

Analytic Geometry and Calculus III

Math 213-003

Spring 2021

This is the web page <http://math.cos.gmu.edu/~wanner/courses/m213s21/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 homework information. For all other information on the course, including lecture videos, scanned lecture notes, graded homework assignments, etc. please go to Blackboard.

General Information:

Instructor:	Thomas Wanner
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Recitation Instructor:	Martha Ashby Hartt
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Lectures:	R 4:30pm-5:45pm, online on Zoom
Prerequisites:	Grade of C or better in MATH 114
Textbook:	<i>Thomas' Calculus, Early Transcendentals</i> , 14th edition, by J. Hass, C. Heil, M.D. Weir (Pearson, 2018). <i>There are several versions of this book. The "multivariable" version contains only the material we cover, the stated version covers all of Calculus I through III. Either version is fine, as long as it is the 14th edition. Also, you do not need to purchase MyMathLab access.</i>
Recitation Sections:	F 10:30am-11:20am (Section 307, CRN 14596), F 11:30am-12:20pm (Section 308, CRN 14597), F 12:30pm-01:20pm (Section 309, CRN 14598), all online

Other Information:

- [Syllabus](#) (including test and final exam dates and times, as well as graded homework information)
- [Youtube links](#) to all the lecture videos (in case Blackboard fails)

- [General policies and procedures](#) (including grading policies)
 - [Additional Homework Problems](#) (these are for additional practice and do not have to be turned in)
 - Relevant [official GMU policies](#)
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Thomas Wanner, January 14, 2021.

Syllabus

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The following table contains a tentative schedule for the course. It will basically cover the material in Chapters 12-16 from the textbook *Thomas' Calculus, Early Transcendentals*, 14th edition, by J. Hass, C. Heil, M.D. Weir (Pearson, 2018) as indicated below. If necessary, some adjustments to the syllabus will be made later and announced in class.

Week	Date(s)	Sections covered in class	Remarks
1	01/25 - 01/29	12.1, 12.2, 12.3	
2	02/01 - 02/05	12.4, 12.5, 12.6	
3	02/08 - 02/12	13.1, 13.2, 13.3, 13.4	
4	02/15 - 02/19	13.4, 14.1, 14.2	
5	02/22 - 02/26	14.3, 14.4	Test 1, Thursday 02/25
6	03/01 - 03/05	14.4, 14.5, 14.6	
7	03/08 - 03/12	14.7, 14.8	
8	03/15 - 03/19	15.1, 15.2	
9	03/22 - 03/26	15.3, 15.4	Test 2, Thursday 03/25
10	03/29 - 04/02	15.4, 15.5, 15.7	
11	04/05 - 04/09	15.8, 16.1	
12	04/12 - 04/16	16.2, 16.3	
13	04/19 - 04/23	16.4	Test 3, Thursday 04/22
14	04/26 - 04/30	16.4, Outlook: 16.5, 16.6, 16.7, 16.8	
15	05/03 - 05/07	Final Exam	Final Exam, Thursday 05/06, 4:30pm-7:15pm

The following table contains detailed information about the tests.

Week	Date	Test	Covered Sections
5	Thursday 02/25	Test 1	12.1 - 12.6, 13.1 - 13.4, 14.1 - 14.2
9	Thursday 03/25	Test 2	14.3 - 14.8, 15.1 - 15.2
13	Thursday 04/22	Test 3	15.3 - 15.8, 16.1 - 16.3
15	Thursday 05/06	Final Exam, 4:30pm-7:15pm	Comprehensive

General Policies and Procedures

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Online Course Format

This class will be taught online. However, you will need to be available during the published class time, as this time slot will be used throughout the semester for exams and question sessions! The specific format is as follows:

- The main lecture will be given as a collection of 30 videos, one for each section of the book. These videos will be posted week by week, and will go live Monday morning. You can watch these videos any time.
- In addition to the lecture, detailed lecture notes will be posted on a weekly basis. The lectures are based on these notes, and they contain all the material necessary for tests and homework assignments.
- The official class meeting time will be used every week as an additional online question session. A Zoom link will be provided, and you can drop in and ask any questions that you might have about the lectures.
- At the beginning of every week an announcement will be posted on Blackboard under *Assignments*, with detailed instructions as to what you are expected to do during the week in terms of lectures and homework assignments. It is your responsibility to read these announcements and to stay informed!
- The midterm exams and the final exam have to be completed during the official class or finals time on the day of the exam. More details will be given later on Blackboard.

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 watch the video lectures 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 both the graded and the additional 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.

Homework

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! The homework for this class comes in two parts:

- **Graded homework:** Every week you are required to complete a homework assignment on Gradescope. This homework will contain an auto-graded, multiple-choice or numerical answer part, as well as two homework problems which you have to work out by hand and for which you have to upload your handwritten answers. These latter two problems will be graded to provide more detailed feedback. The scores of these Gradescope homework assignments will count towards your final grade.
- **Additional homework problems:** The additional homework problems listed [here](#) are for additional practice. You should know how to answer problems of this type for the tests.

Additional help is available in the online Mathematics Tutoring Center. Details 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 online recitations, where homework problems will be reviewed. **In order to keep the recitation sizes as small as possible, you have to attend the recitation that you are registered for.**

Grading Policies

There will be three midterm tests and one comprehensive final exam. See the [syllabus](#) for the dates and times, as well as the material covered by each of them. Out of these four exam grades, the three highest grades will be used for your test grade. **No make-up tests will be given. If you miss an exam, this is the exam that will be dropped.** According to university policy, attempts at cheating are considered a serious offense against the student honor code and will be looked upon seriously.

In addition, weekly graded homework assignments will be given throughout the semester. The lowest two grades of these will automatically be dropped at the end of the semester.

Your final grade will be determined from your performance in the graded homework assignments and the three best test scores. In addition, a warm-up homework assignment will be given during the first week and graded for completion; together with maybe a few other such assignments, as well as your participation during the Thursday online sessions, these will determine your participation grade. Weights for the various items will be distributed approximately according to the following schedule:

Three Best Exams	Graded Homework	Participation
25% each	22%	3%

The final letter grades will be assigned according to the following grading scale:

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 on Blackboard and on this web page.

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	Dates	Section	Problems
1	01/25 - 01/29	12.1	1-15 (odd), 17-21 (odd), 25-29 (odd), 51-55 (odd)
		12.2	1-11 (odd), 17, 25-27 (odd), 35-37 (odd)
		12.3	1-5 (odd), 9-13 (odd), 27, 33, 47
2	02/01 - 02/05	12.4	1-7 (odd), 15-17 (odd), 23, 31-43 (odd)
		12.5	1-9 (odd), 21-33 (odd), 39, 41, 47, 49, 57-65 (odd)
		12.6	1, 3, 7
3	02/08 - 02/12	13.1	1-7 (odd), 13-19 (odd), 23-27 (odd)
		13.2	1-11 (odd), 17-21 (odd), 33, 41
		13.3	1-13 (odd)
4	02/15 - 02/19	13.4	1-5 (odd), 9-11 (odd)
		14.1	1-7 (odd), 13-25 (odd), 53-57 (odd)
		14.2	1, 9-17 (odd), 21, 31, 33, 41-49 (odd)
5	02/22 - 02/26	14.3	1-17 (odd), 23, 25, 51-57 (odd), 67
6	03/01 - 03/05	14.4	3-9 (odd), 35-39 (odd)
		14.5	3-23 (odd), 31-35 (odd)
		14.6	3-13 (odd), 27-31 (odd), 35-39 (odd)
7	03/08 - 03/12	14.7	1-9 (odd), 19-25 (odd), 43, 47-53 (odd)
		14.8	1-15 (odd), 17, 19, 23-29
8	03/15 - 03/19	15.1	1-21 (odd), 29, 31, 35, 37
		15.2	9-23 (odd), 33-39 (odd), 49, 57-61 (odd)
9	03/22 - 03/26	15.3	1-7 (odd), 19, 21
10	03/29 - 04/02	15.4	1, 3, 9-13 (odd), 21, 23-29 (odd)
		15.5	7-11 (odd), 23-27 (odd)
		15.7	23-27 (odd), 43, 65
11	04/05 - 04/09	15.8	1-9, 13, 15, 19, 21
		16.1	9-15 (odd), 19-25 (odd)

12	04/12 - 04/16	16.2	1, 3, 11-23 (odd), 27
		16.3	1-9 (odd), 27-31
14	04/26 - 04/30	16.4	7-15, 27-35 (odd)

Thomas Wanner, January 12, 2021.

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.
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