

MATH 187 Technical Mathematics 2 (Engineering)**Your instructor** Chi-Ming Leung**Office** CBA 147**Tel.** 4448**Email** leung@ccins.camosun.bc.ca**Web Page** <http://www.camosun.bc.ca/~leung/>

Course Description

Topics: antiderivatives, definite integral, integration techniques, polar co-ordinates, and applications including acceleration, area between curves, surface area, volumes, center of mass and force on submerged surfaces.

Offered: Quarter 3
Credit: 3
In-Class Workload: 5 hours
Out-of-Class Workload: 5-10 hours

Prerequisites: Math 185 or (Math 174B, Math 100, and Math 110)

Textbook

A. J. Washington, Basic Technical Mathematics With Calculus, 7th Edition, (Metric Version), Addison Wesley, 2000.

Evaluation

Assignment: 14% of Final Mark

Assignment is given weekly. It is due on Wednesday. No late assignment is accepted. Solutions should be presented in a neat and clear fashion and the paper should be well organized and stapled at the top left corner if there is more than one page. Complete solutions will be posted.

Test: 36% of Final Mark

There will be 3 term tests. There is **NO** makeup (medical excuse must be accompanied by a physician's note). Complete solutions will be posted.

Final Examination: 50% of Final Mark

Mathlab

Extra help available from assistant at the Interurban Math Lab: TB 142

MATH187 Course Outline (April 2004)

Outline

Chapter 21	Plane Analytic Geometry
21-9	Polar Coordinates
21-10	Curves in Polar Coordinates
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 (Acceleration)
26-2	Area by Integration (Area between Curves)
26-3	Volumes by Integration
26-4	Centroids (Moments of Area)
26-6	Other Applications (Force on Submerged Surface)
Supplementary	Center of Mass (Moments of Mass)
Supplementary	Surface Area
Supplementary	Area of a surface of Revolution
Chapter 28	Methods of Integration
28-1	The General Power Formula
28-2	The Basic Logarithmic Form
28-3	The Exponential Form
28-4	Basic Trigonometric Form
28-5	Other Trigonometric Forms
28-6	Inverse Trigonometric Forms (if time permits)
28-7	Integration by Parts (Tabular Method)
28-8	Integration by Trigonometric Substitution
28-9	Integration by Partial Fractions: Nonrepeated Linear Factors
28-10	Integration by Partial Fractions: Other Cases
28-11	Integration by Use of Tables
Chapter 29	Expansion of Functions in Series (if time permits)
29-2	Maclaurin Series
29-3	Certain Operations with Series
29-5	Taylor Series
Supplementary Topics	
S-3	Functions of Two Variables
S-4	Curves and Surfaces in Three Dimensions (Cartesian Coordinates)
S-6	Double Integrals

MATH187 Course Outline (April 2004)

Office Hours

April 5, 2004 ---June 18, 2004

	Monday	Tuesday	Wednesday	Thursday	Friday
08:30-09:20	MATH 187 TEC 175	MATH 187 TEC 177	MATH 187 TEC 177	MATH 264 CC 104	MATH 187 TEC 177
09:30-10:20	Office Hour	Office Hour	Office Hour	MATH 264 CC 104	MATH 187 TEC 177
10:30-11:20	MATH 264 CBA 101	MATH 264 CC 104	Office Hour	Office Hour	Office Hour
11:30-12:20			MATH 264 CBA 101		
12:30-13:20			MATH 162 CBA 101		
13:30-14:20	MATH 162 CBA 101				MATH 162 TEC 173
14:30-15:20				MATH 162 CBA 101	
15:30-16:20					

Extra office hours can be arranged by appointment.