
10. Solve equations using Newton's method.
11. Find the area under a curve using the limit of the area of a set of approximating rectangles.
12. Evaluate a definite and an indefinite integral of polynomial, trigonometric, logarithmic and exponential functions using the Fundamental theorem of Calculus.
13. Use the Mean Value Theorem of integrals to find the mean value of a continuous function.
14. Evaluate integrals using the method of substitution.
15. Evaluate definite integrals using the trapezoidal rule and Simpson's rule.
16. Solve elementary differential equations using the method of separation of variables.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Coursepack available in pdf (posted in d2L)

Textbook: *Calculus of a Single Variable, 7th Edition* by Larson, Hostetler and Edwards.

Scientific Calculator (graphing calculators are not permitted). The **SHARP EL-531X** is strongly recommended

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.

Lecture Times

Monday	1:58 - 3:20 (82 mins)
Tuesday	12:30 - 1:52 (82 mins)
Thursday	12:30 - 1:52 (82 mins)
Friday	1:14 - 2:22 (68 mins)

Tentative Course Schedule

Week (Date range)	Lecture sections	Quizzes/Tests
WEEK #1 (Jan 31st- Feb 4)		
Monday		
Tuesday		
Wednesday		
Thursday	Course Introduction + 1.1 Preview of Calculus	
Friday	1.2 Finding Limits Graphically and Numerically	
WEEK #2 (Feb 7- 11)		
Monday	1.3 Evaluating Limits Analytically	Quiz 1 (1.1- 1.2)
Tuesday	1.4 Continuity and One-Sided Limits	
Wednesday		
Thursday	1.5 Infinite Limits	
Friday	REVIEW	Course Drop Deadline
WEEK #3 (Feb 14- 18)		
Monday	2.1 The Derivative and the Tangent Line Problem	Quiz 2 (1.4- 1.5)
Tuesday		TEST 1 (1.1- 1.5)
Wednesday		
Thursday	2.2 Basic Differentiation Rules and Rates of Change	
Friday	Pro-D Day - No Classes	

WEEK #4 (Feb 21- 25)		
Monday	Family Day - Schools Closed	
Tuesday	2.3 Product and Quotient Rules and Higher-Order Derivatives	Quiz 3 (2.1- 2.2)
Wednesday		
Thursday	2.3 2.4 The Chain Rule	
Friday	2.4	
WEEK #5 (Feb 28- Mar 4)		
Monday	2.5 Implicit Differentiation	Quiz 3 (2.2- 2.4)
Tuesday	2.5 2.6 Related Rates	
Wednesday		
Thursday	2.6	
Friday	REVIEW	
WEEK #6 (Mar 7- 11)		
Monday		TEST #2 (2.1-2.6)
Tuesday	3.1 Extrema on an Interval	
Wednesday		
Thursday	3.2 Rolle's Theorem and the Mean Value Theorem	
Friday	3.3 Increasing and Decreasing Functions and First-Derivative Test 3.4 Concavity and the Second Derivative Test	
WEEK #7 (Mar 14- 18)		
Monday	3.5 Limits at Infinity	Quiz 5 (3.2- 3.4)
Tuesday	3.6 A Summary of Curve Sketching	
Wednesday		
Thursday	3.6	
Friday	3.7 Optimization	
March 21- April 1 (two weeks)	Spring Break	Spring Break
WEEK 8 (April 4- 8)		
Monday	3.7	Quiz 6 (3.6)
Tuesday	3.8 Newton's Method	
Wednesday		
Thursday	3.9 Differentials	
Friday	3.9	
WEEK 9 (April 11- 15)		
Monday	REVIEW	Quiz 7 (3.7- 3.9)
Tuesday		TEST 3 (3.1- 3.9) Last Day to drop course without failing grade

Wednesday		
Thursday	4.1 Antiderivative and Indefinite Integration	
Friday	No school- Good Friday	
WEEK 10 (April 18- 22)		
Monday	No school- Easter Monday	
Tuesday	4.2 Area	Quiz 8 (4.1)
Wednesday		
Thursday	4.3 Riemann Sums and Definite Integral	
Friday	4.4 Fundamental Theorem of Calculus	
WEEK 11 (April 25- 29)		
Monday	4.5 Integration by Substitution	Quiz 9 (4.2- 4.4)
Tuesday	4.5	
Wednesday		
Thursday	4.6 Numerical Integration	
Friday	4.6	
WEEK 12 (May 2- 6)		
Monday	5.1 The Natural Logarithm Function: Differentiation	Quiz 10 (4.5- 4.6)
Tuesday	5.2 The Natural Logarithm Function: Integration	
Wednesday		
Thursday	5.3 Inverse Functions 5.4 Exponential Functions: Differentiation and Integration	
Friday	5.5 Bases Other than e and Applications	REVIEW
WEEK 13 (May 9- 13)		
Monday	5.6 Differential Equations: Growth and Decay	Quiz 11 (5.1- 5.5)
Tuesday	5.6 5.7 Differential Equations: Separation of Variables	
Wednesday		
Thursday	5.7 5.8 Inverse Trigonometric Functions	
Friday		REVIEW
WEEK 14 (May 16- 20)		
Monday		Test 4 (5.1- 5.8)
Tuesday		EXAM REVIEW
Wednesday		
Thursday		EXAM REVIEW
Friday	Pro-D Day - No Classes	

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](http://camosun.ca/services/accessible-learning/exams.html).
<http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Weekly Quizzes	20%
Tests (x4)	40%
Final Exam	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](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

- Course content, announcements, and important class information will be posted on D2L. Students must check D2L regularly.
- **Weekly quizzes** of 5-15 minutes long occurring most often on Mondays.
- **Challenge Sets** will be assigned every week and can be submitted in person for correction. These challenge sets do not count toward your final grade, but serve as your best practice for quizzes, tests and the final exam. "Soft due dates" will be given in class and on d2L in order to stay on top of your practice.
- **Four (4) tests** will occur at the dates and times listed below.
 - Test #1: Tuesday, February 15th
 - Test #2: Monday, March 7th
 - Test #3: Tuesday, April 12th
 - Test #4: Monday, May 16th

SCHOOL OR DEPARTMENTAL INFORMATION

- The final exam will cover the entire course. As stated in the current college calendar, "students are expected to write tests and final exams 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.

- Students must write quizzes, tests, on the date and time assigned by the instructor. Missed exams normally receive a zero grade. Instructors are not required to provide make-up tests. At their discretion, instructors may waive a test in exceptional circumstances such as medical issues or a documented illness.
- Any outstanding homework or labs must be submitted prior to the last day of classes, and will be graded according to the late policy outlined by the instructor.
- Refer to your instructor's information page for any additional policies regarding testing and grade calculation.

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 <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss

Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

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 Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/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

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the “Attendance” section under “Registration Policies and Procedures”

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

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. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

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 or misconduct 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 and Misconduct Policy:

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

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 <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College’s expectations of academic integrity and student behavioural conduct.

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.