Math 392: Introduction to Ordinary Differential Equations
Spring 2016

Meetings: MWF 11:30am-12:20pm in SH 114
Instructor: Shibin Dai
Email: sdai@math.nmsu.edu
Office: SH 230
Phone: 646-2417
Class Webpage: www.math.nmsu.edu/~sdai/teaching/201601-392/Math392-201601.html
Office Hours: TTh 1:00-2:00pm and by appointment

Prerequisite: C or better in MATH 192G or B or better in MATH 236. It will be assumed that you have mastered basic concepts and skills from algebra, trigonometry and calculus.

Textbook: *Differential Equations,* Fourth Edition, by P. Blanchard, R. L. Devaney and G.R. Hall, Brooks/ Cole Publishing Company, 2012. We will cover sections 1.1-1.9, 2.1-2.4, 2.6, 3.1-3.7, 4.1-4.4, 5.1 and as much as time permits we will cover selected topics from 5.2-5.3.

Catalog description: Introduction to differential equations and dynamical systems with emphasis on modeling and applications. Basic analytic, qualitative and numerical methods. Equilibria and bifurcations. Linear systems with matrix methods, real and complex solutions.

Course Objectives: To introduce basic concepts, theory, methods and applications of ordinary differential equations with emphasis on modeling and dynamics.

Computer Algebra system/Calculators: The computers in SH 118 run DETools, Maple and Matlab. No electronic devices are allowed during exams and quizzes.

Extra Help: It is best to come to office hours or make an appointment when you have trouble. But the department also provides assistance from graduate students in WH 101. A schedule will be placed on the door of that room.

Readiness Exam: The department will be piloting a readiness exam in Math 392 at the beginning of this semester. It tests the prerequisite knowledge and skills for Math 192G. You will take the exam in the Math Testing Center (Walden Hall 101) at your convenience during the hours 9am to 7pm, Wednesday 01/27 through Thursday 01/28 and 9am to 4pm on Friday 01/29. Please note that the exam is NOT available before Wednesday 01/27. Scantrons will be available at the Math Testing Center 15 cents each or 2 for 25 cents.

Homework (10%): Homework will usually be due at the beginning of the Wednesday class. Homework assignments will be posted on the course website. No late homework will be accepted. Solutions to homework will be posted on the class webpage. Even though the homework assignments will be graded partially for correctness, it will also be graded for completion as well. The two lowest homework scores will be dropped.

Quizzes (20%): There will be 5 quizzes during the semester. The problems will be similar to class examples and homework. The lowest quiz score will be dropped. The dates are the Fridays on 01/29, 02/12, 02/26, 03/25, and 04/22.

Exams (40%, 20% each): There will be two exams in class on **Friday March 04** and **Friday April 08**.

Final (30%): A comprehensive final exam will be held on Wednesday May 11, 10:30am-12:30pm in SH 114.

Grades: Grades will be assigned as follows:
A [90%,100%], B [80%,90%), C [70%,80%), D [60%,70%), F [0,60%)

Make-up Exams and quizzes: Make-up exams and quizzes will be provided only in the case of a documented legit excuse, at the discretion of the instructor. Excused absences include absences due to illness and travel on university or career-related business. (See also the section *Attendance and Student Performance in* the Undergraduate University Catalog.) Unless it is an unforeseen circumstance, arrangements must be made prior to the date of the exam.

Withdrawals and Incompletes: You have the primary responsibility for withdrawing from the course. **The last day to drop with a "W" is Monday, March 28.** Under university policy, the grade of **I** (incomplete) is given for passable work that could not be completed due to circumstances beyond the student's control. The I grade should not be used to avoid a student receiving a D or F grade.

Important Notes:

- You are expected to attend every class and show up on time.
- Announcements and grading will be communicated to you through Canvas. Access your Canvas account regularly.
- At the end of the final examination, the course is over, and there are no more opportunities to submit additional work.
- I will not compose extra credit assignments for students who want to try to compensate for poor results in another component of the course.

Plagiarism: Plagiarism is using another person's work without acknowledgment, making it appear to be one's own. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct and are subject to disciplinary action such as failure on the assignment, failure of the course or dismissal from the university. The NMSU Library has more information and help on how to avoid plagiarism at http://lib.nmsu.edu/plagiarism/

Disabilities and Discrimination: Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) cover issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

Trudy Luken
Student Accessibility Services (SAS) - Corbett Center, Rm. 244
Phone: 646.6840 E-mail: sas@nmsu.edu
Website: http://sas.nmsu.edu

NMSU policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct, sexual violence, sexual harassment and retaliation. For more information on discrimination issues, Title IX or NMSU's complaint process contact:

Gerard Nevarez or Agustin Diaz
Office of Institutional Equity (OIE) - O'Loughlin House
Phone: 646.3635 E-mail: equity@nmsu.edu
Website: http://eeo.nmsu.edu