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## Course Information

Name of Course: Differential Equations

Course and Section Numbers: MAP2302-U02  
[12018]  
PC-211 M/W 1700-1815

## Course Description:

This is an introduction to Differential Equations based upon a knowledge of Calculus. The topics will include but not be limited to the following:

First order differential equations and initial value problems of first order, linear differential equations, the Laplace transform, and series solutions of differential equations, including the use of the method of Frobenius.

## Course Objectives/Learning Outcomes:

Students will learn to correctly comprehend, use, and manipulate the symbols, ideas, and language of Elementary Differential Equations using spoken and written English.

## Prerequisite:

MAC 2312, Calculus II, with a grade of "C" or better.

## Semester/Year Offered:

Spring, 2007

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## Instructor Information

Instructor's Name: Dr. David Ritter

Telephone Number: 305 348-2011

E-mail Address: ritterd@fiu.edu

Department or School: Mathematics

Office Location: DM 419A

Office Hours: M/W 1830-1930 (First come/First served.)  
T/R 1830-1930 (First come/First served.)  
All other hours are by appointment only.

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## Required Purchases

## Text(s):

Introduction to Ordinary Differential Equations, 4th edition, by Sheply L. Ross

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## Performance Measures

The chief means by which mastery the course material will be assessed is via the student's performance on written, closed-book examinations that deal with the mathematical theory and techniques covered in both the instructor's lectures and the assigned reading and homework practice problems found in the textbook for the course. There are several things that are particularly important here:

Neatness and legibility of the student's written work;  
The correct use of language and symbolism by the student; and  
Completely answering the question asked or the problem posed.

Points may be lost for failing to use notation and/or English correctly or by making absurdly false assertions en route to a putative solution to a problem. All the magic must be revealed clearly.

This term there will be four 1.25 Hour Tests @ 100 points per test and a Comprehensive Final Exam worth 200 points.

Total Points Possible = 600

Taking the Final Exam is necessary to earn a passing grade in this course, but it is not a sufficient condition to earning a passing grade.

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Note: A schedule may be found at the same site where this document was obtained. Click on the "Itinerary" link and print that document. If that schedule is altered significantly, you will be notified of that in class and/or via the internet.

A list of recommended homework problems may also be found where you obtained this. Print it, too. You need not restrict yourself to these homework exercises, however.

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## Instructor/Department Policies Impacting Student Enrollment and Grades

All cell phones, pda's, laptops, and beepers must be turned off prior to entering the classroom and are to be kept inoperative by their owners until they have left the classroom. Cell phones may not be used as time pieces during tests and exams. Failure to heed this may result in being expelled from the classroom.

The use of calculators, integration tables or formula sheets during tests and exams will not be permitted. [For DE, a table of Laplace Transformations will be provided when it is needed.]

The instructor's policy on "I" grades may be found on his web site.

The course prerequisites are enforced via test design and grading. Failure to have met the prerequisites may result in being dropped from the course administratively and will result in a very frustrating learning experience that, almost certainly, will be less than successful.

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## Grading Standards for Computing Final Grades

## Grading Scale (%'s):

A : [90,100]; A-: [85,90); B+: [80,85); B : [75,80);  
 B-: [70,75); C+: [65,70); C : [60,65); C-: [55,60);  
 D+: [50,55); D : [45,50); D-: [40,45); F : [0,40)

Note: This uses standard notation for intervals of real numbers.

What this means is this: If, at the end of the term, a student has accrued a total of n points, the grade for the term will be, at the very least, the letter grade owning the interval containing the rational number

$$\lceil n/(\text{Total\_Possible}) \rceil \times 100.$$

So, for example, if Total\_Possible = 500 points, and the total n from all the test and final exam scores is n = 299, then the student can be certain of getting a "C-" or better for the semester since "C-" owns the interval [55,60), and in this case

$$55 \leq \lceil n/(\text{Total\_Possible}) \rceil \times 100 = \lceil 299/500 \rceil \times 100 < 60.$$

Note well that C- is not a satisfactory grade for those majoring in engineering or the sciences.

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## Attendance Standards

Attendance is mandatory only on the days when exams and tests are administered. Students are responsible, however, for the lecture material and any announcements made in class. Missed notes must be obtained from a classmate. When students attend, they are expected to get to class on time, and they are expected to remain in the classroom until the end of the class or until they have handed in their exams. Restroom needs are expected to have been dealt with prior to coming to class.

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## University Drop Date

Monday, 12 March 2007

Note: Dropping the course or withdrawing from the university after this date requires significant documented justification. You WILL know whether your work is satisfactory and the likelihood of success prior to this date.

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### Instructor's Policy on Make-up Examinations, Assignments, or Performance Measures

Students must arrange in advance in order to take an exam or test at other than the scheduled date and time. Failure to abide by this will result in a zero score on the missed test(s). If there is a genuine unexpected emergency, the student or a person representing him or her is expected to phone promptly and leave a voice mail message if the instructor does not answer the phone. This must be followed by an appropriate e-mail. Subsequently, written documentation is expected. Failure to act in an adult, responsible manner WILL result in obtaining a score of ZERO on missed tests and exams.

There are legitimate reasons to miss due to work, illness, or deaths within one's family, etc. Not having studied or done homework in a timely fashion does not qualify.

Finally, beginning with the Fall Term, 2003, as a matter of routine, if a student has not taken an exam on its scheduled date/time but has been legitimately excused by the instructor, then s/he must schedule a make-up test to occur within one week of the administration of the original test and prior to the posting of an answer key to the missed exam. [For normal exams occurring on the last scheduled class, there will be no opportunity for a make-up exam!] In the event that the absence is legitimately excused, but a make-up is not taken, the possible point value of the test will be shifted to the Final Examination. What that means is this: the score on the Final Exam for the purposes of computing a final total will be

$$(\text{Your\_Score\_On\_Final}) * ( \text{F\_E\_P\_P} + \text{Shifted} ) / (\text{F\_E\_P\_P}),$$

where, of course, 'F\_E\_P\_P' denotes the Final Exam Possible Points without bonus points as indicated on the actual text of the Final Exam, and 'Shifted' denotes the sum total points possible from the missed, excused exam(s) or quiz(zes) whose points have been shifted to the Final Exam. [Expand this algebraically to see what is going on!]

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### Recommended Purchases

Text(s):

The Student's Solution Manual that accompanies the text may be found to be useful. If there is a study guide that goes with the text, it may be worth having.

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## University's Code of Academic Integrity

A detailed discussion of the code and other matters of importance to students may be found at the University's Judicial & Mediation Services web site. This is located at the following URL:

<http://www.fiu.edu/~sccr/>

The Code of Student Conduct may be found in the FIU Student Handbook. Misconduct, academic or otherwise, will not be tolerated. Misconduct will be dealt with in accordance with the Code of Student Conduct.

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## Miscellaneous References

Information regarding the university's policies and practices regarding academic misconduct, sexual harassment, religious holidays, and services for students with disabilities may be found in a number of university documents. The FIU Student Handbook is a good initial source. On the web, a useful site is located at the following URL:

<http://www.fiu.edu/~infomall/>

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## The Fine Print

The instructor retains the right to modify the course syllabus for any reason throughout the semester provided that,

- a. Fair and adequate notice is given to enrolled students either in class, by e-mail, in writing, or through online publishing;
- b. Modifications to the syllabus are not arbitrary and capricious, and;
- c. Students are not unfairly disadvantaged by mid-semester changes to grading standards, attendance standards, or performance measures.