CAMOSUN COLLEGE	***School of Arts & Science*** ***MATHEMATICS DEPARTMENT*** **MATH 100-03** **Calculus 1** **2007F**

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:	Fall 2007		
(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. 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	Calculus of a Single Variable, 8th edition by Larson, Hostetler and Edwards and the Math 100 Maple Lab Manual, both are 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	Maple Lab Manual – Mathematics 100

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 a comprehensive introduction to the methods and theory of differential and integral calculus for students in mathematics and the sciences. The course covers most of the material in the first six chapters of the textbook and includes the following topics: limits, derivatives of algebraic, trigonometric, logarithmic and exponential functions, applications of differentiation and the Fundamental Theorems of Calculus. Students will also be introduced to Maple, which is a software package for doing symbolic mathematical calculations.

Maple Labs : You must attend the Maple Labs, time and place TBA. You should have the prelab completed before the scheduled lab time and the lab and prelab should be handed in together.

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:

%	Grade	Grade Point Value	Description
90 – 100 85 – 89 80 – 84	A+ A A-	9 8 7	Exceptional, outstanding or excellent performance. Student shows initiative and an insightful grasp of theory and technique.
77 – 79 73 – 76 70 – 72	B+ B B-	6 5 4	Very good or good performance. Student shows a good overall grasp of theory and technique or an excellent grasp in some areas balanced by a satisfactory grasp in others.
65 – 69 60 – 65	C+ C	3 2	Satisfactory performance. Student shows a satisfactory grasp of theory and technique. Students may experience some difficulty being successful in courses for which this course is a prerequisite.
50 – 59	D	1	Marginal performance. Student has a weak grasp of theory and technique, which is insufficient to take courses for which this course is a prerequisite.
0 – 49	F	0	Unsatisfactory performance. Student should either repeat the course or enroll in a course at a lower level.

Term work: This will consist of 4 term tests (45%) and 5 Maple Labs (5%). Dates for the term tests will be announced in class at least a week in advance and the dates will also be posted on the news page. Your final exam mark can count for 100% of your grade provided that all your term work has been satisfactorily completed. This means that you should have attempted all the midterms and completed all the Maple Labs. Marks for term tests and labs will be posted online and updated after each test so that you will be able to check your progress in the course.

Prerequisites and Expectations: You should have a grade of at least a B in one of Math 12, Math 093, Math 115 or Math 108. You will need strong algebra skills and a good grasp of trigonometry in order to be successful in this course. If you feel that you might not have the necessary background please see me in the first week of classes and we will talk about your situation. While a grade of C is sufficient to go on to Math 101, it may be difficult for you to be successful in Math 101 if your grade in Math 100 is not at least a B-.

Attendance: While attendance in classes and the Maple Labs 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

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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.

Online Resources: If you have purchased a new textbook you will receive a password, which will give you access to free online tutoring on the internet. There are also relevant course materials including algebra review questions, additional appendices including one on trigonometry, some useful animations and practice tests available to all students on the internet.

Recommended Homework: These study guides for both the 7th and 8th edition 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