Math 214 – A01 Summer 2023
Elementary Differential Equations

Dates/Times: Lecture MTWR 10:30 am -12:35 pm
Recitation TR 1:30 -2:45 pm.

Location: Engineering Building 1103

Textbook: Boyce, DiPrima, Meade, *Elementary Differential Equations*, 11th Edition Wiley, 2017

Instructor: Rosemberg Toala-Enriquez **Email:** rtoalaen@gmu.edu

Office Hours: MW 9:30-10:20am, at Exploratory Hall 1402.

Course Description: First-order ODEs, higher-order ODEs, Laplace transforms, linear systems, nonlinear systems, numerical approximations, and modeling.

Prerequisite: C or better in MATH 213 or MATH 215

Academic Integrity: You are bound by the Mason Honor Code (https://oai.gmu.edu/) and its policies related to Academic Integrity. Violations will be taken seriously.

Disability Services: If you are a student with a disability and you need academic accommodations, please contact the Office of Disability Resources at 703.993.2474, online at http://ods.gmu.edu, or at Student Union Building I (SUB I), Suite 2500. All academic arrangements and accommodations must be made through ODS. Please discuss your approved accommodations with me.

Communication: All email communication is to take place through your GMU email account.

Important Dates:
Last Day to Drop (No Tuition Penalty) - May 24
Last Day to Drop (50% Tuition Penalty) - May 30
Last Day to Drop (100% Tuition Penalty) - June 6
Final Exam - Thursday, May 22 10:30 AM - 1:15 PM *Date and time set by the university, non-negotiable.*

LECTURES, GRADING AND SCHEDULE

Lectures: I strongly recommend that you read the sections of the textbook each day prior to the lectures. During lectures I will give a short explanation of the theory, but the main focus will be on examples and you working on problems individually or in groups.

Attendance: Attendance, participation and engagement during lectures and recitation will be graded.

Homework: Attached to this syllabus you will find the list of homework problems. Homework ***will not*** be collected nor graded. It is vitally important that you do the homework exercises in a timely fashion in order to perform well on the exams. The homework problems are representative of the test questions.

Recitation: There will be a recitation twice per week focused on reinforcing the current material. I will handout working sheets for you to work.

TENTATIVE Schedule:

Week	Monday	Tuesday	Wednesday	Thursday
5/22 - 5/25	1.1, 1.2, 1.3	2.1, 2.2	2.3, 2.4	2.5, 2.6
5/29 - 6/1	Memorial Day (No Classes)	2.7, 2.9	3.1, 3.2	*Exam 1* (Ch 1, 2)
6/5 - 6/8	3.3, 3.4	3.5, 3.6	3.7, 4.1	4.2, 4.3
6/12 - 6/15	4.4, 7.1, 7.2, 7.3	*Exam 2* (Ch 3, 4)	7.4, 7.5	7.6, 7.8
6/19 - 6/22	Juneteenth (No Classes)	6.1, 6.2	6.3, 6.4	Final Exam (everything)

Exams: Exams 1 and 2 will be 2 hr long and will contain 4 or 5 questions evaluating the content described on the table. The Final Exam will be 2 hrs and 45 min long and will contain 10 questions evaluating the entire course. You may not leave the classroom during an exam for any reason. Please come to class prepared. Make-up exams will only be given for extreme circumstances, must be accompanied by official documentation, and I must be notified in advance.

Quizzes: There will be daily quizzes with the exception of the exam days. These will be taken asynchronously online in the afternoon/evening. Once you start the quiz, you will be given 30-min to complete it. No late quizzes will be accepted. The 2 lowest quiz grades will be dropped.

Grade: Grades will be determined according to the proportion of points earned throughout the course. Weights are as follows:

Attendance/Participation	10 %
Quizzes	20 %
Exam 1	20 %
Exam 2	20 %
Final Exam	30 %

Final grades will be given according to the standard breakdown:

A+ : 97-100	B+ : 87-89	C+ : 75-79	F : below 60
A : 93-96	B : 83-86	C : 70-74	
A− : 90-92	B− : 80-82	D : 60-69	

A few suggestions to help you get as much as possible out of this class:

- Use the book. This is the single best thing that you can do to learn the material.
- Attend the recitation.
- Watch videos. Use Khan Academy and other YouTube videos.
- Practice and solve problems. The best way to learn anything is to do it, math included.
- In this course we must cover an entire semester's worth of material in 17 days! Therefore, the pace of this course is *extremely fast*. If you fall behind at any point, you will very quickly find yourself in serious trouble. Do your best to stay caught up with the material. You should expect to work at least 12 hours per week outside of class in order to master the material in this course
- Ask for help! I'm here to help you learn, make use of office hours. I encourage questions during lectures and recitation.
- Use the Math Tutoring Center, https://science.gmu.edu/academics/departments-units/mathematical-sciences/math-tutoring/tutoring-center-hours-and

Homework list

Section	*Problems*
1.1	1-13 (odd)
1.2	3, 7, 11
1.3	1-15 (odd)
2.1	1-11 (odd)
2.2	1-9 (odd)
2.3	1, 5, 7, 9
2.4	1-13 (odd)
2.6	1-11 (odd), 15, 19, 21
3.1	1-13 (odd)
3.2	1-11 (odd), 17
3.3	3-13 (odd)
3.4	1-11 (odd)
3.5	1-13 (odd), 17(a)
3.6	1-13 (odd)
3.7	1, 3, 5
3.8	1-7 (odd)
4.1	1-11 (odd), 17
4.2	1-9 (odd)
4.3	1-7 (odd), 11, 13
4.4	1, 3, 5
6.1	1-19 (odd)
6.2	1-15 (odd)
6.3	1-15 (odd)
6.4	1-7 (odd)
6.5	1-7 (odd)
7.1	1-9 (odd)
7.2	1-19 (odd)
7.3	1-7 (odd), 15, 17, 19
7.4	1-5 (odd)
7.5	1(b), 3(b), 5(b), 7, 9, 11
7.6	1(b), 3(b), 5, 7
7.7	1-7 (odd)
7.8	1-7 (odd