MA 302 Course Syllabus

MA 302 – Numerical Applications of Differential Equations

Section 1

SPRING 2019

1 Credit Hours

Course Description

Numerical methods for approximating solutions for differential equations, with an emphasis on Runge-Kutta methods.

Learning Outcomes

This course uses Matlab. Matlab is taught at a level suitable for students who have passed two semesters of calculus.

Course Structure

The classes will meet at a computer lab. Students will use the laptops throughout the semester, and will have Matlab assignments at every class. The first part of each class will be lecturing and question/answer sessions, and the second part is always Matlab assignments.

Course Policies

Absolutely no food or drinks in the computer lab.

Instructors

Dr. Michael MEDVINSKY- *Instructor*
Email: mmedvin@ncsu.edu

Course Meetings

Lecture

Days: W
Time: 10:40am - 11:30am
Campus: Main
Location: 110 Cox Hall

This meeting is required.

Course Materials

Textbooks

None.

Additional Textbook Materials

TBD

Expenses

None.

Materials

None.

Requisites and Restrictions

Prerequisites

MA 241

Co-requisites

TBD

Restrictions

TBD

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

TBD

Grading

Grade Components

Letter Grades

This Course uses Standard NCSU Letter Grading:

97 ≤ **A+** ≤ 100
93 ≤ **A** < 97

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90  ≤  A-   < 93
87  ≤  B+   < 90
83  ≤  B    < 87
80  ≤  B-   < 83
77  ≤  C+   < 80
73  ≤  C    < 77
70  ≤  C-   < 73
67  ≤  D+   < 70
63  ≤  D    < 67
60  ≤  D-   < 63
 0  ≤  F    < 60
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Requirements for Credit-Only (S/U) Grading

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to

http://policies.ncsu.edu/regulation/reg-02-20-15.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at http://policies.ncsu.edu/regulation/reg-02-20-04.

Additional requirements TBD.

Policies on Incomplete Grades

If an extended deadline is not authorized by the instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at

http://policies.ncsu.edu/regulation/reg-02-50-3.

Attendance Policy

For complete attendance and excused absence policies, please see http://policies.ncsu.edu/regulation/reg-02-20-03

Academic Integrity

Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at http://policies.ncsu.edu/policy/pol-11-35-01

Additional requirements TBD.

Academic Honesty

See http://policies.ncsu.edu/policy/pol-11-35-01 for a detailed explanation of academic honesty.

Additional requirements TBD.

Honor Pledge

Your signature on any test or assignment indicates "I have neither given nor received unauthorized aid on this test or assignment."

Electronically-Hosted Course Components

There are no electronically-hosted components for this course.

Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.01) (https://policies.ncsu.edu/regulation/reg-02-20-01/).

Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at http://policies.ncsu.edu/policy/pol-04-25-05 or http://www.ncsu.edu/equal_op/. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

Course Schedule

NOTE: The course schedule is subject to change.

- Introduction to Matlab
- Elements of Numerical Analysis

- Applications to Differential Equations