

Math 405-01 - Differential Equations

Spring 2019

Instructor: Dr. Bingtuan Li, NS 236, 852-6149, bing.li@louisville.edu

Class Meetings: MWF 11:00 am - 11:50 am, in NS 130.

Office Hours: MWF 3:00 pm - 4:00 pm and by appointment.

Text: *Elementary Differential Equations and Boundary Value Problems*, 11th Ed., Boyce, DiPrima, Meade

Prerequisite: Math 206 (integration techniques) and Math 325 (Linear Algebra).

Course Description: The course is an introductory course on the elementary theory of ordinary differential equations with applications to models in the real world. We will cover all of Chapters 1, 3, 4, most sections in Chapters 2, 6, 7, and selected sections from Chapter 9. The goal of this course is to give you a solid foundation for the study of common types of differential equations.

Exams:

Exams	first midterm	second midterm	Final
Date	Friday, February 15	Friday, March 22	Wed., April 24, 11:30am-2:00pm

Half of the final will be devoted to material covered after the second midterm exam. The rest will be comprehensive. Students must take the final to pass the course.

Make-ups for exams will be given only in case of pre-arranged medical procedure, university sanctioned event, or documented emergency. In case of an emergency, students should make every reasonable effort to notify me within one weekday. Exams may not be taken early. The excused exam make-ups must be scheduled through University Testing Services (852-6606).

Homework: We will have homework assignments nearly every class, and I will periodically announce which of these are to be handed in for grading. That means you do ALL the assigned problems, each on a separate sheet of paper and then hand in only the ones that I ask for (late work will NOT be accepted). You are encouraged to discuss the homework problems in small groups (2 or 3 students) but you are expected to hand in your own work; that is you write it up by yourself without help.

Computer Usage: There are topics in this course which are best studied using computer graphics and computer solvers, such as Maple, MATLAB, or Mathematica.

Projects: There will be a project related to the subject on a topic of your choice or the instructor.

Grades:

The final grade will be based on the following score:

Two midterm exams (30%) + homework (30%) + project (10%) + final exam (30%).

The approximate grading schedule is

A: 90% - 100%	B: 80% - 89%	C: 66% - 79%
D: 55% - 65%	F: Below 55%.	

Title IX/Clery Act Notification: Sexual misconduct (including sexual harassment, sexual assault, and any other nonconsensual behavior of a sexual nature) and sex discrimination violate University policies. Students experiencing such behavior may obtain confidential support from the PEACC Program (852-2663), Counseling Center (852-6585), and Campus Health Services (852-6479). To report sexual misconduct or sex discrimination, contact the Dean of Students (852-5787) or University of Louisville Police (852-6111).

Disclosure to University faculty or instructors of sexual misconduct, domestic violence, dating violence, or sex discrimination occurring on campus, in a University-sponsored program, or involving a campus visitor or University student or employee (whether current or former) is not confidential under Title IX. Faculty and instructors must forward such reports, including names and circumstances, to the University's Title IX officer.

Schedule: The following schedule is a tentative guideline for the pace of this class.

DATE	SECTIONS
Weeks 1-4	Chapter 1, Chapter 2, Chapter 3
Weeks 5-8	Chapter 3, Chapter 4
Weeks 9-12	Chapter 6, Chapter 7
Weeks 13-16	Chapter 7, Chapter 9

The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes, or for similar reasons