CAMOSUN COLLEGE	**School of Arts & Science** **MATHEMATICS DEPARTMENT** **MATH 108** **Applied Calculus** **Winter 2015**

COURSE OUTLINE

The course description is online @ http://camosun.ca/learn/calendar/current/web/math.html

Ω *Please note: the College electronically stores this outline for five (5) years only.*
*It is **strongly recommended** you keep a copy of this outline with your academic records.*
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Stan Toporowski	
(b)	Office Hours:	Winter 2015	
(c)	Location:	Ewing 254 Lansdowne Campus	
(d)	Phone:	370-3493	Alternative Phone:
(e)	Email:	toporowski@camosun.bc.ca	
(f)	Website:	http://toporowski.disted.camosun.bc.ca/	

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. 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

Textbook : Calculus with Applications for the Life Sciences by Greenwell, Ritchey and Lial, available in the College Bookstore. This book comes bundled with a Student Solutions Manual provided by the publisher at no additional cost.

4. Course Content and Schedule

Classes: Section 001 – 10:30 – 11:20 Monday to Thursday in Young 219
11:30 – 12:20 Friday in Young 219

Section 002 – 12:30 – 1:20 Monday to Friday in Young 219

Content : This course is for students in biology, environmental science, business 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.

5. Basis of Student Assessment (Weighting)

Prerequisite: "C+" in Principles of Math 12, or Pre-calculus 12, or MATH 093, or MATH 173; **or** "C" in both Principles of Math 12 and Calculus 12; or MATH 105, or MATH 107, or MATH 115, or MATH 174A, or MATH 185; **or** assessment.

Evaluation : Your final grade will be determined on the basis of your Term Work worth 50% and a Final Exam covering the entire course 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. **You must write the final exam at the scheduled time.**

Term work: This will consist of 5 assignments and 5 term tests. Dates for the tests will be announced in class and will also be posted on the news page. Marks will be posted online and updated after each test so that you will be able to check your progress in the course.

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. I will also update the news page daily to indicate the sections we have covered that day. **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 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

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 the College web site in the Policy Section.

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

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: This is a compilation of homework questions that you should do in order to get a full understanding of the course material. These homework questions will not be marked and are **not** to be handed in.