Math 187
Technical Mathematics 2

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Textbook

Basic Technical Mathematics with Calculus (7th Edition) by Allyn J. Washington.

Evaluation

· Four term tests: 50% or
· Comprehensive final exam: 50% Comprehensive final exam: 100%

Tentative Schedule

Test 1 January 23 Test 2 February 6
Test 3 February 27 Test 4 March 12

Final exams are held from March 22 - 26. You must be available at the scheduled time.

The following percentage conversion to letter grade will be used:

Percentage	0–49	50–59	60–64	65–69	70–74	75–79	80–84	85–89	90–94	95–100
Letter grade	F	D	C	C+	B-	B	B+	A-	A	A+

Course Outline

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)
· Numerical Integration: The Trapezoidal Rule (section 25.5)
· Simpson's Rule (section 25.6)

2. Applications of Integration
· Applications of the Indefinite Integral (section 26.1)
· Areas by Integration (section 26.2)
· Volumes by Integration (section 26.3)
· Centroids (section 26.4)
· Moments of Inertia (section 26.5)
· Other Applications (section 26.6)

3. Methods of Integration
· The General Power Formula (section 28.1)
· The Basic Logarithmic Form (section 28.2)
· The Exponential Form (section 28.3)
· Basic Trigonometric Forms (section 28.4)
· Other Trigonometric Forms (section 28.5)
· Inverse Trigonometric Forms (section 28.6)
· Integration by Parts (section 28.7)
· Integration by Trigonometric Substitution (section 28.8)
· Integration by Partial Fractions: Nonrepeated Linear Factors (section 28.9)

· Integration by Partial Fractions: Other Cases (section 28.10)
4. Expansion of Functions in Series (If time permits.)
· Maclaurin Series (section 29.2)
· Certain Operations with Series (section 29.3)
· Taylor Series (section 29.5)
5. Supplementary Topics
· Polar Coordinates (section 21.9)
· Curves in Polar Coordinates (section 21.10)
· Applications of Integration Using Polar Coordinates (Class notes)
· Functions of Two Variables (section S-3)
· Curves and Surfaces in Three Dimensions (section S-4)
· Double Integrals (section S-6)
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