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School of Arts & Science
MATHEMATICS DEPARTMENT

MATH 108-01 & 02
Applied Calculus
2010W
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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:	Stan Toporowski	
(b)	Office Hours:	Winter 2010	
(c)	Location:	Ewing 254 Lansdowne Campus	
(d)	Phone:	370-3493	Alternative Phone:
(e)	Email:	toporowski@camosun.bc.ca	
(f)	Website:	http://www.toporowski.disted.camosun.bc.ca/	

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

(a)	Texts	Calculus with Applications, 9th edition by Lial, Greenwell and Ritchey, available in the College Bookstore. Note: It is also acceptable to use the 7th edition of this textbook, as it is virtually identical to the 8th edition. Recommended homework problems for both editions are given in the study guide.
(b)	Other	

4. Course Content and Schedule
(Can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

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.

Classes: Section 01 - 8:30 - 9:20 Monday to Friday in Young 219.
Section 02 - 11:30 - 12:30 Monday to Friday in Young 219

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)
(Should be linked directly to learning outcomes.)

Your final grade will be determined on the basis of Term Work worth 50% and a comprehensive Final Exam worth 50%. The final exam will be 3 hours long and will be written during the week following the end of classes, the time and place will be scheduled by the College. Your final percentage grade will be converted to a letter grade using the following scale below:

Term work: This will consist of 5 term tests, one of these tests will be a take home test. Dates will be announced in class at least a week in advance and will also be posted on the news page. 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.** Marks for term tests will be posted online and updated after each test so that you will be able to check your progress in the course.

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

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 cannot be used as a prerequisite.	1
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.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: 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	*In progress*: 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 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* 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

Resources: Math Lab (Ewing 224). This is a drop-in center where you can get help with your math homework. The hours will be posted on the door. I will also post regular office hours, check my door for the times. **Set up a regular study schedule !!**   You will probably have to do between 5 and 10 hours of homework a week to keep up.

Recommended Homework: These study guides for the 7th, 8th and 9th editions are compilations of homework questions, which you should do in order to get a full understanding of the course material.

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.

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