Math 3433-101 Differential Equations
Fall 2021

Contact Information:

Instructor: Dr. Guy Bernard
Office: 118D Bolin Hall
Phone: (940) 397-4443
e-mail: guy.bernard@msutexas.edu
Office Hours: Monday, Wednesday, Friday 11:00am-12:00pm
Tuesday, Thursday 9:30am-10:30am. Students will need to wear face masks in my office (or students will need to make an appointment with me to meet in the Learning Center in Moffett Library).

Important Notices (please read carefully)

- Students do not have to wear face coverings in class but are strongly encouraged to do so.
- Students must choose a seat the first day of class and sit in that same seat the whole semester.
- Should the university need to switch to online teaching during the semester (due to a severe worsening of the pandemic), students will need to read the lecture notes posted on D2L. Testing then will be performed online. Specific details will be given in time should this unlikely event occur.
- Should a student need to quarantine because of Covid-19 or the exposure to an infected person with this virus, he or she will have to follow the lectures by reading the online class notes. If such a student misses a test or a quiz, arrangements will be made on a case-by-case basis. In some cases, the final exam will be a substituted for a missed test (please refer to Evaluation 2 in Grading)

Class Details:

Lectures: MWF 10:00am-10:50am in Bolin 109.
Text: A First Course in Differential Equations with Modeling Applications by Dennis G. Zill, 11^{th} edition.
Class Notes: posted on D2L
Homework Solutions: posted on D2L after being handed in.
Calculator: Any graphing calculator. (I will not make use of it in class)

Course Description: The goal of this course is to serve as an introduction to the subject of Ordinary Differential Equations. Mainly first and second-order differential equations will be considered. Methods of solving linear and non-linear D.E. will be covered. The spring-mass system will be seen with and without damping and forcing. Growth and decay as well as logistic models will be covered as applications. Also, linear systems in two dimensions will be studied briefly.

Course Outline: The following chapters will be covered:

- Chapter 1 Introduction to Differential Equations (D.E.)
- Chapter 2 First-Order D.E. (except 2.6)
- Chapter 3 Modeling with First-Order D.E.
- Chapter 4 Higher-Order D.E. (except 4.5, 4.8, 4.10)
- Chapter 5 Modeling with Higher-Order D.E. (except 5.3)

Homework, Tests, and Final Exam:

- There will be 11 homework assignments during the semester.
- The homework assignments will cover the entire course material.
- Late assignments will not accepted.
- Solutions to homework assignments will be posted on D2L after they are handed in. They will remain there for the remaining of the semester.
- There will be 3 tests during the semester.
- Solutions to tests will not be given.
- The final exam will be comprehensive and compulsory.
- All tests and the final exam will be closed book exams.
- Calculators will be permitted during all exams.
- Make-up tests will be granted only in exceptional situations and Only when the student has made the request (for a make-up test) several days before the date of the class-scheduled test.

Test Dates:

- Test No.1 Monday September 27, 2021 (subject to change)
- Test No.2 Monday November 1, 2021 (subject to change)
- Test No.3 Wednesday December 1, 2021 (subject to change)
- Final Exam Wednesday December 8, 2021 10:30am-12:30pm.

Grading:

The course grade for each student will be the better of the two following evaluations:

Evaluation 1

- Homework 5%
- Test No.1 20%
- Test No.2 20%
- Test No.3 20%
- Final Exam 35%

Evaluation 2

- Homework 6%
- Best Test 22%
- 2nd Best Test 22%
- Worst Test 0%
- Final Exam 50%

Letter Grade:

In this course, the course letter grades will correspond to the following course grades:

- A 85% and above
- B 75% to 84%
- C 65% to 74%
- D 55% to 64%
- F below 55%.

Important Date:

Last date to withdraw from the course with the grade of W: 4:00pm Monday October 25, 2021.

Attendance Policy:

Students should attend all class lectures, if they are healthy. Students who cannot attend (due to the corona virus) need to contact me. In this case, they will follow the course by my online class notes (already posted on D2L). Attendance will be taken, but no penalties will be imposed for absences.

Disabilities Statement:

Students who need special accommodations should inform the instructor and contact the Disability Support Services Office: room 168 Clark Student Center Phone: (940) 397-4140.

Academic Dishonesty:

The sanction for academic dishonesty on quizzes, tests, or the final exam will be the assignment of the grade of ZERO on the given test where the dishonesty has occurred. This may lead to the failing of the course should the students' course grade fall below the required passing grade.

Student Handbook:

Students should refer to the current MSU Student Handbook and Activities Calendar for university policies on academic dishonesty, class attendance, student rights and activities. The Student Handbook can be found on the MSU Website at Student Life, then Dean of Students. Student Handbook 2020-2021

Campus Carry Statement:

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage at msutexas.edu/campus-carry