

**Syllabus MTH 3311
Fall 2018**

Time: MWF 12:00 pm –12:50 pm
Location: 224 McCall Hall (MSCX 224)
Instructor: Pat Rossi
Office: 227C McCall Hall (MSCX 227C); (334)670-3588; prossi@troy.edu
Office Hours: MWF 10:00 - 11:50
T 9:00 - 12:50
Or By Appointment
Text: *Applied Differential Equations, 3rd Edition*, by Murray Spiegel, Prentice Hall, 1981.

Calculation of Final Average

| | |
|---------------------|-------|
| Test Average | 67.5% |
| Quiz Average | 7.5% |
| Final Exam | 25% |

Assignment of Final Grade

| Final Average | Grade |
|----------------------|--------------|
| 90-100 | A |
| 80-89 | B |
| 70-79 | C |
| 60-69 | D |
| 0 -59 | F |

NOTE: Final Grades Cannot be Given Out Over The Phone

Tests

Tests will be given on Fridays and will be announced in class (at least) one week in advance. Each test will cover material introduced in class up to and including the Monday before the test. Quizzes will be given on the Friday of any week during which there is no test. Questions for the quizzes will come from the *Formulas You Should Memorize* link on my website. Tests and quizzes will be returned to students (to keep) after they have been graded, but will remain the permanent property of the Instructor even after they are returned to the students.

Final Exam: Our Final Exam will be on **Thursday, December 6 from 2:00 - 4:00 pm**. Students will not be allowed to take the Final Exam early. Exceptions WILL NOT be made for those who have made travel arrangements (e.g. purchased an airplane ticket) for a date on, or before the Final Exam.

Incomplete Policy

A grade of “I” (incomplete) may be given in the case of illness or emergency situations occurring towards the end of the semester, which make it impossible for the student to complete all course work by the end of the semester in such a way that the student’s grade accurately reflects his or her mastery of the course material up to the time of the illness or emergency. Such grades are given very sparingly, and only in a case of genuine hardship. Time limits for removing an incomplete can be found in the Undergraduate Bulletin. Also, the student must initiate the Incomplete process, by requesting a grade of incomplete from his/her instructor.

Makeup Policy:

There will be no make-up tests given during the semester. Make-up tests will be given on Wednesday December 5 (Dead Day), at 10 am **for those students who missed a test** during the course. **No student will be allowed to make up more than one missed test.** Notice that these make-up tests are only given to students who **missed a test** (for whatever reason) during the course. (This implies that you may choose to miss a test if you feel that you are not ready. Don't do this indiscriminately - You may need to miss a test later on in the course, due to extreme illness, etc. Nevertheless, the option remains. One catch - once you enter the room to take an exam, you must take the exam. You will not be allowed to enter the room, look at the exam, and then decide whether or not you want to take the exam.

Attendance Policy:

More than five (5) unexcused absences will result in a grade of **F**.

Study and Preparation:

To increase your chances for success, do the assigned homework when it's assigned and ask questions either in class or during office hours on problems that you find difficult. Most of the homework that is assigned will not be collected. Nevertheless, you are still expected to do it - and to a great extent, your conscientiousness in this matter will determine your success in the course.

I highly recommend the services of the *Natural Science Center*. It is located in Room 126 of Eldridge Hall and the phone number is 670-3139. The *Center* has tutors available in Biology, Chemistry, Mathematics, and Physics. I encourage you to visit the *Center* early in the semester so that you can become familiar with their services. Through their tutors, they provide an invaluable service and many of my former students have benefitted greatly from their help.

For your benefit, **practice tests and other material are available on my website**. These practice tests are a good way to prepare for the tests, and you are encouraged to use them. Consider them to be a “tune up” for tests, rather than a substitute for doing the assigned homework. To get to my website:

1. My website address is: <http://www.pat-rossi.com/>
2. Click “Academic Links for Troy University Students”
3. Under “Course Links,” click “MTH 3311.”

AMERICANS WITH DISABILITIES ACT:

Troy University supports Section 504 of the Rehabilitation Act of 1973 and the Americans With Disabilities Act of 1990, which insure that postsecondary students with disabilities have equal access to all academic programs; physical access to all buildings, facilities and events; and are not discriminated against on the basis of disability. Eligible students, with appropriate documentation, will be provided equal opportunity to demonstrate their academic skills and potential through the provision of academic adaptations and reasonable accommodations. Further information, including appropriate contact information, can be found at the link for Troy University's Office of Human Resources at:

<http://www.troy.edu/humanresources/ADAPolicy2003.htm>

Other Matters: Behavior such as wearing headphones in class, sleeping in class, exiting class during a lecture, talking to classmates during the lecture, reading a newspaper during class time, reading a book other than the assigned text for the course during class time, or doing work not assigned in this class during class time will not be tolerated. (If you are sick, or need to use the restroom, raise your hand and ask to be excused.) Also, I do not "grade" students' tests immediately after the test is turned in – please don't ask me to grade yours. Also, I don't show the solutions to problems on a test to students immediately after they turn in their test – please don't ask me. The solutions are posted on my website within a reasonable amount of time after the test is given, so there is no need for me to work the problems out at the request of each person who asks.

Course Content:

1. Review of Integral Essentials
2. Definition of Differential Equation, Solutions of Differential Equations, Initial Value and Boundary Value problems.
3. First Order Differential Equations
4. Separation of Variables
5. Transformation of Variables
6. Exact Differential Equations
7. Integrating Factors
8. Linear First Order Equations
9. Applications To Mechanics, Electricity, Chemistry, Heat Flow, Miscellaneous Growth and Decay, Rocketry, Biology
10. N^{th} Order Linear Differential Equations
11. Auxiliary Equations
12. Linear Independence and Wronskians
13. Particular Solutions
14. Undetermined Coefficients
15. Annihilator Method
16. Euler Equations
17. Applications of Higher Order Equations to Mechanics and Electricity
18. LaPlace transforms
19. Solutions of Differential Equations by Use of Series

Course Description

An introduction to ordinary differential equations. Topics include first order methods, linear equations, the Laplace transforms, systems of equations, and applications. Prerequisite: MTH 2227.

Cell Phones and Other Electronic Devices

Use of any electronic device (cell phone, tablet, laptop, etc.) by students in the instructional environment is prohibited unless explicitly approved on a case-by-case basis by the instructor of record or by the Office of Disability Services in collaboration with the instructor. Cell phones and other communication devices may be used for emergencies, however, but sending or receiving non-emergency messages during a class meeting is forbidden by the University. Use of a communication device to violate the Troy University “Standards of Conduct” will result in appropriate disciplinary action (See pp. 42-52 of the Oracle.)

In order to receive emergency messages from the University or family members, devices must be in a vibration, or other unobtrusive mode. Students receiving calls that they believe to be emergency calls must answer quietly without disturbing the teaching environment. If the call is an emergency, they must move unobtrusively and quietly from the instructional area and notify the instructor as soon as reasonably possible. Students who are expecting an emergency call should inform the instructor before the start of the instructional period.

Academic Honesty

Academic misconduct shall be handled according to the guidelines listed in the *Oracle*.

Letters of Recommendation: I will gladly write letters of recommendation for students who receive an “A” in the course, who have reasonably good attendance, and who do not cause discipline problems; provided that the letters are for graduate/professional school and/or employment in a field related to your academic major. Letters of recommendation for employment must be for positions that will be filled in the near future. (e.g., don’t ask me to write a letter of recommendation for a teaching position, when your date of graduation is over a year away.) Such letters are *confidential*. Also, if you want me to write a letter of recommendation, you must ask me *personally*. (i.e., do not put a note in my mailbox asking me for a letter of recommendation.) Oh - one more thing - the better I know you, the more I will be able to say about you in my letters of recommendation. *Therefore, it is to your advantage to come and see me, and ask for help during office hours.* This is how I get to know my students.

Important Dates (Which Are Not Listed Elsewhere in the Syllabus)

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|-----------|---|
| Aug 20 | Last Day to ADD a Course |
| Aug 20 | Last Day to withdraw from the university without financial penalty (cannot be done on <i>Student Planning</i>) |
| Aug 20 | Last Day to Drop a Course without financial penalty |
| Sept 3 | Holiday (Labor Day) – no class |
| Oct 8 | Last Day to Remove an Incomplete from Previous Term |
| Oct 22 | Last Day to Drop a Course (may not be done on <i>Student Planning</i>) |
| Oct 22 | Last Day to Withdraw (may not be done on <i>Student Planning</i>) |
| Nov 12 | Holiday (Veterans' Day) – no class |
| Nov 16 | Last Day to file <i>Intent to Graduate</i> for Spring 2017 Semester |
| Nov 19-23 | Fall Break/Holidays - Thanksgiving |
| Dec 4 | Last day of classes |
| Dec 5 | Dead Day |

University Firearms Policy

Regardless and in spite of recent changes in Alabama law related to the matter, it remains the policy of Troy University that no person other than authorized law enforcement officers shall be permitted to bring any firearm onto any campus, teaching, or service support property, owned or leased by the University, no matter whether they hold a permit to do so, or not. It has been determined that it is the University's prerogative to establish its policy related to this question and therefore the current University policy on firearms remains in effect.

This syllabus represents a tentative plan for the instruction in this course. The instructor reserves the right to amend this syllabus if, in his opinion, such action will enhance and/or optimize learning. Any changes in this syllabus will be announced in class and/or on the instructor's website. This syllabus is a best possible assessment of the course aspirations, assignments and requirements at the time it was developed for this semester.