Elementary Differential Equations

Math 214-002

Fall 2022

This is the web page **http://math.cos.gmu.edu/~wanner/courses/m214f22/index.html**
It will be updated regularly and always contain the latest information on the course. This website is only for general policies concerning the course, as well as for continuously updated syllabus and additional homework information. For all other information on the course, including scanned lecture notes, graded homework assignments, etc. please go to Blackboard.

General Information:

Instructor:	Thomas Wanner
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Office hours:	T 3-4pm, R 1-2pm, and by appointment
Recitation Instructor:	Iffat Sarfraz
Office:	Exploratory Hall 4311
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Office hours:	M 12-1pm (Exploratory Hall 4311), M 7:30-8:30pm (Open area outside Horizon Hall 3014)
Grader:	Anthony Pizzimenti
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Grader:	Jeanie Schreiber
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Lectures:	TR 5:55pm-7:10pm, Exploratory Hall L004
Prerequisites:	Successful completion of Math 213
Textbook:	*Elementary Differential Equations and Boundary Value Problems* by William Boyce, Richard DiPrima, and Douglas Meade (11th Edition, Wiley)
Recitation Sections:	M 4:30pm-5:20pm (Section 304, CRN 70591), M 5:25pm-6:15pm (Section 305, CRN 70956), M 6:20pm-7:10pm (Section 306, CRN 71029), all in Horizon Hall 3014.

Other Information

- Syllabus (including test and final exam dates and times)
- Additional Homework Problems (these are for additional practice and do not have to be turned in)
- General policies and procedures (including grading policies)
- Relevant official GMU policies

General Policies and Procedures

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Study Suggestion

While I realize that you have only a limited amount of time available for this class, the following strategy has proven very successful in studying for math classes, and I strongly advise its use: Prepare for the lecture by reading the scheduled section(s) in the textbook; even if you do not understand everything, you will have an overview of what to expect in class. At this point, you should review any section, which might be needed as background for the new material. Then attend the lecture and take your own notes. Afterwards, you should review the textbook and your notes as much as necessary to understand the material; test yourself by working out the examples in the text! At this point, you are ready to do the homework problems for this section as a final test of your understanding. You should realize that this approach actually saves time over the whole semester, since it is easier to do homework problems right after studying the material, and thus reinforcing the lecture.

The purpose of homework is to reinforce concepts introduced in class. Mathematics can only be learned by applying these concepts yourself. Only as a secondary purpose is the homework designed to help your self-evaluation and to prepare you for the tests! Some of the homework problems will be collected and graded, but you should do also all of the additional homework problems and ask about those you have difficulty with.

Additional help is available in the Mathematics Tutoring Center, located in the Johnson Center room 344. Hours are posted on the Tutoring Center [website](#).

Recitations

There are three recitation sections for this course, and you must be enrolled in one of them. You are expected to attend recitations, where homework problems will be reviewed. This is your venue for asking any questions you might have about the additional homework problems and the course material. Please use it! **Due to space constraints in the class room for the recitations, you have to attend the recitation that you are registered for.**

Grading Policies

There will be two tests and one comprehensive final exam. See the [syllabus](#) for the dates and times, as well as the material covered by each of them. In addition, every week you have to complete homework assignments on Gradescope, which will be graded and count towards your homework score, as well as answer five multiple-choice review questions on Gradescope, which will be autograded. All tests and the final exam will be closed book. **The use of calculators, cell phones, or smart watches is not allowed. No make-up tests will be given.** If you miss a test due to a legitimate reason, the final exam will be used in its place. For this, you have to contact me immediately (i.e., on the day of the test!) via e-mail, and provide documentation upon

your return. If I do not hear from you before the exam starts, the exam will count zero points. Also, do not arrange to leave before the final exam and expect to take it early. Per university policy, the final exam has to be taken at the published time.

According to university policy, attempts at cheating are considered a serious offense against the student honor code and will be looked upon seriously. The right is reserved to check a picture identification during any of the exams.

Your final grade will be determined from your performance in the weekly review questions and homework assignments (some of the lowest scores will be dropped), the two tests, and the final exam. Weights for the various items will be distributed approximately according to the following schedule:

Review Questions	Homework	Test 1	Test 2	Final exam
15%	20%	20%	20%	25%

The assignment of your course grade is based on the percentage of total points earned out of these 500 points. The following grading scale may serve as a guideline, although changes are possible:

Score above	90%	80%	70%	60%	otherwise
Letter grade	A-, A, or A+	B-, B, or B+	C or C+	D	F

Both the weight distribution and the grading scale are subject to change by announcement in class.

Thomas Wanner, August 21, 2022.

Syllabus

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The following table contains a tentative schedule for the course. It will cover the central material in Chapters 1-4 and 6-7 in the textbook *Elementary Differential Equations and Boundary Value Problems* by William Boyce, Richard DiPrima, and Douglas Meade. If necessary, some adjustments to the syllabus will be made later and announced in class.

Week	Date(s)	Sections covered in class	Remarks
1	08/22 - 08/26	1.1, 1.2, 1.3	
2	08/29 - 09/02	2.1, 2.2	
3	09/06 - 09/09	2.3, 2.4, 2.5	
4	09/12 - 09/16	2.5, 2.6, 3.1	
5	09/19 - 09/23	Catch-up, Review, Test	Test 1, Thursday 09/22
6	09/26 - 09/30	3.2, 3.3, 3.4	
7	10/03 - 10/07	3.4, 3.5	
8	10/11 - 10/14	3.6, 4.1	**No class on Tuesday!**
9	10/17 - 10/21	4.2, 4.3	
10	10/24 - 10/28	6.1, 6.2	
11	10/31 - 11/04	Catch-up, Review, Test	Test 2, Thursday 11/03
12	11/07 - 11/11	6.3, 6.4	
13	11/14 - 11/18	7.1, 7.2, 7.3	
14	11/21 - 11/22	7.4, 7.5	**No class on Thursday!**
15	11/28 - 12/02	7.6, Catch-up, Review	
16	12/08		Final exam, Thursday 12/08, 4:30pm-7:15pm

The following table contains detailed information about the tests.

Week	Date	Test	Covered Sections
5	Thursday 09/22	Test 1	1.1 - 1.3, 2.1 - 2.6
11	Thursday 11/03	Test 2	3.1 - 3.6, 4.1 - 4.3, 6.1 - 6.2
16	Thursday 12/08	Final exam, 4:30pm-7:15pm	Comprehensive

Thomas Wanner, November 10, 2022.

Additional Homework Problems

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The following table contains a list a problems in the book which cover the types of questions that you might encounter in the tests. These problems do not have to be turned in, they are for your practice only. I urge everyone to do all of these problems! If you have any questions concerning a problem, please see me or the TA during office hours.

Week	Date	Section	Problems
1	08/23	1.1	1-5 (odd), 11-15 (odd), 17, 19
	08/25	1.2	1, 3, 7-11 (odd), 12, 14ab
		1.3	1-15 (odd)
2	08/30	2.1	1, 3, 9-15 (odd)
	09/01	2.2	1-9 (odd), 13, 15, 21
3	09/06	2.3	1, 3, 7, 12
	09/08	2.4	1-11 (odd), 18
		2.5	1, 3, 7, 9 (ignore questions about stability)
4	09/13	2.6	1-11 (odd)
	09/15	2.6	15, 19, 21
5	09/20	3.1	1-13 (odd)
6	09/27	3.2	1, 3, 5, 11, 15, 17, 19, 21, 29
	09/29	3.3	1-15 (odd)
7	10/04	3.4	1-11 (odd), 12, 19, 21
	10/06	3.5	1, 3, 5, 6, 7, 10, 11, 13, 15, 17
8	10/13	3.6	1, 3, 5, 7, 11, 13
		4.1	1-11 (odd)
9	10/18	4.2	9-17 (odd), 21
	10/20	4.3	1-7 (odd), 11, 13
10	10/25	6.1	5, 7, 11, 13
	10/27	6.2	1-15 (odd)
12	11/08	6.3	1-15 (odd)
	11/10	6.4	1-7 (odd), 11ab
13	11/15	7.1	1-7 (odd)
	11/17	7.2	1, 3, 7, 9, 17, 19
		7.3	1, 7-19 (odd)
14	11/22	7.4	1-5 (odd) parts a-e
		7.5	1-5 (odd) part b, 7-11 (odd)
		7.6	1b, 3b, 5, 7

Relevant George Mason
Official University Policies

The following policies apply to all courses at George Mason University:

1. It is expected that each student will conduct himself or herself within the guidelines of the Honor Code. All academic work should be done with the level of honesty and integrity that this University demands.
2. You are responsible for the accuracy of your own schedule. Check Patriot Web regularly to verify that you are registered for the classes that you think you are. A student who is not registered may not continue to attend class. Faculty are not permitted to grade work of students who do not appear on the official class roster.
3. You are responsible for knowing the last days to drop and add this class.
4. Once the add and drop deadlines have passed, instructors do not have the authority to approve any requests from students to add or drop/withdraw late. It is NOT permissible to drop the class and leave it at that. It needs approval. Late adds (up until the last day of classes) must be reviewed and approved by the department chair of the course being offered. They will be approved only in the case of a documented university error (such as a problem with Financial Aid being processed). All student requests for withdrawals and retroactive adds (after the last day of classes) must be reviewed by the student's academic dean. In the case of students whose major is in COS, this is the office of Undergraduate Academic Affairs in Enterprise.
5. Instructors are required to give the final exam at the time and place published in the Schedule of Classes, as set by the Registrar. It cannot be changed. You need to plan vacation (make plane reservations, etc.) around these published dates.
6. Once final grades have been recorded, instructors cannot accept any work to change that course grade. Grade changes can only be approved when they are due to a calculation or recording error on the part of the instructor.
7. An IN (incomplete) grade is a very special grade that can only be applied for in writing. It can only be given in cases in which a student is passing a course and has a very limited amount of work left to complete the course.
8. Federal law (a law known as FERPA) requires the protection of privacy of student information. Therefore, no instructor on campus can speak about a student's record with anyone other than the student. The record includes how a student is doing in a course, whether a student has attended class, information about grades, whether a paper has been turned in. Anything. This prohibition includes parents, siblings, and spouses, anyone.
9. If you have read all the way to here and you send me an e-mail before the beginning of the second lecture of the semester, you will receive extra credit for the course.