CAMOSUN COLLEGE	**School of Arts & Science** **MATHEMATICS DEPARTMENT** **MATH 100-001 and 100-003** **Calculus 1** **2009F**

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:	George Ballinger	
(b)	Office Hours:	10:30 – 11:20 M-F	
(c)	Location:	Ewing 256	
(d)	Phone:	(250) 370-3116	Alternative Phone:
(e)	Email:	ballinger@camosun.bc.ca	
(f)	Website:	ballinger.disted.camosun.bc.ca (click the MATH 100 link for course information)	

2.   Intended Learning Outcomes
(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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	Ron Larson and Bruce H. Edwards, *Calculus of a Single Variable,* 9th Edition, Brooks/Cole, 2010.
(b)	Other	Maple Lab Manual v. 3.0.

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

Required Textbooks:	Ron Larson and Bruce H. Edwards, *Calculus of a Single Variable,* 9th Edition, Brooks/Cole, 2010.

Maple Lab Manual v. 3.0.

Course Content:

Chapter	Sections
P. Preparation for Calculus	P.1-P.3
1. Limits and Their Properties	1.1-1.5
2. Differentiation	2.1-2.6
3. Applications of Differentiation	3.1-3.9
4. Integration	4.1-4.6
5. Logarithmic, Exponential, and Other Transcendental Functions	5.1-5.5
6. Differential Equations	6.2-6.3

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).

Study Time: It is recommended that approximately 8-10 hours per week be spent studying for this course outside of class time.

Calculator Policy: As per Math Department policy, the only calculator permitted for use on tests and the final exam is the Sharp EL-531W scientific calculator. No other make/model of calculator is permitted, nor are other electronic devices such as cell phones, PDAs, laptop computers, MP3 players, electronic translators, etc.

Homework: There will be ten assignments (plus five Maple labs) to be handed in for marking, details for which will be posted on the course website. LATE ASSIGNMENTS WILL NOT BE ACCEPTED.

Tests: There will be three term tests, details for which will be posted on the course website.

Final Exam: A comprehensive final exam will take place during the final exam period of December 14-19, 21. The specific date, time, and location will be announced sometime in October. You must write the final exam at this time as per Camosun College's policy on final examinations. See www.camosun.bc.ca/learn/calendar/current/pdf/academic.pdf.

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

Assignments:	15%*
Maple Labs:	5%
Term Tests:	30%
Comprehensive 3-hour Final Exam:	50% (or 100%)**

Note: The lowest assignment mark from among the first nine assignments will be dropped when calculating the assignment average. With the exception of the tenth assignment, which must be handed in by the due date, this allows you to miss one assignment without penalty.

** Note: Your final exam mark can count for 100% of your grade provided that all your term work has been satisfactorily completed.

6. Grading System
(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College 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

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.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED