

**THE UNIVERSITY OF TEXAS AT EL PASO**  
**COLLEGE OF SCIENCE**  
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: MATH 2326  
Course Title: Differential Equations  
Credit Hrs: 3.0  
Term: Summer II, 2017  
Course Meetings & Location: MTWRF 4:20 pm – 6:30 pm at Liberal Arts Building 308  
Prerequisite Courses: Calculus I – Math 1411 and Calculus II – Math 1312  
Course Fee: N/A  
Instructor: Dr. Michael Pokojovy  
Office Location: Bell Hall 227  
Contact Info: Phone: (915) 747-6761  
E-mail address: [mpokojovy@utep.edu](mailto:mpokojovy@utep.edu)  
Fax # 915-747-6502 (Math Department)  
Emergency Contact: 915-747-5761 (Math Department)  
Office Hrs: TWR 3:00 pm – 4:00 pm, by appointment or on a drop-in basis  
Textbook(s), Materials: Required: Blanchard, P., Devaney, R.L. and Hall, G.R. *Differential Equations*, 4<sup>th</sup> edition, Brooks/Cole, Boston, 2012  
Graphing calculator with capabilities of (at least) TI-85 or laptop with MATLAB and/or MAPLE  
Recommended: (for more advanced and motivated students)  
1) Ahmad, S. and Ambrosetti, A. *A Textbook on Ordinary Differential Equations*, Springer, 2014  
2) Brauer, F. and Nohel, J.A. *The Qualitative Theory of Ordinary Differential Equations: An Introduction*, Dover, 1989  
3) Cronin, J. *Ordinary Differential Equations, Introduction and Qualitative Theory*, 3<sup>rd</sup> edition, CRC Press (2008)

Course Description and *Contents:*

Learning Outcomes: This course is devoted to studying ordinary differential equations (ODE) in the context of dynamical systems, using ODE to model various natural, social, economic phenomena, etc., learning how to solve ODE analytically, graphically and numerically as well as investigating the qualitative behavior of their solutions, etc.

*Objectives:*

- Learn seminal topics, concepts and techniques of ODE Theory with a strong emphasis on applications
- Provide theoretical proofs and justification for respective procedures
- Use numerical software to solve practical problems

Course Activities/Assignments: In addition to the core lecture, computer demonstrations and group discussions in the class, homework will regularly be assigned and quizzes will be given based on the textbook and the homework problems. Homework will include reading assignments, problem sets and/or group projects. It is expected that you spend an absolute minimum of 10 hours a week outside of class on solving homework problems, reading the textbook and reviewing your class notes. There will be two midterm exams and a comprehensive final.

Assessment of Course Objectives: *Midterm exams:* Two midterm exams will be given.

*Quizzes and homework:* At least one quiz and one homework will be given each week.

*Final Exam:* There will be a comprehensive final exam.

Only scientific calculators may be used (but not shared!) during the quizzes/exams.

- Course Schedule:
- Duration: 7/11/2017 – 8/3/2017
  - If time permits, all chapters will be covered. Most emphasis will be put on Chapters 1, 2, 3, 5 and 6.
  - Midterm exam #1: Wed, 7/19/2017
  - Midterm exam #2: Fri, 7/28/2017
  - Comprehensive final exam: Fri, 8/4/2017 at 4:00 pm – 6:45 pm
  - Course drop deadline: Fri, 7/28/2017 (No “W” will be assigned for dropping the course after the deadline!)
  - Grades officially available online: Mon, 8/14/2017

Grading Policy: *Quizzes, homework and class participation:* 40%

*Two midterm exams:* 20% each

*Final exam:* 20%

The usual grading scale will be used for this course (90–100% = A, 80–89% = B, 70–79% = C, 60–69% = D, 0–59% = F). Academic performance in this class will be the only factor used in determining the course grade. No extra credit work will be available to improve on any grade.

Make-up Policy: Make-up tests will only be given under extraordinary circumstances (as determined by the instructor) which must be reported to the instructor and documented (if requested) prior to the exam/quiz. There will be no make-up final exam.

Attendance Policy: It is highly recommended that you attend every class. If you miss a class, you will miss a lot of information. If you are unable to attend, you are still responsible for the material covered. Ask any of your classmates for their notes since the examples discussed in class may be used in the tests later. If you try to go from one class to another without studying, you will most likely be completely lost during the next class. Students are expected to arrive on time and remain in the class for the entire period. It is essential to pay attention in class and take legible notes. It is also important to read the textbook and work through the example problems given in the textbook and the class. Failure to accomplish the above – as a minimum – will almost invariably ensure a less than satisfactory grade for this course.

**Academic Integrity Policy:** The University policy is that all suspected cases or acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Each student is responsible for notice of and compliance with the provisions of the Regents'

Rules and Regulations, which are available for inspection electronically at

<http://www.utsystem.edu/bor/rules/homepage.htm>

All students are expected and required to obey the law, to comply with the Regents' Rules and Regulations, with System and University rules, with directives issued by an administrative official in the course of his or her authorized duties, and to observe standards of conduct appropriate for the University. A student who enrolls at the University is charged with the obligation to conduct himself/herself in a manner compatible with the University's function as an educational institution.

Any student who engages in conduct that is prohibited by Regents' Rules and Regulations, U. T. System or University rules, specific instructions issued by an administrative official or by federal, state, or local laws is subject to discipline, whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct.

**Civility Statement:** Calculators may not be shared during quizzes and exams. Please do not use cell phones, pagers, iPods, MP3 players, blue tooth devices, etc. during class. Cell phones and pagers should be set to silent or vibrate, and any calls should be taken outside of class. Please do not wear headsets or blue tooth devices during class. Please don't talk in class. Cell phone calculators may not be used on quizzes or exams. Active participation in class is expected, teamwork in class will be implemented.

**Disability Statement:** If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact The Center for Accommodations and Support services (CASS) at 747-5148 or at <cass@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any CASS accommodation letters and instructions.

**Military Statement:** If you are a military student with the potential of being called to military service and/or training during the semester, please contact me by the end of the first week of class