CALCULUS II

MATH 1220 , CRN 11277, Summer 2025

http://faculty.weber.edu/aghoreishi/Math1220_SU25/Math1220_SU25.asp

Prerequisite: Math 1210, with a grade of C or better, or placement test.

Corequisite: The ability to use a computer algebra system.

Text: **Required:** Calculus by James Stewart, 8th Edition, Loose-Leaf Binding + Enhanced WebAssign Access Card, ISBN 978-1-30-561668-4, Brooks/Cole. This package is available from the bookstore for about $130 and will be good for the entire Calculus I-III sequence. You will use the access code in Canvas to access the publisher's online material. You will have two weeks of free access before you need the access code. **However, just the paper copy of the book is sufficient.**

Optional: Study Guide by Richard St. Andre, ISBN 978-1-305-27913-1.
Student Solutions Manual by Daniel Anderson, Jeffrey A. Cole, Daniel Drucker, ISBN 978-1-30-527181-4.
A copy of the above two books and a pre-calculus book are available in the Mathematics Students' Room: TY 231. (The access code is 654321.)
The Cartoon Guide to Calculus, Larry Gonick, ISBN 978-0-06-168909-3.

Class Meetings: This class is online. This is not a virtual class. There will not be any regular Zoom classes.

Instructor Information: Dr. Afshin Ghoreishi, http://faculty.weber.edu/aghoreishi/. Office: TY 450M. Office Hours: I don't have fixed office hours in the summer. Our main method of communication will be through email (or in a Zoom meeting). My Email address is aghoreishi@weber.edu.

General Instructions

Learning Mathematics: One learns mathematics by doing it. Struggling is a part of learning. There is no substitute for working on and solving problems on your own.

Reading a Mathematics Book: Read mathematics books with a scratch paper and a pencil close by. Use them to work through the parts left for the reader to figure out and/or redoing the parts that are not clear. Do not expect to fully master every topic in the first reading.

Writing Mathematics: Mathematics, like English, requires proper use of grammar. The process of learning a topic and accurately communicating that knowledge are intimately related. The objective is not just to find the answer to problems but also to communicate the work involved through writing.

Getting Ready for a Test: In addition to studying homework problems, class notes, and sample tests, you should develop a set of short notes and sample problems on each topic. Develop these notes after learning each topic. Use your notes as a reference and review them before a test. This technique will solve the problem of forgetting or confusing things on the tests and will enable you to attain that higher grade which you deserve.

Specific Instructions

Procedures: Follow the weekly schedule in Canvas Modules. All course lectures are already available. Course notes, pre-lecture and post-lecture, in the pdf format, are also available in Canvas Modules. You can print out pre-lecture notes and fill them in as you listen to the lecture. (You may also write on the pdf format pre-lecture notes using a stylus pen.) This is perhaps the best way to learn the material since you will be actively involved. We will have weekly assignments, four exams, and a comprehensive final exam. All will be done through Canvas. Utilize all sources of tutoring.

Note: The summer semester is shorter than other semesters; requiring you to devote a bit more time each day to your classes. I have tried my best to provide you with the best learning experience under the circumstances.

Homework and Homework Quiz: A problem list consisting of two parts is attached. Start with the problems in "Minimal List of problems". If you can solve them, then move to harder problems in "All Problems". If you have difficulty with a problem in "Minimal List of problems", see a similar problem in the lectures and/or in the Students Solutions Manual and also try similar problems in "All Problems". To be successful in this class you should be able to solve all of them. Homework I, Homework Quizzes, and the Mathematica Lab are available in Canvas Assignments and Modules. You will also upload them to Canvas.

You first homework covers pre-requisite material. This homework is due Friday of the first week. You can find a review handout in the course website. Due to the shortness of the summer semester, the last HW Quiz is due on Monday, the last day of classes. The lowest HW Quiz score will be dropped.

After the first week, we will have weekly Homework Quizzes. Homework Quizzes will be on Fridays, except the last one which will be on Monday. Homework Quizzes will be available at 12:00 am and must be submitted before midnight, 11:59 pm, of the same day. **Homework Quizzes will consists of about 4 to 5 problems chosen mostly from the "Minimal List of Problems" and examples in lectures.**

The corequisite of this course is the ability to use a computer algebra system and some of the homework problems require use of a computer algebra system, CAS. Our CAS is Mathematica. As a WSU student, you have the benefit of getting your own free copy of this valuable and useful software at https://www.weber.edu/software/mathematica_request.html.

A Mathematica lab titled "Mathematica Commands: From Basics to Calculus II" is an additional homework and is due on Monday, the last day of classes. However, you will find it useful to work through it sooner so you can solve homework problems which require a CAS. You may also wish to take the 1-credit hour course Math 1200, Mathematics Computer Laboratory.

Fun Problems: Fun Problems is a collection of interesting problems available on my website: http://faculty.weber.edu/aghoreishi. These go beyond the standard homework problems and are intended to be an introduction to independent mathematics learning. Work on them for fun and developing your mathematical skills.

Exams: Exams will also be conducted through Canvas. Review problems and sample exams will be available both in Canvas and in my website: http://faculty.weber.edu/aghoreishi.

Exam I: Sec 6.1, 6.2*-6.4*, 6.6, 6.8	Wed, May 28. It opens at 12:00 am and closes at midnight.
Exam II: Sec 7.1-7.5, 7.7, 7.8	Wed, Jun 25. It opens at 12:00 am and closes at midnight.
Exam III: Sec 8.1-8.3, 11.1-11.4	Wed, Jul 16. It opens at 12:00 am and closes at midnight.
Exam IV: Sec 11.5-11.11	Wed, Aug 6. It opens at 12:00 am and closes at midnight.
Final Exam: Comprehensive	Wed, Aug 13. It opens at 12:00 am and closes at midnight.

Your exam preparations must include review of lecture notes, homework, and review problems. After review, use the sample exam as a test of readiness. If you can not confidently, independently and quickly solve sample exam problems correctly, you will not do well on the exam.

Ethical Conduct: The Weber State University policy regarding all forms of academic dishonesty, including cheating, fabrication, facilitating academic dishonesty, and plagiarism will be strictly enforced. Penalties for academic dishonesty may include failure from the course. The policy can be found online at http://documents.weber.edu/ppm/6-22.htm.

Grading: The course scale is as follows: [0, 60%) E, [60%, 63%) D-, [63%, 67%) D, [67%, 70%) D+, [70%, 73%) C-, [73%, 77%) C, [77%, 80%) C+, [80%, 83%) B-, [83%, 87%) B, [87%, 90%) B+, [90%, 94%) A-, [94%, 100%] A. The scale may be adjusted, as needed. There are 16 homework (HW 1, Homework Quizzes, Mathematica Lab) of which the lowest scores will be dropped.

Exams I-IV (60 points each)	240 points	(48 percent)
Homework Quiz	150 points	(30 percent)
Final Exam	110 points	(22 percent)

Total	500 points	

Miscellaneous Information

Other Important Dates:

Last day to cancel a class	May 23
Memorial Day Holiday	May 26
Juneteenth Freedom Day Holiday	Jun 16
Independence Day Holiday	Jul 4
Last day to drop with a grade of W	Jul 16
Pioneer Day Holiday	Jul 24

If you decide to drop this class, please inform me of your decision.

Extra Help:

Tutoring: Both online tutoring and in-person tutoring (Solution Space, TY 233) are available. All tutoring information can be found at http://weber.edu/Tutoring.

Mathematics Students' Room: The code to TY 231, Mathematics Students' Room, is 654321. You will find the manuals mentioned above in that room.

Course Coverage and Problem List for Calculus II

Textbook: Stewart, 8th Edition

For problems with superscript M, use Mathematica or a computer algebra system. Homework Quiz problems will be chosen mostly from "Minimal List of Problems" and lecture examples.

Section	Minimal List of Problems	All Problems
6.1	16, 19, 26, 36, 39, 40, 43, 50	1-11(odd), 17-21(odd), 16, 23-28, 31-41(odd), 36, 38, 50
6.2* (Blue Pages)	25, 37, 40, 61, 65, 69, 72	1-7, 15-35 (odd), 37-41, 47-50, 55-58, 61-74, 77, 78
6.3* (Blue Pages)	27, 40, 50, 53, 67, 73, 87, 98	1-4, 5-19(odd), 25-52, 53-55, 59, 67, 68, 69-72, 83-94, 97, 98
6.4* (Blue Pages)	10, 17, 24, 25, 27, 37, 47, 50	1-10, 13, 17-19, 23-43, 45-50, 54-56, 70
6.6	9, 12, 27, 32, 47, 61, 64, 66, 68	1-9 (odd),11-14, 17, 18, 20, 22-40,43-48, 51-54, 57, 59-70, 71, 73
6.8	15, 32, 47, 54, 55, 63, 68, 75, 77	1-7, 9-66 (multiples of 3), 32, 47, 55, 59, 68, 73-76
7.1	9, 17, 24, 32, 39, 47, 61, 66	1, 2, 3-42 (multiples of 3), 17, 32, 47-52, 55-58, 61, 64, 66, 69, (not 14 or 25)
7.2	2, 9, 14, 27, 29, 30, 34, 41, 48, 55, 67	2, 3-48 (multiples of 3), 19, 25, 29, 44, 47, 55-58, 61, 62, 67-69
7.3	5, 6, 12, 16, 21, 22, 23, 30, 33, 44	1-3, 5, 6-33 (multiples of 3), 16, 22, 23, 42-44
7.4	15, 24, 26, 28, 32, 39, 47, 60	1-6, 9-51 (multiples of 3), 26, 28, 32, 47, 57-61, 63, 64

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Section	Minimal List of Problems	All Problems
7.5	12 14, 21, 33, 36, 44, 49, 70, 71, 76	1-82 (except 53)
7.6	6^M, 11^M, 13^M, 19^M, 20^M, 26^M	Use Mathematica (not tables) for all problems. 5^M-33^M (except 15)
7.7	8(c), 15(c), 22, 27(S_n & E_s only. Use of Mathematica is optional)	Simpson's Rule Problems Only: 7-17 (odd, only part (c)), 8(c), 21 (S_n & E_s only), 22, 27^M-28^M (S_n & E_s only. Mathematica is just for help with the computation.)
7.8	5, 12, 13, 15, 24, 27, 32, 36, 41, 49, 50	1-3, 5-39 (odd), 12, 32, 41, 42, 49-52, 57-59, 77, 79, 80
8.1	2, 11, 12, 15, 19, 21 , 31^M, 34	1, 2, 5-21 (odd), 12, 31^M, 34, 35, 45
8.2	8, 12, 13, 15, 23^M, 28	1-4 (a parts only), 7-17(odd), 8, 12, 16, 23^M-26^M , 27, 28, 35
8.3	4, 7, 15	Hydrostatic Pressure and Force Problems Only: 1-10, 15
11.1	14, 17, 23, 24, 29, 31, 43, 55, 74, 75, 76	1-18, 24-54 (multiples of 3), 31, 43, 47, 55, 68-70, 72-78
11.2	19, 23, 29, 34, 38, 41-45, 52, 59, 67, 84	1, 2, 5, 15, 16, 17-63 (odd), 44, 52, 59, 67, 68, 81, 82, 84-88
11.3	3, 6-8, 14, 19-23, 29	1-8, 9-23(odd), 14, 20, 22, 29, 32
11.4	5, 15, 17, 20, 21, 24, 30, 40(b(i)), 41(b(i)), 45	1, 2, 3-30(multiples of 3), 5, 17, 37-46
11.5	4, 5, 12, 13, 16, 19, 23, 27^*, 32 * Estimate the sum to within 0.0001.	1, 3-19 (odd), 4, 12, 16, 23, 27^*, 30^*, 32-34 * Estimate the sum to within 0.0001, not accurate to four decimal places
11.6	2, 4, 6, 12, 17, 21, 25, 28, 39, 45	1, 2, 3-36 (multiples of 3), 4, 17, 25, 28, 39-45
11.7	6, 7, 10, 13, 17, 19, 28, 31, 32	1-38, except 29
11.8	3, 11, 15, 26, 29, 31, 34^M, 35(a), 39	1, 2, 3-27 (multiples of 3), 11, 23, 26, 29-31, 34^M, 35(a), 36(a), 39
11.9	3, 8, 13, 15, 17, 25, 40(a, b(i))	1-19 (odd), 2, 8, 25-31 (odd), 36, 37-40
11.10	12, 23, 25, 28, 33, 34, 39, 51, 54	1-28 (except 17 & 18), 36, 39, 42, 43, 49, 50, 53-56, 60, 62, 73, 74
11.11	3^M, 5^M, 9^M, 16^M, 25, 26, 27^M	1^M, 2^M, 3^M-27^M(multiples of 3), 5^M, 16^M, 25, 26
10.1	6, 12, 15, 21, 22, 41, 46(a, c)	3-8, 11-21 (odd, except 17), 12, 22, 28, 31, 40, 41, 46(a, c)
10.2	4, 7, 11, 17^M, 32, 37^M, 42, 51, 61, 65	1-8, 11-15 (odd), 17^M, 18^M, 25, 27, 29, 30, 32, 37^M, 42, 49, 51-53, 57, 58, 61, 62, 65, 66
10.3	2, 3, 14, 20, 24, 29, 31, 35, 56, 64	1-6, 9-45 (multiples of 3), 14, 29, 31, 35, 54, 55-63 (odd), 56, 64
10.4	4, 7, 11, 22-24, 27, 31, 45, 51^M	1-12, 17-31 (odd), 22, 24, 35, 37-42, 45-48, 49^M-54^M, 55
10.5	8, 9, 15, 18, 24, 27, 33, 39, 45	3-48 (multiples of 3), 8

Course Coverage and Weekly Schedule for Math 1220 Online	
Week/Date	**Activities**
1/May 5-11	**HW 1 - Due on Friday, May 9, 11:59 pm**. Learn sections 6.1, 6.2* and 6.3*.
2/May 12-18	**Sec 6.1, 6.2* and 6.3* HW Quiz must be taken on Friday, May 16.** Learn sections 6.4*, 6.6 and 6.8.
3/May 19-25	**Sec 6.4*, 6.6 and 6.8 HW Quiz must be taken on Friday, May 23.** Prepare for Exam I. Learn sections 7.1 and 7.2.
4/May 26 - Jun 1 (Holiday: May 26)	**Must take Exam I** (Sec 6.1, 6.2*-6.4*, 6.6, 6.8) **on Wednesday, May 28. Sec 7.1 and 7.2 HW Quiz must be taken on Friday, May 30.** Learn section 7.3.
5/Jun 2-8	Learn section 7.4. **Sec 7.3 and 7.4 HW Quiz must be taken on Friday, Jun 6.** Learn sections 7.5 and 7.6. **Start the Mathematica Lab.**
6/Jun 9-15	Learn section 7.7. **Sec 7.5 and 7.7 HW Quiz must be taken on Friday, Jun 13.** Learn section 7.8.
7/Jun 16-22 (Holiday: Jun 16)	Learn section 8.1. **Sec 7.8 and 8.1 HW Quiz must be taken on Friday, Jun 20.** Prepare for Exam II. Learn sections 8.2 and 8.3.
8/Jun 23-29	**Must take Exam II** (Sec 7.1-7.5, 7.7, 7.8) **on Wednesday, Jun 25. Sec 8.2 and 8.3 HW Quiz must be taken on Friday, Jun 27.** Learn section 11.1.
9/Jun 30 - Jul 6 (Holiday: Jul 4)	Learn section 11.2. **Sec 11.1 and 11.2 HW Quiz must be taken on Thursday, Jul 3 or Friday, Jul 4.** Learn sections 11.3 and 11.4.
10/Jul 7-13	Learn sections 11.5 and 11.6. **Sec 11.3 and 11.4 HW Quiz must be taken on Friday, Jul 11.** Prepare for Exam III.
11/Jul 14-20	**Must take Exam III** (Sec 8.1-8.3, 11.1-11.4) **on Wednesday, Jul 16. Sec 11.5 and 11.6 HW Quiz must be taken on Friday, Jul 18.** Learn sections 11.7.
12/Jul 21-27 (Holiday: July 24)	Learn sections 11.8 and 11.9. **Sec 11.7, 11.8 and 11.9 HW Quiz must be taken on Friday, Jul 25.** Learn sections 11.10 and 11.11.
13/Jul 28 - Aug 3	Learn sections 10.1, 10.2, 10.3 and 10.4. **Sec 11.10 and 11.11 HW Quiz must be taken on Friday, Aug 1.** Prepare for Exam IV.
14/Aug 4-10	**Must take Exam IV** (Sec 11.5-11.11) **on Wednesday, Aug 6. Sec 10.1-10.3 HW Quiz must be taken on Friday, Aug 8.** Learn section 10.5. Prepare for the Final Exam. (Due to short semester, HW Quiz for sections 10.4 and 10.5 will be next week!)
"Final Exam Week" (one class day and three exams days)	**Sec 10.4 and 10.5 HW Quiz must be taken on Monday, Aug 11. The Mathematica lab is also due on Monday, Aug 11. Must take the Final Exam on Wednesday, Aug 13.**