



**School of Arts & Science  
MATHEMATICS DEPARTMENT**

**MATH 235-01  
Procedures in Maple  
2006F**

## 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:	Dan Bergerud		
(b)	Office Hours:	TBA		
(c)	Location:	Ewing 264		
(d)	Phone:	370-3495	Alternative Phone:	
(e)	Email:	Bergerud@camosun.bc.ca		
(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. Assign values to variables, define and evaluate functions.
2. Use basic commands like solve, int, diff, seq, and evalf.
3. Plot curves and surfaces in two and three dimensions using different plotting options.
4. Use basic expression manipulation commands like simplify, factor, expand, and collect.
5. Write simple procedures to automate command sequences.
6. Use commands from Maple packages like plots and linalg.
7. Use if-then-else and for or while loops in procedures.
8. Include type checking and error handling in procedures.

### 3. Required Materials

(a)	Texts	
(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.)

## UNIT 1 - Introduction to Maple

- 1.1 Worksheets and syntax.
- 1.2 Types of numbers and evaluation.
- 1.3 Assignment, variables, and functions.
- 1.4 Basic commands: `solve`, `int`, `diff`, `seq`.
- 1.5 Basic plotting of functions in two and three dimensions.

## UNIT 2 - Manipulation of Mathematical Expressions.

- 2.1 Basic manipulation commands: `simplify`, `factor`, `expand`.
- 2.2 Operations on polynomials.
- 2.3 Operations on sets, lists, and sequences
- 2.4 Simple Mathematical procedures.
- 2.5 Maple Packages and Procedures.

## UNIT 3 - Programming Mathematical Procedures

- 3.1 The `if/then/else/end if` construct.
- 3.2 The `for/from/by/while/do/end do` construct.
- 3.3 Data types and type checking.

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

*(Should be linked directly to learning outcomes.)*

The final grades in the course will be determined from marks on the assignments, on the midterm, and on a final exam.

Assignments	30%
Midterm	30%
Final Exam	40%

### 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
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### 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](http://camosun.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