

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 21	Test 2	February 4
Test 3	February 25	Test 4	March 11

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

- 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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