	School of Arts & Science
	School of Arts & Science **Department of Mathematics & Statistics** **MATH 175** **Mathematics for Electronics 5** **Quarter 3 2016**

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:	Dr. Michelle Edwards		
(b)	Office Hours:	Mon/Tues/Thurs 12:30-1:30pm, Fri 9:30-11:30am, or by appointment		
(c)	Location:	CBA 147		
(d)	Phone:	250-370-4448		
(e)	Email:	MedwardS@camosun.bc.ca		
(f)	Website:	D2L		

2. Intended Learning Outcomes

Upon completion of this course the student will be able to:
1. Evaluate integrals in power, logarithmic, exponential, trigonometric, and inverse trigonometric forms.
2. Evaluate integrals using the method of substitution, integration by parts, trigonometric substitution, and partial fractions.
3. Find the Maclaurin and Taylor series of functions, and use them to perform numerical computations.
4. Find the Fourier series of simple periodic functions.
5. Solve first order separable and linear differential equations and applied problems.
6. Solve non-homogeneous second order linear differential equations and applied problems, including LRC circuits.
7. Use the method of Laplace transform to solve first and second order initial value problems and problems involving step functions.

3. Required Materials

(a) Text: Allyn J. Washington, Basic Technical Mathematics with Calculus, SI version, 10th edition, Pearson Education Canada. (Previous editions are also acceptable.)

(b) Calculator: Only regular scientific calculator (non-programmable, non-graphing) will be permitted for quizzes and exams. The use of other electronic devices such as cell phones, MP3 players, iPods, electronic translators, etc., during exams is not allowed.

4. Course Content and Schedule

1. 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)
    - Other Trigonometric Forms (28.5)
    - Inverse Trigonometric Forms (28.6)
    - Integration by Parts (28.7)
    - Integration by Trigonometric Substitution (28.8)
    - Integration by Partial Fractions: Nonrepeated Linear Factors (28.9)
    - Integration by Partial Fractions: Other Cases (28.10)

2. Expansion of Functions in Series
   - Infinite Series (30.1)
   - Maclaurin Series (30.2)
   - Certain Operations with Series (30.3)
   - Computation by Use of Series (30.4)
   - Taylor Series (30.5)

3. 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)

4. Laplace Transforms
   - Laplace Transforms (31.11)
   - Solving Differential Equations by Laplace Transforms (31.12)
   - Step and Impulse Functions (class notes)
   - Convolution (class notes)

5. Fourier Series
   - Introduction to Fourier Series (30.6)
   - More about Fourier Series (30.7)

5. Basis of Student Assessment (Weighting)

In Class Assignments	5%
Test 1 - Friday April 29th	15%
Test 2 - Friday May 20th	15%
Test 3 - Friday June 10th	15%
Final Exam:	50%

As stated in the current college calendar, "students are expected to write tests and final examinations at the scheduled time and place." Exceptions will only be considered due to **emergency** circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

6. Grading System

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.

Math Lab: Technologies Centre (TEC) 142 (phone: 370-4492): 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).