

# MAP2302 Differential Equations

#### **Course Content and Objectives.**

We will cover much of Chapters 2,4,7 and some Chapter 8. This includes First Order Equations ( Linear,Exact, Bernoulli etc), second order equations and some applications to circuits and mechanics and Laplace transforms. Series solutions will be covered in Chapter 8.

#### **Instructor and Office Hours**

Murali Rao, 494 Little Tlf: 352-294-2327

MWF: 4 th period.

#### Homework, Problems and Exams

Homework will be regularly assigned. There will be three tests each of 33 points on Feb 8, March 15 and Apr 19.IMPORTANT: ALL TESTS ARE CUMULATIVE.

#### Grading

Grading scale: A: 90 or above; A-: 87-89; B+: 84-86; B: 80-83; B-: 77-79; C+: 74-76; C: 70-73; C-: 67-69; D+: 64-66; D: 60-63; E: < 60.

ABSOLUTELY NO MAKEUPS WITHOUT MEDICAL DOCUMENTATION. NO REQUESTS FOR EXTRA CREDITS OR EXTRA ANYTHING.

NO BARGAINING FOR, OR CHANGING OF, GRADES OR POINTS.

# Tentative weekly schedule.

Jan 7-11: Separable Equations, Linear Equations . Jan 14 - 18: Continued. Jan 21-25: Exact Equations. Integrating Factors. Jan 28- Feb 1: Substitutions and Transformations. Feb 4 - 8: Second Order Equations, Homogeneous Equations and General Solution. Feb 11 - 15: Equations with constant Coefficients. Auxiliary Equations. Roots.

Feb 18-22: Continued. Feb  $25-Mar\ 1$ : Nonhomogeneous Equations, Superposition Principle and the Method of Undetermined Coefficients. Mar 11-15: Variation of Parameters and Variable Coefficient Equations. Mar 18-22: Laplace and Inverse Laplace Transforms. Mar 25-29: Continued. Apr 1-5: Solving Initial value problems and Discontinuous Forcing. Apr 8-12: Convolutions, Impulses and Dirac Delta Functions. Apr 15-19: Continued .

# Course policies:

Review...

<u>Closed-book policy:</u> No use of calculators, or books will be allowed during any in-class tests/quizzes.

Policy related to make-up exams or other work: There will be no opportunities to make up for work not submitted. However, if a student provides a legitimate excuse well in advance, scores will be prorated. Work with due date should be turned in at the beginning of class on the stated due date. Late work will not be accepted and will be deemed work not submitted.

<u>Policy on class attendance</u>: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at:

https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

University's honesty policy: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code". On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

For students with disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Students' evaluations of the course: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

**Honor Code:** In this course authorized aid on homework consists of talking to me, other students, and looking at the notes for this course. This means that you are not allowed to look in other books for solutions to the homework or at the written solutions of other students. **Class Attendance:** Most students benefit a great deal from attending class regularly. Arriving late and/or leaving early, reading

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unprofessional. **Excused Absences:** In certain circumstances a student will be able to make up a missed exam. These circumstances could include medical situations, family emergencies, travel for University activities (eg. band, debating club, etc), and religious observances. In these cases the student must inform me before or within one week after the missed work and **provide written documentation**.

### Additional Information:

**Grades:** Grading will be in accord with the UF policy stated at https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

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**Class Attendance:** "Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx."

Accommodations for Students with Disabilities: "Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester."

Online Evaluations: "Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/."

## **Contact information for the Counseling and Wellness Center:**

http://www.counseling.ufl.edu/cwc/Default.aspx, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.



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