

Instructors: Dr. J. Chvatalova
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TEXT: *Single Variable Calculus*, 6th ed., by James Stewart

THE GENERAL OBJECTIVE

Calculus II builds on Calculus I and introduces students to the methods of integral calculus and some of its applications.

THE PROGRAM GOALS

To successfully complete this course, a student will practice the following skills, among others:

- making a systematic approach to problem solving
- reasoning logically
- communicating effectively
- applying knowledge and skills to new situations
- learning autonomously

GENERAL FRAMEWORK

1. Integration, Definition, and Basic Properties

- (a) Areas
- (b) The definite integral, definition, notation
- (c) Properties of the definite integral
- (d) The fundamental theorem of calculus
- (e) The substitution rule

2. Application of Integration

- (a) Areas between curves
- (b) Volume of revolution
- (c) Average value (Mean-Value Theorem for integrals)

3. Techniques of Integration

- (a) Integration by Parts
- (b) Trigonometric Integrals
- (c) Integration of Rational Functions
- (d) Improper Integrals

4. Infinite Sequences and Series

- (a) Sequences
- (b) Series
- (c) Tests for convergence
- (d) Alternating Series
- (e) Taylor and Maclaurin Series

TEACHING METHODS

Class time will be devoted to lectures and problem solving. During problem solving sessions, students are encouraged to work in groups. Problems taken from the book will be suggested after each section. It is essential to bring your textbook to each class.

ASSESSMENT

There will be four tests during the term, each worth 25%. There will not be a final examination. Supplemental or “make-up” tests are prohibited.

CALCULATORS

During tests, only calculators without graphic displays shall be permitted.

ATTENDANCE

Attendance is required at all class tests and highly recommended otherwise.

PLAGIARISM

Students are referred to the college policy on this topic. In particular, students caught cheating in a test will receive zero for that test and their names will be submitted to the College Administration.

The use of electronic music-producing devices or portable phones during class is strictly forbidden at all times.