



MAP 2302 Differential Equations

Section: U06

In Person

Spring Term 2024

Course Meeting Information

We meet in person at the times indicated below. **Attendance is mandatory!**

Class Meeting Times	
Day:	TuTh
Time:	9:30am-10:45am
Location:	SACS 202

Professor Information

Tedi Draghici

Contact: draghici@fiu.edu

Phone: 305-348-2028

Website: <https://faculty.fiu.edu/~draghici/>

Office Hours:

Tuesdays and Thursdays 11am-12:30pm or by appointment

Course Prerequisites

Prerequisite: MAC2312 with a grade of "C" or better

Course Description and Purpose

This is an introductory course in Differential Equations. It introduces basic concepts related to differential equations as well as techniques to solve them. Applications of relevance in physical science and other fields are interspersed throughout.

Course Goals

The focus of this course is to master the main ideas, concepts and techniques to solve differential equations. Upon completion students should demonstrate:

- Strong computational skills in the classical methods of solving differential equations, particularly in the linear case.
- Reasoning skills in deriving differential equations to solve applied problems arising in physics, chemistry, economics, and other fields.

Student Learning Outcomes/Objectives

Students will be able to:

- Find general solutions and unique solutions of initial value problems dealing with linear first order or separable equations.
- Use integrating factor to solve first order equations.
- Solve homogeneous linear equations with constant coefficients.
- Use the method of undetermined coefficients and variation of parameters to solve nonhomogeneous linear equations.

- Use series to solve linear equations with analytic coefficients and equations with regular singular points.
- Use Laplace transform to solve systems of linear equations with constant coefficients.
- Apply differential equations to solve concrete problems relevant in physical sciences and other fields.

Expectations of the Course

For most Mathematics courses, new topics are built from the old ones and, thus, falling behind just a couple of classes can make it extremely difficult to catch up. All students should attend all class meetings, participate in class activities, and do the required assignments as the course progresses. You are expected to spend a minimum of 12 hours a week outside of class, on homework and reading. Use my office hours or the tutoring services offered by the university to ask questions when necessary.

The exams will consist mostly of problems similar to those in homework assignments, worksheets, quizzes, or in-class examples. There may also be 1-2 conceptual questions, such as True-False, a textbook proof and/or a definition on each exam. You will be expected to write the proof, with clear sentences and good explanations, for some results announced in advance.

Other Rules: Any beepers/cell phones, etc must be turned off during class. If you cannot arrive and leave on time, see me and explain. If you find a grading error, write a note to me at the top of your paper and return it promptly. I will try to identify any cheating that may occur in the course. To avoid unfounded suspicion, please show all your work, turn in any scratch paper you use in exams, and avoid sitting next to your study partners during exams.

Assignments

Method of Evaluation:

- Online homework – 12%;
- Quizzes, worksheets, class participation -- 12%;
- Two 75 minutes midterm exams - 24% each; Tentative schedule:
Exam 1 – Tuesday, February 20;
Exam 2 – Tuesday, April 03;
- **Final Exam** – cumulative exam – 28% - date TBA.

All online homework is available at Access Pearson. All homework assignments will have due dates. They will generally be available till 11:59 PM on a due day. You will be able to do the online homework after the due date, but with a penalty of 30% on the problems you submit late. At the end of the semester, the lowest three scores of your online assignments will be dropped.

All exams are closed books. You will not be permitted to use calculators or formula sheets during tests. Picture ID is required and must be presented upon request for all tests.

NO MAKE-UPS are permitted for for any quiz or exam. If you have a documented medical, professional, or familial responsibility (e.g. a note from a doctor, work supervisor, or police report) for missing an exam, you will be given an "excused absence". If you have an excused absence from a midterm, that percentage of your grade will be made up on the final. If you have an excused absence from a quiz, that percentage of your grade will be made up on the following midterm.

Once you have started taking a test, you cannot be excused from that test. You may not be excused from the final. Please arrive on time for the tests.

If beneficial to your grade, the lowest midterm will be replaced by the average of the final exam score and the score on that midterm.

Grading

Grade-scale: The following percentage guarantees the associated grade:

90%-100% A, 88%-90% A-, 85%-88% B+, 80%-85% B, 78%-80% B-, 73%-78% C+, 65%-73% C, 55%-65% D, 0%-55% F.

Textbook and Course Materials for Purchase

If no materials listed, no items are needed.

FUND.OF DIFF.EQUATIONS-MYLAB (18 WK)

Required/Recommended: Required

Authors: Nagle, Saff, Snider

Publisher: Pearson

Publication Date: 2018

Copyright Date: 2018

ISBN 10: 0321977157

ISBN 13: 9780135963777

Notes: Please select Access Pearson from Canvas. There are some purchase options. The MyLab access code is necessary for the online homework and it also gives you access to the e-text. You may have a free 14-day free access trial. All online homework is available at Access Pearson. The paper version of the book is not necessary.

Panther Book Pack Undergraduate Rental Program

FIU has implemented the Panther Book Pack rental program, which provides your required print and digital course materials at a flat rate of \$20 per undergraduate credit hour. When you registered for your classes this session, you were notified via email of the required course materials that are included in the Panther Book Pack. The Panther Book Pack program applies to all undergraduate credit hours per academic session. I recommend that you review the pricing for all materials across your classes this session

compared to the Panther Book Pack flat rate. If the Panther Book Pack is not your best option, you may opt out up to three days after the add/drop deadline. You may opt back into the Panther Book Pack up to three days after the add/drop deadline. If you do not opt out of the Panther Book Pack rental program, you will be charged \$20 per credit hour and the course materials will be reserved for you for the undergraduate courses for which you are registered. For more details, visit bookpack.fiu.edu

Course Communication

Communication in this course will take place via email or the Canvas Inbox. Check out the [Canvas Conversations Tutorial](#) or [Canvas Guide](#) to learn how to communicate with your instructor and peers using Announcements, Discussions, and the Inbox. I will respond to all correspondences within 24 hours.

Policies

As a member of the FIU community, you are expected to be knowledgeable about the behavioral expectations set forth in the [FIU Student Conduct and Honor Code](#).

In addition, the [FIU Policies and Procedures Library website](#) serves as the official repository for university-wide policies and procedures.

Technical Requirements and Skills

One of the greatest barriers to student success is a lack of basic computer literacy. By computer literacy, we mean being able to manage and organize computer files efficiently and learning to use your computer's operating system and software quickly and easily.

Privacy Policy Statements for some of our Partners and Vendors

- [Canvas](#)
- [Microsoft](#)
- [Adobe](#)

- [YouTube](#)
- [LinkedIn](#)
- [ProctorU](#)
- [HonorLock](#)
- [Turnitin](#)
- [OpenStax](#)
- [Zoom](#)
- [Respondus LockDown Browser](#)

Accessibility and Accommodation

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive, and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

For additional assistance please contact [FIU's Disability Resource Center](#).

Web Accessibility Statements for Partners and Vendors

- [Canvas](#)
- [Microsoft](#)
- [Adobe](#)
- [YouTube](#)
- [LinkedIn](#)
- [ProctorU](#)

- [HonorLock](#)
- [Turnitin](#)
- [OpenStax](#)
- [Zoom](#)
- [Respondus LockDown Browser](#)

Please visit accessibility.fiu.edu for additional information about accessibility at FIU.

Academic Integrity

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the University's educational mission. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Conduct and Honor Code.

Academic Misconduct includes:

Cheating

- The unauthorized use of any materials, information, study aids, or assistance from another person on any academic assignment or exercise unless explicitly authorized by the course Instructor;
- Assisting another student in the unauthorized use of any materials, information, or study aids, unless explicitly authorized by the Instructor; and
- Having a substitute complete any academic assignment or completing an academic assignment for someone else, either paid or unpaid;

Plagiarism

- The deliberate use and appropriation of another work without any indication of the source and the representation of such work as the Student's own.
- Assisting another student in the deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own.

Learn more about [Student Conduct and Academic Integrity](#).

Panthers Care & Counseling and Psychological Services (CAPS)

If you are looking for help for yourself or a fellow classmate, Panthers Care encourages you to express any concerns you may come across as it relates to any personal behavior concerns or worries you have, for the classmate's well-being or yours; you are encouraged to share your concerns with [FIU's Panthers Care website](#).

[Counseling and Psychological Services \(CAPS\)](#) offers free and confidential help for anxiety, depression, stress, and other concerns that life brings. Professional counselors are available for same-day appointments. Don't wait to call (305) 348-2277 to set up a time to talk or visit the online self-help portal.

Inclusivity

This course will serve to embrace the diversity and inclusivity found within Florida International University. We appreciate and respect diversity, equality, equity, cooperativeness, community, and sustainability within our online courses. We are committed to the ongoing education of our students and their participation within the course regardless of gender, ethnicity, age, sexual orientation, geographical location, religion, and disability. We strive in encouraging collaboration by preparing our students to value the differences in others. At the core of our intentions is the encouragement of acceptance and appreciation of differences within our student population and community.

Copyright

The following conduct is prohibited by the Student Conduct and Honor Code. A lack of familiarity with University policy is not a defense to a violation of this Code. Unless specifically noted, the intent is not a required element to establish a policy violation. The following conduct violation or any attempt to violate the Code will be used in charging all Students or Student Organizations;

Section 5 | Conduct Violations - g. Computer Misuse

- vii. Unauthorized distribution or downloading of copyrighted materials, including but not limited to, unauthorized peer-to-peer file sharing. This is a violation whether the user is using their own personal computer or the University's information technology system for unauthorized distributions.

Copyright Statement: The materials and content in this course are provided solely for student use during the course. Course materials may not be shared outside of the course or with any third party without the explicit permission of the instructor or content publisher. Visit FIU [Library's Copyright Lib Guide](#) to learn more about copyright law and restrictions.

Additional Resources:

- [Student Conduct and Honor Code](#)
- [Digital Millennium Copyright Act Policy](#)
- [FIU - Copyright Guidance for Students](#)
- [FIU Library's Copyright Lib Guide](#)