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# Introduction to Numerical Analysis

MAD 4401 Section: 3216 Class Periods: M,W, F, period 6, 12:50pm-1:40pm

Academic Term: Fall 2023

**Instructor:** Nan Jiang

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Office Hours: Wednesday, Period 7, 1:55pm-2:45pm, or by appointment

## **Course Description**

MAD 4401 is a 3 credit course providing an introduction to the theory and application of numerical methods.

Topics include

- (1) Numerical solution of nonlinear equations of one variable
- (2) Numerical linear algebra
- (3) Approximation Theory
- (4) Numerical Differentiation and integration
- (5) Initial value problems for ODE

## **Course Prerequisites**

MAS 3114 or MAS 4105 with a minimum grade of C and experience with a scientific programming language.

## **Required Textbook**

Classical and Modern Numerical Analysis: Theory, Methods and Practice, 1st Edition, By Azmy Ackleh, Edward Allen, Ralph Hearfott and Padmanabhan Seshaiyer.

## **Evaluation of Grades**

<i>Assignment</i>	<i>Total Points</i>	<i>Percentage of Final Grade</i>
Homework Assignments (5)	20 each	100%
Total	100	100%

## **Grading Policy**

<i>Percent</i>	<i>Grade</i>
90.0 - 100.0	A
87.0 - 89.9	A-
84.0 - 86.9	B+
81.0 - 83.9	B

<b>Percent</b>	<b>Grade</b>
78.0 - 80.9	B-
75.0 - 79.9	C+
72.0 - 74.9	C
69.0 - 71.9	C-
66.0 - 68.9	D+
63.0 - 65.9	D
60.0 - 62.9	D-
0 - 59.9	E

More information on UF grading policy may be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### ***Attendance Policy***

Requirements for class attendance and makeup exams, assignments, and other work in this course are consistent with university policies that can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

### ***Accommodations for Students with Disabilities***

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### ***Course Evaluation***

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://gatorevals.aa.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://gatorevals.aa.ufl.edu/>.

### ***University 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 (<https://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.

### ***Diversity, Equity and Inclusion Statement***

The Mathematics Department is committed to diversity and inclusion of all students. We acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements. It is our intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.

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

<https://counseling.ufl.edu/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

### ***U Matter, We Care.***

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392- 1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.