

FREDERICK COMMUNITY COLLEGE
MA 211 Calculus II
Fall 2006
www.geocities.com/fccmath1

Instructor Information:

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Office Hours: M/W, 10 - 11 T/Th, 11 - 12	Campus Mail Box: # 153

Course Information:

Credits: 4	Last Day to Drop: 5 Nov, 2006
Prerequisites: MA 210 or equiv	Co-requisites: None
Meeting Day(s): T, Th	Meeting Times: 6:50 - 8:30

Course Description:

Calculus II Presents the second of three courses in the calculus sequence. Topics include methods and applications of integration, improper integrals, sequences and series, Taylor approximations, polar functions, introduction to differential equations.

Core Learning Outcomes:

Students should be able to

1. articulate the concepts of integral calculus. This will be accomplished through writing and speaking in effective, organized, clear, and grammatically correct English appropriate for mathematics. (gen ed obj.1)
2. interpret and analyze tables, graphs, and diagrams to convey quantitative information and solve integral calculus problems. (gen ed obj. 13)
3. perform mathematical operations and apply them to practical situations. (gen ed obj. 11)
4. generate and evaluate alternative solutions to integral calculus problems. (gen ed obj. 5)
5. demonstrate a variety of problem-solving techniques using different mathematical tools and alternative representations of numerical and analytical concepts with application to numerical data. (gen ed obj. 12)
6. use the technology of a changing world appropriate to integral calculus.
(gen ed obj.19, 21)
7. display academic honesty and adhere to professional standards in their fields. (gen ed obj.23)

Specific Learning Outcomes:

Students should be able to

1. analyze the behavior of functions graphically, numerically and algebraically.
2. understand the concept of the definite integral as a limit of Riemann Sums, and find definite integrals using this limit.
3. use numerical methods to approximate definite integrals and estimate the error of their approximation.
4. find antiderivatives using memorization, substitution, and integration by parts.
5. find antiderivatives using the Short Table of Indefinite Integrals.
6. recognize an improper integral and employ limits to analyze improper integrals.
7. apply the concept of the integral to application problems.
8. understand the relationship between a slope field and the solution to a differential equation.
9. recognize and solve first order differential equations in the solution of application problems.
10. recognize geometric and power series and tests for convergence.
11. find Taylor polynomials and Taylor series and use them to approximate function values near a point.
12. recognize the usefulness of Fourier Series in modeling periodic functions.

Instructional Methods:

1. The lecture method will be the primary technique utilized in the course, however time will be allocated for individual, problem solving sessions.
2. Student participation will be an important part of the course. It will be assumed the reading assignment of text material shown in the Topical Outline, will be done prior to class to allow for appropriate interaction.
3. We will also have *weekly, in-class quizzes* the second class of the week, based upon the previous class' material. They will be nominally 10 minutes in length.

Computer Locations:

FCC has computers in at least the following locations that are available for student use.
LRC (library): L 220
Writing Center: L 106

Text and Calculator for the course:

Calculus, Single Variable, Fourth Edition, by Deborah Hughes-Hallett, Andrew M. Gleason, et al, John Wiley & Sons, Inc., 2002,

TI-83 Plus or TI 84 graphing calculator. Other calculators can be used, however all directions will be given per the TI 83+/84.

1. There are two, solutions manuals available for use during the course. They show complete solutions for ALL exercises and problems, given at the end of each section of the book. One manual is in the Math LAB (B 112) and available any time the lab is open; I have another.
2. The text's solutions manual is also available on line. It shows complete solutions for all exercises and problems, given at the end of each section of the book.

<http://frederick.blackboard.com>

login user name: mathlab04

password: algebra

Progress Report:

By the end of the sixth week the student will know by virtue of tests/quizzes taken, their grade in the course.

Attendance Policy:

The College attendance policy states: "Students are expected to attend all class sessions except in cases of emergency, religious holidays or participation in official College functions. In these cases, notification or verification, if requested, will be given to the instructor by the student."

Evaluation Methods for the course:

Tests/Quizzes	Weight
Test 1	25%
Test 2	25%
Test 3	25%
Quizzes	25%
T	On tests, all significant work must be shown on all problems requiring calculations. <i>No credit will be given for problems with correct answers, without supporting calculations.</i>
T	<i>There will be no make-ups for missed tests, unless prior (to the test) notification is given and approval obtained.</i> If a test is missed, it's the <i>students responsibility</i> to request a make-up test. Make-up tests must be completed within one week of the date of the original exam.
T	Tests will be in-class, lasting nominally 2 hours.

T	There will be no make-ups for the last or final exam.
T	All tests belong to FCC and will be returned to the professor, after review in class.
T	There will be weekly, in-class, 10 minutes quizzes. There will be NO MAKE-UPS for missed quizzes.
T	Informal credit may be awarded for classroom participation.
T	Course grading will conform to the following scale: A: 90-100 B: 80 - 89 C: 70- 79 D: 60 - 69 F: Below 60

Closing Policy:

FCC does close occasionally due to inclement weather or unforeseen circumstances. If there is any question as to whether the college is open; FIND OUT before you come in!!

Radio

TV

301 846 2400

www.frederick.edu

My web site for any possible consequences!

Honesty Policy:

Standards of student conduct and disciplinary policies are outlined in the College Policies section of the catalog. At a minimum, any student/s guilty of cheating on a in-class quiz or exam, will be expelled from the class and receive an "F" grade for the course.