



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

MATH-100-001
Calculus 1
Summer 2018

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 | Laura Shepehrd | | |
| (b) Office hours | M-Th 8:30 – 9:20, M, T, Th 10:30 – 11:20 | | |
| (c) Location | E258 | | |
| (d) Phone | 250-370-3499 | Alternative: | |
| (e) E-mail | shepherd@camosun.bc.ca | | |
| (f) Website | https://sites.google.comsite/lmds5637/100 | | |

2. Intended Learning Outcomes

Upon completion of this course the 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.

3. Required Materials

- (a) Texts: **Calculus of a Single Variable, 11th edition** by Larson, Hostetler and Edwards, available in the College Bookstore.
- (b) Other: **Calculator:** As per department policy, the only calculator permitted for use on tests and the final exam is the Sharp **EL-531X (or EL-531XG)** scientific calculator. No other calculator, nor any other electronic device including cell phones, smart watches, electronic translators iPods, etc, is allowed.

4. Course Content and Schedule

A&S Math Lab: E224: This drop-in center is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).

5. Basis of Student Assessment (Weighting)

- (a) **Weekly Questions:** Once a week during the first 5 minutes of class, there will be a question and/or formula assigned based on the previous lectures. These in-class questions will count for 5% of your grade.
- (b) **Maple Labs:** The Maple Labs will take place in the Ewing computer lab. See webpage for labs. These Labs will count for 5% of your grade
- (c) **Quizzes:** There will be a total of three term tests which will count for 40% of your grade. **There are no make up tests, if you miss a test for any reason please see me as soon as possible.**
- (d) **Exam:** There is a comprehensive final exam worth 50% of your grade. The final exam is three hours long and will be written during the week following the end of classes, Aug 13th – 21st. **Students MUST be available to write the exam at the scheduled date, time, and place.**

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.

Minimum consequences for academic dishonesty in this course are as follows:

Weekly Questions: *The student will receive a zero for all of the weekly questions.*

Term Test: *The student will receive a zero for the term test.*

Final Exam: *The student will receive a failing grade for the course and a letter to the dean detailing your actions.*

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

N/A

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 centre, help centre, learning skills, sexual violence support & education, library, and writing centre. 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 |

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. |