Mathematics 175-C01
Calculus II
Course Syllabus
4 Credit Hours

Spring 2006
Instructor: Constance Meade
E-mail Address: cmeade@csi.edu
Office: Shields 207-D
Office Hours: 2:00 - 2:50 MWF
12:00 - 12:50 TR
Lab Hour: 2:00-2:50 Monday
Office Phone: 732.6809
1.800.680.0274 x 6809

Course Description:
This course is the second course in the calculus sequence. It covers techniques of integration, improper integrals, Simpson's Rule, Trapezoid Rule, arc length, surface area, other applications of integration, direction (slope) fields, parametric equations, polar calculus, conic sections, infinite sequences and series, power series, and Taylor's formula.

Pre-requisites:
Math 170 with a grade of "C" or better, or permission of instructor (Pre-requisites will be enforced.)

Required Textbooks and Supplies:
- Calculus with Early Transcendentals by Stewart, 5th Edition
- A TI-83 Plus graphing calculator is required. The use of any HP, TI-84/ TI-84 Plus, TI-89, and TI-92 Plus calculators will not be allowed in this course.
- Pencil
- Loose leaf paper

Expected Outcomes and Outcomes Assessment:
Outcome 1: The student will master course content as presented in lecture and assigned homework.
Assessment 1: The student will demonstrate their understanding of the material by completion of weekly assignments. Student performance will be further measured by midterm exams and a comprehensive final exam.

Outcome 2: The student will apply mathematics to real world situations.
Assessment 2: The student will demonstrate this skill by completion of individual or group projects that require mathematical reasoning.

Outcome 3: The student will display the use of technology to enhance their understanding of mathematics.
Assessment 3: The student will display this skill by completing an individual or group project that requires the use of a graphing calculator and/or use of the computer lab.

As part of departmental analysis of outcomes in this course and its place in the Mathematics program, student completion of the pre-requisites, success in the current course, success in subsequent courses and student satisfaction will be reviewed by the instructor. A report containing this information will be submitted by the department faculty to determine what, if any, changes can be made to improve the course in terms of content, focus, and instruction.
Policies and Procedures:

Attendance: Attendance may, or may not, be taken on a daily basis. However, you are expected to be in attendance each class period. If, for one reason or another, you are unable to attend, you will still be responsible for all material covered that day. See current catalogue regarding attendance.

Hours of lecture each week: 10:00 – 10:50 Monday, Wednesday, Thursday, & Friday
Shields 209

Homework: Homework will be assigned, collected, and graded. No late homework will be accepted. Each homework assignment will be worth 2-5 points.

Mid-Chapter Quiz: Mid-chapter quizzes will be given on most chapters. There will be no make-up or retake quizzes given. (You may always make arrangements to take this early.) These may be given in the testing center. Each of these quizzes will be worth 30-75 pts.

Chapter Exams: Four chapter exams will be given during the semester. Each of these is worth 100-120 points. There will be no make-up or retake exams given. If you must miss one, that grade will be replaced by your score on the following exam. These may be given in the testing center.

Take-home Exam: The first week you will be given a take-home exam. This exam is worth 100 points.

Final Exam: The final exam will be comprehensive and will be worth 200 pts. This exam will be given on Monday, May 8, 2006 from 10:00 PM – 12:00 PM in Shields 209.

Grading: Your percentage will be calculated as follows: Your Total Points = %
Total Points Possible

Although I reserve the right to revise this scale downward, 90% of the possible points, or above, will always be and ‘A’, 80%-89% a ‘B’, etc.

Coverage: Chapter 7, Section 8.1, 8.2, (8.3-8.5 if time permits), Section 9.1, 9.2 (9.3-9.4 if time permits), Chapters 10 & 11

Cheating: See page 16 of the current CSI catalogue. A violation of the policy will be dealt with severely, including but not limited to, being dismissed from the class and/or given a grade of "F" for the course.

Cellular Telephones/Palm Pilots: These are expected to be turned off during class time.

General Classroom Behavior: See pages 16-17 of the current CSI catalogue.

Aids for the Course:

• Study Groups - If you need assistance forming a study group, I will gladly make assignments based upon your schedules. Being an active member of a study group is extremely important to your success in this class.

• Videotapes - The Mathematics Department has a set of video tapes to supplement classroom and textbook material. These tapes are available for check out in the Library and are an excellent supplement to this course.
- **Instructor** - I have office hours scheduled on a daily basis. If you need to meet with me and cannot do so during those scheduled times, please feel free to schedule another time that is convenient for you.

- **Graphmatica** - This is a free computer software program that is extremely user friendly.

- **Maple** - This is a computer software program that is loaded onto the computers in the Math Lab and the computers in Shields 211. I may be instructing you on its use during classroom lectures.

**Topical Outline:**

I. Techniques of Integration
   - Integration by Parts
   - Trigonometric Integrals
   - Trigonometric Substitution
   - Partial Fraction Decomposition
   - Strategies for Integration
   - Integration Using Tables and Computer Algebra Systems
   - Approximate Integration
   - Improper Integrals - Trapezoidal & Simpson's Rule

II. Applications of Integration
   - Arc Length
   - Area of a Surface of Revolution
   - Applications to Physics/Engineering/Economics/Biology
   - Probability

III. Differential Equations
   - Modeling with Differential Equations
   - Direction Fields and Euler's Method

IV. Parametric Equations and Polar Coordinates
   - Curves defined by Parametric Equations
   - Calculus with Parametric Curves
   - Polar Coordinates
   - Areas and Lengths in Polar Coordinates
   - Conic Sections
   - Conic Sections in Polar Coordinates

V. Infinite Sequences and Series
   - Sequences
   - Series
   - The Integral Test and Estimate of Sums
   - The Comparison Tests
   - Alternating Series
   - Absolute Convergence and the Ratio and Root Tests
   - Strategies for Testing Series
   - Power Series
   - Representations of Functions as Power Series
   - Taylor and Maclaurin Series
   - The Binomial Series
   - Applications of Taylor Polynomials
Course Evaluation:

Students are strongly encouraged to complete evaluations at the end of the course. Evaluations are very important to assist the teaching staff to continually improve the course. Evaluations are available online at: http://evaluation.csi.edu. Evaluations open up to two weeks prior to the end of the course. The last day to complete an evaluation is the last day of the course. During the time the evaluations are open, students can complete the course evaluations at their convenience from any computer with Internet access, including the open lab in the Library and in the SUB. When students log in they should see the evaluations for the courses in which they are enrolled. Evaluations are anonymous. Filling out the evaluation should only take a few minutes. Your honest feedback is greatly appreciated!

Disabilities:

Any student with a documented disability may be eligible for related accommodations. To determine eligibility and secure services, students should contact the coordinator of Disability Services at their first opportunity after registration of a class. Student Disability Services is located on the second floor of the Taylor Building on the Twin Falls Campus: 208.732.6260 (voice) or 208.734.9929 (TTY), or e-mail aflannery@csi.edu.
1. Use loose leaf paper.

2. Write on the front side of the page only.

3. Do all homework in pencil. Work done in pen will not be graded.

4. Show all work necessary to complete the problem. A correct answer with insufficient, no, or incorrect work will receive no credit.

5. Circle your answer when possible.

6. Write legibly. If the grader cannot decipher your work, it will not be graded.

7. Homework is due the following class period.

8. No late homework will be accepted.

I will be grading your homework. The answers for the homework set will be provided. I will mainly be checking for completion and "technique". By this I mean that I will be checking for correct notation and procedure. Directions for this will be provided in class during lecture time or during question/answer time.

To submit:
Fold entire document in half, lengthwise.

On the outside of the document, write
- Your name
- Course title
- Chapter and Section number

Example
Jane Doe
Math 175-C01
Section 7.3
Study Group Information

Name: ____________________

Contact Information:
Telephone: ___________________

              e-mail: ______________________

Days and Times available for Study Group

<table>
<thead>
<tr>
<th>Monday</th>
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Return to Professor Meade as soon as possible.