School of Arts & Science
Department of Mathematics & Statistics
MATH 108 - Applied Calculus
Fall 2017

Course Outline

Instructor:	Amanda Malloch
Office:	Ewing 342A
E-mail:	MallochA@camosun.bc.ca
Course Website:	D2L available through www.camosun.ca

Class Schedule:
12:30 - 1:20pm

Monday and Tuesday	Fisher 334
Wednesday	Young 219
Thursday and Friday	Young 325

Office Hours:

Tuesday	11:30am - 12:30pm
Thursday	11:30am - 12:30pm
Friday	1:30pm - 2:30pm

Important Dates:

Sept 5	First day of Math 108.
Sept 19	Fee Deadline.
Oct 9	Thanksgiving Day - no classes.
Nov 13	Remembrance Day Closure - no classes
Dec 8	Last day of Math 108.
Dec 11-19	Final Exam Period.

Calendar Description: For students in biology, business, economics or the social sciences who require only one semester of calculus. Topics include limits, derivatives of algebraic, logarithmic, exponential and trigonometric functions, the definite and indefinite integral and integration by parts. [4 Credits]
(Source: *Camosun College 2016-2017 Calendar* `http://camosun.ca/learn/calendar/current/web/math.html`)

Prerequisites: **C+** in Pre-Calculus 12 or Principles of Math 12; or **C** in MATH 107 or MATH 115; or assessment. (Refer to the calendar for alternate prerequisites.)

Note about Credit: Only one of MATH 100 or MATH 108 may be used toward a Camosun College credential.

Exit Grade: A grade of at least **C** is required when this course is used as a prerequisite for entry into another Camosun course such as STAT 218.

Textbook: RN Greenwell, Np Ritchey and ML Lial, *Calculus with Applications for the Life Sciences*, Custom Third Edition for Camosun College, Pearson.

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. Find the derivative of simple functions using the definition of the derivative.
3. Find the derivative of functions (polynomial, trigonometric, logarithmic and exponential functions) using the product, quotient and chain rule.
4. Find the derivative using implicit differentiation.
5. Solve problems involving rates of change.
6. Find relative and absolute extrema of functions.
7. 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.
8. Solve problems that involve maximizing or minimizing some variable associated with the problem.
9. Find the approximate area under a curve using the area of a set of approximating rectangles.
10. Evaluate a definite and an indefinite integral of polynomial, trigonometric, logarithmic and exponential functions using the Fundamental theorem of Calculus.
11. Evaluate integrals using the method of substitution.
12. Use integration to find the area between two curves.
13. Evaluate a definite and indefinite integral by the method of integration by parts.
14. Solve elementary differential equations using the method of separation of variables.
15. Solve problems using differential and integral calculus that involve applications from business and/or biological sciences.

A&S Math Lab: Ewing 224: This drop-in centre 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).

Grade Calculation: The final grade will be calculated according to the following breakdown

Assignments:	10%
Term Tests:	40%
Final Exam:	50%

Tests: There will be 4 in-class tests. Each test is worth 10% of your final grade.

There are NO make up exams. If you cannot write a test, you must notify me immediately. If you miss a test for valid reasons, you must present proof of those reasons and your course score will be re-calculated out of the remaining course components.

Final Examination: The 3-hour comprehensive final examination is worth 50% of your grade and will take place during the exam period of December 11 - 19. The specific date, time, and location will be announced sometime in May. You must write the final exam at this time as per Camosun College's policy on final examinations. See `camosun.ca/learn/calendar/current/procedures.html#academic`.

The following is the grading table used to convert percentages into letter grades:

A+	A	A-	B+	B	B-	C+	C	D	F
90-100%	85-89%	80-84%	77-79%	73-76%	70-72%	65-69%	60-64%	50-59%	0-49%

For information on Camosun College's grading policy, see Sec E-1.5 on the policy webpage `camosun.ca/about/policies/policies.html#education`.

Calculators: As per department policy, the only calculator permitted for use on tests and the final exam is the Sharp EL-531 (or EL-510R) scientific calculator. No other make/model of calculator is permitted, nor are other electronic devices such as cell phones, iPods, electronic translators, etc.

Academic Integrity: I encourage you to work with your classmates and use all resources available to you. 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. For more information, you can also view `http://ballinger.disted.camosun.bc.ca/StudentGuidelinesforAcademicIntegrity.pdf`.