



## COURSE OUTLINE

### 1. Instructor Information

|     |               |   |
|-----|---------------|---|
| (a) | Instructor:   | Gilles Cazalais   |
| (b) | Office Hours: | <a href="http://pages.pacificcoast.net/~cazelais/schedule.html">http://pages.pacificcoast.net/~cazelais/schedule.html</a> |
| (c) | Location:     | CBA 158   |
| (d) | Phone:        | 370-4495  |
| (e) | Email:        | <a href="mailto:Cazalais@camosun.bc.ca">Cazalais@camosun.bc.ca</a>  |
| (f) | Website:      | <a href="http://pages.pacificcoast.net/~cazelais/168.html">http://pages.pacificcoast.net/~cazelais/168.html</a>           |

### 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 antiderivatives of functions and use antiderivatives to solve applied problems including applications to electronics.
2. Use the Fundamental Theorem of Calculus to evaluate definite integrals. Calculate areas between curves.
3. Evaluate integrals in power, logarithmic, exponential, and trigonometric forms.
4. Evaluate integrals using substitution, integration by parts, and non-repeated linear partial fractions.
5. Solve first order separable and linear differential equations and applied problems.
6. Solve homogeneous second order linear differential equations and applied problems, including LRC circuits.
7. Solve problems involving counting techniques and basic probability.
8. Calculate the mean, median, and standard deviation of a discrete data set and interpret the results.
9. Perform calculations involving the normal distribution. Calculate confidence intervals for large samples.

### 3. Required Materials

Allyn J. Washington, *Basic Technical Mathematics with Calculus*, 10th Edition

### 4. Course Content and Schedule

#### 1. Integration

- Antiderivatives (section 25.1)
- The Indefinite Integral (section 25.2)
- The Area Under a Curve (section 25.3)
- The Definite Integral (section 25.4)

#### 2. Applications of Integration

- Applications of The Definite Integral (section 26.1)
- Areas by Integration (section 26.2)

#### 3. Methods of Integration

- The General Power Formula (28.1)
- The Basic Logarithmic Form (28.2)
- The Exponential Form (28.3)
- Basic Trigonometric Forms (28.4)
- Integration by Parts (28.7)

- Integration by Partial Fractions: Nonrepeated Linear Factors (28.9)

#### 4. Differential Equations

- Solutions of Differential Equations (31.1)
- Separations of Variables (31.2)
- The Linear Differential Equations of First Order (31.4)
- Elementary Applications (31.6)
- Higher-Order Homogeneous Equations (31.7)
- Auxiliary Equations with Repeated or Complex Roots (31.8)
- Solutions of Nonhomogeneous Equations (31.9)
- Applications of Higher-Order Equations (31.10)

#### 5. Introduction to Statistics

- Basics of Probability (class notes)
- Summarizing Data (22.2)
- Normal Distributions (22.3)
- The Central Limit Theorem (class notes)
- Confidence Intervals (class notes)
- Linear Regression (22.6) ? ?

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

**Test Dates**      **Test 1 – Feb 2**   **Test 2 – March 2**   **Test 3 – March 23**   **Test 4 – April 6**

- (a) Four tests    50%
- (b) Final exam    50%\*

### 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> |

|           |   |
|-----------|---|
| <b>CW</b> | <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. |
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**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.

[ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED](#)