

Math 174b

Mathematics for Electronics 4

Instructor: Gilles Cazelaïs

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Textbook

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

Evaluation

- Three term tests: 50% or
- Comprehensive final exam: 50% Comprehensive final exam: 100%

Tentative Schedule

Test 1 January 29 Test 2 February 19 Test 3 March 11

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. Applications of the Derivatives

- Tangents and Normals (section 24.1)
- Newton's Methods (section 24.2)
- Curvilinear Motion (section 24.3)
- Related Rates (section 24.4)
- Using Derivatives in Curve Sketching (section 24.5)
- More on Curve Sketching (section 24.6)
- Applied Maximum and Minimum Problems (section 24.7)
- Differentials and Linear Approximations (section 24.8)

2. Differentiation of Transcendental Functions

- Derivatives of the Sine and Cosine Functions (section 27.1)
- Derivatives of the Other Trigonometric Functions (section 27.2)
- Derivatives of the Inverse Trigonometric Functions (section 27.3)
- Derivatives of the Logarithmic Function (section 27.5)
- Derivatives of the Exponential Function (section 27.6)

3. 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)

4. Applications of Integration

- Applications of The Definite Integral (section 26.1)
- Areas by Integration (section 26.2)
- Volumes by Integration (section 26.3)

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