	School of Arts & Science ***MATHEMATICS DEPARTMENT*** **MATH 187** **Technical Mathematics 2** **2007Q3**

COURSE OUTLINE

The Approved Course Description is available on the web @ leung.disted.camosun.bc.ca/

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:	Chi-Ming Leung	
(b)	Office Hours:	M10:30-11:20, Tu, W10:30-12:00, Th,F10:30-11:20, Th3:30-4:20	
(c)	Location:	CBA 147	
(d)	Phone:	4448	Alternative Phone:
(e)	Email:	leungc@camosun.bc.ca	
(f)	Website:	http://leung.disted.camosun.bc.ca	

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:

3. Required Materials

(a)	Texts	Washing, Allyn J., Basic Technical Mathematics with Calculus (metric Version), 8th Edition, Addison-Wesley Publishing Company
(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.)

Outline

Hours Topics

Differentiation Review

1   23-1   Limits

     23-2   The Slope of a Tangent of a Curve

     23-3   The Derivative

1   23-4   The Derivative as an Instantaneous Rate of Change

     23-5   Derivatives of Polynomials

     27-1   Derivatives of Sine and Cosine Functions

     27-5   Derivative of the Logarithmic Function

     27-6   Derivative of the Exponential Function

1   23-6   Derivatives of Products and Quotients of Functions

     27-2   Derivatives of the Other Trigonometric Functions

1   23-7   The Derivative of a Power of a Function

     23-8   Differentiation of Implicit Functions

     23-9   Higher Derivatives

1   24-8   Differentials and Linear Approximations

Integration

Read   25-1   Anti-derivatives: Review of Differentiation Formula

1   25-2   The Indefinite Integral

1.5   28-1   The General Power Formula

1.5   Notes Change of Variables: Method of Substitution

0.5   25-3   The Area Under a Curve

1.5   25-4   The Definite Integral

2   25-5   Numerical Integration: The Trapezoidal Rule

1   25-6   Simpson's Rule

Applications of Integration

1   26-1   Applications of the Indefinite Integral

1.5   26-2   Areas by Integration

1.5   26-3   Volumes by Integration

1.5   26-4   Centroids

1.5   26-5   Moments of Inertia

1   26-6   Other Applications

Methods of Integration

0.5   28-2   The Basic Logarithmic Form

0.5   28-3   The Exponential Form

1   28-4   Basic Trigonometric Forms

2   28-5   Other Trigonometric Forms

2   28-6   Inverse Trigonometric Forms

2	28-7	Integration by Parts
2	28-8	Integration by Trigonometric Substitution
2	28-9	Integration by Partial Fractions: Non-repeated Linear Factors
1	28-10	Integration by Partial Fractions: Other Cases

Expansion of Functions in Series

0.5	29-1	Infinite Series
1.5	29-2	Maclaurin Series
1.5	29-3	Certain Operations with Series
1.5	29-4	Computations by Use of Series Expansions
1	29-5	Taylor Series

Supplementary Topics

1	21-9	Polar Coordinates
1	21-10	Curves in Polar Coordinates
2	Notes	Integration in Polar Coordinates
0.5	S-4	Functions of Two Variables
0.5	S-5	Curves and Surfaces in Three Dimensions
0.5	S-6	Partial Derivatives
1.5	S-7	Double Integrals

Lecture	48 hours
Test	4 hours
Leeway	3 hours

5. Basis of Student Assessment (Weighting)
(Should be linked directly to learning outcomes.)

(a)	Assignments	10%
(b)	Quizzes	40%
(c)	Exams	50%
(d)	Other (eg, Attendance, Project, Group Work)	

6. Grading System

(<u>No</u> 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
95-100	A+		9
90-94	A		8
85-89	A-		7
80-84	B+		6
75-79	B		5
70-74	B-		4
65-69	C+		3
60-64	C		2
50-59	D		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 at **camosun.ca** or 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 are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
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.

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.

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 on the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED