



## COURSE OUTLINE

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

⚡ 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:	Jane Wodlinger		
(b)	Office Hours:	Mon. 9:30-10:30, Wed.12:30-1:30, Fri. 11:30-12:30		
(c)	Location:	CBA 156		
(d)	Phone:	250 370 4912	Alternative Phone:	
(e)	Email:	<a href="mailto:wodlingerj@camosun.bc.ca">wodlingerj@camosun.bc.ca</a> or <a href="mailto:jw@uvic.ca">jw@uvic.ca</a>		
(f)	Website:	D2L		

### 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 equation of a line tangent and normal to a curve at a point. Use Newton's Method to find an approximate solution to an equation. Solve curvilinear motion problems using equations in parametric form. Solve related rate problems including applications to electronic circuits and devices.
2. Sketch curves using the first and second derivatives, symmetry and asymptotes as appropriate. Solve optimization problems including applications to electronic circuits and devices. Find differentials, estimate errors and linearize functions.
3. Find antiderivatives of functions and use antiderivatives to solve applied problems including applications to electronics.
4. Use the Fundamental Theorem of Calculus to evaluate definite integrals. Using the trapezoidal rule and Simpson's rule, evaluate integrals for functions that cannot be integrated directly. Calculate areas between curves and find volumes of solids of revolution.
5. Differentiate trigonometric, inverse trigonometric, exponential and logarithmic functions.

### 3. Required Materials

- (a) Texts *Technical Mathematics with Calculus (10<sup>th</sup> edition)* by Allyn J. Washington and Michelle Boué
- (b) Calculator: Any scientific, non-graphing, non-programmable calculator. The *Sharp EL-531X* is recommended.

### 4. Course Content and Schedule

Class timetable: Tues 9:30-10:20, Tech 175  
Wed 8:30-9:20, Tech 175  
Fri 9:30-10:20, Tech 175

In-class test dates: Jan 27, Feb 19, Mar 15

Chapter 24: Applications of the Derivative  
24.1 Tangents and Normals  
24.2 Newton's Method  
24.3 Curvilinear Motion  
24.4 Related Rates  
24.5 Using Derivatives in Curve Sketching

- 24.6 More on Curves Sketching
- 24.7 Applied Maximum and Minimum Problems
- 24.8 Differentials and Linear Approximations

- Chapter 27: Differentiation of Transcendental Functions
- 27.1 Derivatives of the Sine and Cosine Functions
  - 27.2 Derivatives of the Other Trigonometric Functions
  - 27.3 Derivatives of the Inverse Trigonometric Functions
  - 27.5 Derivatives of the Logarithmic Functions
  - 27.6 Derivatives of the Exponential Functions

- Chapter 25: Integration
- 25.1 Antiderivatives
  - 25.2 The Indefinite Integral
  - 25.3 The Area Under a Curve
  - 25.4 The Definite Integral
  - 25.5 Numerical Integration: The Trapezoidal Rule
  - 25.6 Simpson's Rule

- Chapter 26: Applications of Integration
- 26.1 Applications of the Indefinite Integral
  - 26.2 Areas by Integration
  - 26.3 Volumes by Integration

## 5. Basis of Student Assessment (Weighting)

*(This section should be directly linked to the Intended Learning Outcomes.)*

- (a) **Weekly quizzes:** 5%.  
Your lowest two quiz marks will be dropped. Missed quizzes can't be made up.
- (b) **Tests:** Three tests, each worth 15%.  
Test dates are Jan. 27, Feb. 19, Mar. 15. There is no provision for making up a missed test. If a student misses a test for a valid reason, with documentation, the final exam will be worth 65%.
- (c) **Final exam:** 50%  
If your final exam grade is higher than your term grade and your term work is complete and 50% or higher and you have consistently attended lectures, your final exam grade will count as 100% of your final grade.

## 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](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. <i>(For these courses a final grade will be assigned to either the 3<sup>rd</sup> course attempt or at the point of course completion.)</i>
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 the College web site in the Policy Section.

### MATH LAB

The **Interurban Math Lab**, located in **Tech 142**, provides free drop-in Math and Stats help. Information about Math Lab hours and services can be found at <http://camosun.ca/services/help-centres/math.html>