MAP 3305 - 3 credits
Engineering Mathematics 1

TR 3:30 p.m. – 4:50 p.m.
Location: College of Nursing Building Boca Campus
Room 113

Spring 2023
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Course Description
This course is an introduction to the topic of ordinary differential equations. Topics to be covered include complex numbers, ordinary differential equations, transform methods, systems of linear equations.

Instructional Method
This course is conducted face-to-face in lecture-discussion style.

Prerequisites/Corequisites
- MAC 2312 or MAC 2282 with a minimum grade of C.

Course Objectives/Student Learning Outcomes
Upon successful completion of the course the student will be able to:
1. solve first order differential equations
2. solve second order linear differential equations
3. solve linear systems of differential equations
4. solve equations by transform methods

Upon completing this course, students should be able to apply the presented mathematical techniques to solve engineering problems.

Course Evaluation Method

The requirements of the course and structure for evaluation are as follows:

- Weekly Writeups 25%
- Individual Project 25%
- Mid Term Exam 25%
- Final Exam 25%

All work must be typed using LATEX or Jupyter Notebook.

Course Grading Scale

Percentages translate to final grades according to the following table:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
94-100	90-93	87-89	84-86	80-83	77-79	74-76	70-73	67-69	64-66	61-63	0-60

Policy on Makeup Tests, Late Work, and Incompletes

Late work is not accepted with the exception of extraordinary circumstances: if you cannot hand in an exam or written assignment in time due to a reason like significant health problems or a university-approved absence and you document this, then you can make up the respective assignment. Extra credit work is not possible.

To master the material covered in this course, it is expected that the student will spend a minimum of two hours per week per credit hour on the out-of-classroom assignments.

A student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor but is allowed only if the student is passing the course.

Credit Hour Definition

This course involves 50 minutes of in class instruction for each credit hour per week, and a minimum of two hours of out of class assignments each week. To master the material covered in this course it is expected that the student will spend a *minimum* of two hours per week per credit hour on the out of classroom assignments.

Special Course Requirements

Students are expected to have Colab, GitHub, and Overleaf accounts set up. For more information visit https://colab.research.google.com/, https://education.github.com/, and https://overleaf.com/.

Attendance Policy

Students are expected to attend all scheduled classes and to satisfy all academic objectives as outlined by the instructor. Absences can result in a reduction of the *Presentations and Contributions* portion listed in the *Course Evaluation Method*. Students are responsible for arranging to make up work missed because of legitimate class absence. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally, and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie, and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

Required Texts/Readings

Textbook:
http://faculty.sfasu.edu/judsontw/ode/html-snapshot/odeproject.html
http://faculty.sfasu.edu/judsontw/ode/odeproject-electronic-snapshot.pdf

Course Topical Outline

- ● 1 First Look at Differential Equations