CAMOSUN COLLEGE	**School of Arts & Science** **DEPARTMENT OF MATHEMATICS AND STATISTICS** **MATH 193 X02** **Applied Math for Civil/Mech 2** **Winter 2017**

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:	Leah Howard		
(b)	Office Hours:	Mon, Wed 11:30-12:15 and Tues, Thurs, Fri 11:30-1:15		
(c)	Location:	CBA 151		
(d)	Phone:	250-370-4490		
(e)	Email:	howardl@camosun.ca		
(f)	Website:	www.leahhoward.com		

Free math help is also available in the Math Lab, TEC 142. Hours are posted on the door.

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.   Integrate algebraic, exponential, logarithmic and trigonometric functions.
2.   Use methods of integration, including integration by parts and non-repeated linear partial fractions
3.   Find partial derivatives of functions.
4.   Evaluate double integrals using both Cartesian and polar coordinates and use double integration to calculate volumes under three-dimensional surfaces.
5.   Solve separable and linear first-order differential equations.
6.   Solve second-order linear homogeneous and non-homogeneous differential equations with constant coefficients.
7.   Solve application problems involving first and second-order differential equations, including mass-spring systems.
8.   Calculate probabilities using counting techniques and basic probability.
9.   Graph a data set using a variety of presentations. Calculate the mean, median, and standard deviation of a data set and interpret the results.
10.   Solve problems involving discrete probability distributions such as binomial and Poisson, and continuous probability distributions such as the normal distribution.
11.   Calculate point estimates and confidence intervals for means of both large and small samples.
12.   For a bivariate data set, calculate the linear regression line using the method of least squares, either using a scientific calculator or using appropriate software. Calculate and interpret the coefficients of correlation and determination.

3.   Required Materials

(a) A scientific (non-graphing) calculator

(b) No textbook required

4. Course Content and Schedule

CALCULUS

28.1	The General Power Formula
28.2	The Basic Logarithmic Form
28.3	The Exponential Form
28.4	Basic Trig Forms
28.6	Inverse Trig Forms
28.7	Integration by Parts
28.9	Partial Fractions (Non-repeated Linear Factors)
29.3	Intro to Surfaces
29.4	Double Integrals

DIFFERENTIAL EQUATIONS

31.1	Solutions of Differential Equations
31.2	Separation of Variables
31.4	First-Order Linear Differential Equations
31.6	Applications of First-Order DE
31.7	Higher-Order Homogeneous DE with Constant Coefficients
31.8	Auxiliary Equations with Repeated and Complex Roots
31.9	Higher-Order Non-Homogeneous DE with Constant Coefficients
31.10	Applications of Higher-Order DE

STATISTICS

Section 1	Centre and Spread of Data
Section 2	Probability
Section 3	Discrete Random Variables
Section 4	Binomial, Hypergeometric and Poisson Distributions
Section 5	Continuous Random Variables
Section 6	The Normal Distribution
Section 7	Sampling Plans and The Central Limit Theorem
Section 8	Inferences about the Population Mean
Section 9	Linear Regression

5. Basis of Student Assessment (Weighting)

(a) **Weekly Quizzes**   10% total

Quizzes will be at the beginning of class on Tuesdays, starting in Week 2. The two lowest quiz grades will be dropped. There are no make-up quizzes.

(b) **Four Term Tests**   40% total   (10% each)

If a student misses a test for any reason, the final exam will be worth 60% of the final grade. There are no make-up tests.

(c) **Final Exam**   50%

The final exam will cover the entire course and will be three hours long. 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

(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** 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.