



## MAP4305–Intermediate Differential Equations

### Intermediate Differential Equations

#### Instructor and Office Hours

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*Office Hours:* MWF 4, or by appointment.

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#### Homework, Problems and Exams

Homework : Homework will be regularly assigned. There will be three tests each of 33 points on Feb 10, Mar 17, and Apr 19..

#### Prerequisites

MAP 2302 or equivalent

#### Grading:

Grading will be based on three exams.

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.

#### Course Content and Objectives:

We will cover much of Chapters 8,9,and 10. This includes Series solutions, Matrix methods for systems,some elementary Partial Differential Equations and Eigenvalue Problems.

#### Tentative Weekly Schedule:

01/04 , 01/06 : Taylor Polynomials and review of Power Series

01/09- 01/13 : Equations with Analytic Coefficients.

01/18- 01/20 :Continued

01/23- 01/ 27 : Method of Frobenius

01/30- 02/03 : Continued.

02/06-02/10 : Review of Linear Algebra, Matrices and Linear Systems

02/13- 02/17 : Homogeneous Systems with Constant Coefficients

02/20- 02/24 : Continued.

02/27-03/03: Nonhomogeneous Systems. The Matrix Exponential

03/13-03/17 : Partial Differential Equations. Method of Separation of Variables

03/20-03/24 : Continued

03/27-03/31 : Fourier Series. The Heat Equation

04/03- 04/07 : : The Wave Equation and the Laplace Equation

04/10-04/19 : Glimpse of Eigenvalues. Flex days, review.

#### Course policies:

- Closed-book policy: 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.

- **Policy on 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 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>.

