



School of Arts & Science  
MATHEMATICS DEPARTMENT

MATH 108-002  
Applied Calculus  
2007F

[svendsend@camosun.bc.ca](mailto:svendsend@camosun.bc.ca)

## COURSE OUTLINE

The Approved Course Description is available on the web @ \_\_\_\_\_

Ω Please note: this outline will be electronically stored for five (5) years only.  
It is strongly recommended students keep this outline for your records.

### 1. Instructor Information

(a)	Instructor:	Adriana Wise		
(b)	Office Hours:	M,T,W,R,F 12:30-1:30 and 2:30-3:30		
(c)	Location:	E258		
(d)	Phone:	370-3499	Alternative Phone:	
(e)	Email:	<a href="mailto:wisea@camosun.bc.ca">wisea@camosun.bc.ca</a>		
(f)	Website:			

### 2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

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.

### 3. Required Materials

**Text:** Calculus with Applications, 8<sup>th</sup> edition by Lial, Greenwell and Ritchey, available in the College Bookstore. Note: It is also acceptable to use the 7<sup>th</sup> edition of this textbook, as it is virtually identical to the 8<sup>th</sup> edition. Recommended homework problems for both editions are given at <http://www.toporowski.disted.camosun.bc.ca/Math108/M108.htm>

### 4. Course Content and Schedule

This course is for students in business, biology or the social sciences who require only one semester of calculus. Topics include: limits; derivatives of algebraic, logarithmic, exponential and trigonometric functions; rates of change; implicit differentiation; the definite and indefinite integral; integration by parts and an introduction to differential equations. Each section contains numerous applications of the techniques learned.

**Note:** Credit will only be given for one of Math 100 or Math 108.

**Calculator Policy:** The only calculator allowed for use on tests and the final exam for all Math courses is the Sharp EL-531W, available at the College Bookstore.

### 5. Basis of Student Assessment (Weighting)

**Term work:** This will consist of 5 term tests, one of which will be a take home test. Dates are Tuesday September 18<sup>th</sup>, Wednesday October 10<sup>th</sup>, Tuesday October 30<sup>th</sup> and Tuesday November 20<sup>th</sup>. The take home test will be assigned on November 28<sup>th</sup> and will be due on Monday December 3<sup>rd</sup>. Your final exam mark can count for 100% of your grade provided that your term work has been satisfactorily completed. This means that you should have an average of 50% on the midterms.

**Prerequisites:** A grade of C in one of Math 093, Math 105, Math 115, Math 174B or Math 185 or a grade of C+ in Math 12 or Math 173 or assessment.

**Attendance:** While attendance in class is not mandatory, it is very difficult to be successful if you miss many classes. If you must miss classes due to illness or other reasons, let me know and I can give you an idea of what work was covered. **If you must miss a test due to illness, it is very important that you contact me so that we can make appropriate accommodations.**

### 6. Grading System

#### 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	Minimum level of achievement for which credit is granted; a course with a "D" grade	1

		cannot be used as a prerequisite.	
0-49	F	Minimum level has not been achieved.	0

### 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 E-1.5 at [camosun.bc.ca](http://camosun.bc.ca) 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>d</sup> course attempt or at the point of course completion.)
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.

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at [camosun.ca](http://camosun.ca).

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.

**ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED**