

COURSE DESCRIPTION
INTRODUCTION TO DIFFERENTIAL EQUATIONS
MA 252-1A
FALL 2022

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: Dr. Milena Stanislavova

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Office Hours: Monday 11am-noon, in person

Wednesday 1-2pm, online Zoom Invite: <https://uab.zoom.us/j/6951811117>

Course Info

Meeting times: MWF 8:00am-8:50am

Meeting location: HHB 221

Prerequisite: Grade of C or better in MA 126, 226 or equivalent.

Credits: 3 semester hours

Textbook: Fundamentals of Differential Equations, R. Nagle, E. Saff and A. Snider, Pearson, 9th edition

Topics to be covered: Chapters 1, 2, 3, 4, 5, 9

Course Description

This course is an introduction to ordinary differential equations with extensive applications to mathematical modeling. First order differential equations (separable, linear, exact, and additional non-linear examples), modeling with first order ODE's, examples of systems of first order ODE's, theory of higher order linear DE's (homogeneous and non-homogeneous, superposition of solutions, linear independence and general solutions, initial and boundary value problems), solution of constant coefficient homogeneous linear equations, variation of parameters will be covered in details. Quantitative Literacy and Writing are significant components of this course. This course meets the Core Curriculum requirements for Area III: Mathematics.

Important Dates

First day of classes: August 22, 2022

Last Day to drop without paying full tuition: August 29

Labor Day Holiday: September 5, 2022

Fall/Thanksgiving break: November 21-27, 2022

Last Day of class: December 2, 2022

Final Exam: December 5, 2022

Homework and Quizzes

Homework will be assigned once a week, on Fridays, with due date the following Wednesday. This will be automatically graded on the MyMathLab platform (with 2 attempts per question), so make sure that you are fairly confident in your answers, before you input them.

There will be five quizzes, 2-3 problems each, with about 15 minute in duration. These will always be during the Friday lecture (note however that not all Fridays will feature a Quiz). Note that there will be NO MAKEUP QUIZZES! I will drop the lowest quiz grade.

Exams:

If you have a valid reason for missing the exam, you should contact me BEFORE the exam to discuss alternative arrangements. The final exam will be cumulative, i.e. it will test on all the material. The exams are tentatively scheduled during regular class time on the following dates:

Midterm Exam I	Wednesday, September 21 th , in class
Midterm Exam II	Friday, October 14 th , in class
Midterm Exam III	Wednesday, November 16 th , in class
Final Exam	Monday, December 5 th 8:00 a.m. - 10:30 a.m.

Assessment Procedures

There are 1000 total points possible in the course as follows:

Homework - 200 points

Quizzes - 100 points

Midterms - 450 points

Final Exam - 250 points.

Standard grading scale will be used with 900 points needed for an A, 800 for a B, 700 for a C.

DSS Accessibility Statement

Accessible Learning: UAB is committed to providing an accessible learning experience for all students. If you are a student with a disability that qualifies under the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act, and you require accommodations, please contact Disability Support Services for information on accommodations, registration and procedures. Requests for reasonable accommodations involve an interactive process and consist of a collaborative effort among the student, DSS, faculty and staff. If you are registered with Disability Support Services, please contact me to discuss accommodations that may be necessary in this course. If you have a disability but have not contacted Disability Support Services, please call (205) 934-4205 or visit the DSS website.

Title IX Statement

The University of Alabama at Birmingham is committed to providing an environment that is free from sexual misconduct, which includes gender-based assault, harassment, exploitation, dating and domestic violence, stalking, as well as discrimination based on sex, sexual orientation, gender identity, and gender expression. If you have experienced any of the aforementioned conduct we encourage you to report the incident. UAB provides several avenues for reporting. For more information about Title IX, policy, reporting, protections, resources and supports, please visit the UAB Title IX webpage for UAB's Title IX Sex Discrimination, Sexual Harassment, and Sexual Violence Policy; UAB's Equal Opportunity and Discriminatory Harassment Policy; and the Duty to Report and Non-Retaliation Policy.