

# CALCULUS I

## MATH 1210, CRN 23273, Fall 2024

[http://faculty.weber.edu/aghoreishi/Math1210\\_F24/Math1210\\_F24.asp/](http://faculty.weber.edu/aghoreishi/Math1210_F24/Math1210_F24.asp/)

**Prerequisite:** Math 1050 & 1060 or Math 1080, 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 \$135 and will be good for the entire Calculus I-III sequence. For access to the online material use the Class Key: weber 0967 1709 to login at <https://www.webassign.net/v4cgi/selfenroll/classkey.html>.

**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 precalculus book are available in the Mathematics Students' Room: TY 231.  
The Cartoon Guide to Calculus, Larry Gonick, ISBN 978-0-06-168909-3.

**Class Meetings:** MTWF 8:30, TY 426.

**Instructor Information:** Dr. Afshin Ghoreishi, <http://faculty.weber.edu/aghoreishi/>. Office: TY 450M. Office Hours: M 10:30-11:20, T 9:30-10:20 and 10:30-11:20, W 10:30-11:20 and 12:30-1:20, and F 10:30-11:20. At other times, you can see me whenever I am in my office and not busy. You can also see me by making an appointment.

### 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:** I will try to answer a few questions at the beginning of each class, but this time will be limited. Be prepared for each class by working on prior homework and reading the book ahead of time. You are encouraged and expected to read the book on your own. Utilize office hours and other sources of tutoring.

We will have weekly homework and you should plan on three exams and a comprehensive “2-Hour” final exam. **Do not enter the class late & do not come to class if you have to leave early. Turn off pagers, cell phones and other such disruptive devices. Do not text message.** Failure to follow these basic courtesies may result in a failing grade.

**Attendance:** Typically, it is much harder to learn mathematics without attending class. Large number of absences will generally result in a grade of W, UW, or E.

Reason for Missing Class	Solution
1. I am too busy; too many classes, too many hours of work, or too many commitments.	Reduce your life load to a reasonable amount. Rather than doing everything poorly, do better in a smaller number of things. This might include dropping a class or reducing work/commitment hours.
2. I don't like this course.	If you don't like this class specifically, I can help you to get into another section. Otherwise, if you attend class, and work at it, you will do well enough to like it more.
3. I don't need to attend class to learn.	Take the online class or attend an online university, like WGU, or take the AP exam. However, attending class will usually result in a higher course grade.
4. I just need to get a C.	Since I do care about your learning, you are in the wrong section. Also, it is easier to get a C if you attend the class.

The following policy is to help you earn your best possible grade. You can earn extra credit for regular **on-time** attendance and positive contribution as follows: **5 points for missing at most 3 classes.** While, **excessive absence** (8 or more classes) **will result in a grade of UW.** However, if you don't like this policy, I will be happy to place you in another section or find you other accommodations.

**Homework:** A problem list composed of two parts is attached. To be successful in this class you should be able to solve all of them. I will collect all problems listed under the heading “Turn-In Problems”. Last day of each week or earlier, I will announce the sections which will be due next week. **Homework will be due on Wednesday with the grace period until Friday before start of the class.** That means, generally, the latest time I will accept homework is on Friday at 8:30. (However, we may have to change the HW due days to accommodate the academic calendar.) **No late homework will be accepted.**

Your solutions must be complete, correct and neatly written. Do not solve two problems side-by-side, write only on one side of each page and staple your homework. Write your name on the top center position of the front page and number your pages as, for example; 1/7, 2/7, ... , 7/7 (if there are a total of 7 pages), on the top right hand corner of each page. **Failure to follow these will result in losing points.**

The corequisite of this course is the ability to use 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 by filling out the form at [https://www.weber.edu/software/mathematica\\_request.html](https://www.weber.edu/software/mathematica_request.html). Students who have not passed Math 1200 and are not currently taking this course must submit two additional labs, Basic Mathematica Commands and Calculus I with Mathematica, which are available on the course web site. Their due dates are one week before the last day of class and the last day of class, respectively. **Failure to submit complete and correct labs will result in a grade of zero for the homework.**

**Fun Problems:** Fun Problems is a collection of interesting problems available on my website. You can use these problems to earn up to 20 extra points in the course. You may submit **up to 5 problems** and earn an extra 4 points for each correct and complete solution. **No partial credit will be given.** All solutions are due the last day of class.

**Exams:** Exams will not require graphics or programmable calculators and these calculators are not allowed. However, you will need a scientific calculator. Sample exams and additional review problems will be available from my website: <http://faculty.weber.edu/aghoreishi>. Exams I-III will be administered at the Tracy Hall Testing Center. The final exam is a common departmental exam. **No** make-up exam will be given.

Exam I	Oct 1-2	(tentatively sections 1.4-2.6)
Exam II	Oct 29-30	(tentatively sections 2.7-3.5)
Exam III	Nov 26-27	(tentatively sections 3.7-5.1)
Final Exam	Dec 11, 2:30-4:20	(Location will be announced later.)

**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.

The Testing Center is located in the Tracy Hall, Rm. 101C, and will be open M-R 8:30 am - 8:00 pm, F 8:30 am - 4:30 pm, Sat 10:00 am - 4:30 pm. You must complete an exam by one hour after their closing time. You must also take along a picture I.D. **We will meet for our regular lectures during exam days.**

**Grading:** Exams will be curved as needed, but a minimum standard will be retained regardless of the class performance. A typical exam scale is [0, 55) E, [55, 65) D range, [65, 77) C range, [77, 88) B range, [88, 100] A range. Homework will have the standard scale and you will be given the opportunity to replace your lowest homework grade with your grade on a special assignment at the end of the semester. **The highest grade you can earn if you fail the Final Exam is “C-”.** However, a high final exam score may justify a slightly higher grade than your average grade!

One-hour exams; 100 points each	300 points	(20 percent each)
Homework	100 points	(20 percent)
Final Exam	100 points	(20 percent)
<i>Fun Problems (optional)</i>	<i>20 extra points</i>	
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	Total	500 points

It is possible to customize the above percentage values for best numerical representation of your learning. If you would like to take advantage of this, you must talk to me before the 2<sup>nd</sup> exam.

### Miscellaneous Information

**Other Important Dates:**

Labor Day Holiday	Sep 2
Last day to cancel a class	Sep 16
Fall Break	Oct 18
Last day to drop with a grade of W	Nov 5
Thanksgiving Holiday	Nov 28-29

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

**Extra Help:**

**SI:** Your SI leader is David Rackham. The SI leader will hold study/tutoring sessions several times per week.

**Tutoring:** You will find tutors in the **Solution Space, TY 233**. All other tutoring information can be found at the website <http://weber.edu/Tutoring>.

**Mathematics Students' Room:** TY 231 is a perfect place to study! You will find the manuals mentioned above in that room.

Course Coverage and Problem List for Calculus I		
Section	Problems	Turn-In Problems
1.4	1-8	3, 4, 5, 8
1.5	1-5, 7-9, 12, 17, 19, 23, 27, 30, 33-35	4, 8, 17, 23, 30, 33
1.6	1-3, 5, 6-27(multiples of 3), 10, 22, 37, 39, 41-43, 52, 53, 65	2, 5, 10, 12, 18, 22, 37, 42
1.8	1-6, 11-31(odd), 18, 31, 36, 41, 42, 49, 51-54	4, 11, 18, 27, 36, 49(b), 51
Chap 1 Review	Additional problems to review finding a limit - Chapter 1 Review, Page 97	26-28, 32, 35, 37
2.1	1, 3(a, b), 4(a, b), 5-8, 9(a, b), 10(a, b), 11-15, 17, 20, 21, 23, 27, 28, 31-33, 37, 38, 43, 44	4(a, b), 8, 10(a, b), 13, 14, 17, 21, 23, 27, 33, 37, 43
2.2	1, 2, 3-5, 19-29(odd), 22, 41, 42, 47, 48	1, 3, 5, 22, 25, 27, 42, 47
2.3	3-42(multiples of 3), 28, 34, 40, 51, 52, 53(a), 59-62, 69-73, 77, 82	24, 28, 34, 39, 40, 51, 61, 69, 77
2.4	1-5, 6-18(multiples of 3), 21-24, 33, 34, 39-44	4, 9, 12, 18, 20, 24, 39, 40, 41
2.5	1-6, 9-45(multiples of 3), 51-53, 59-63, 65	9, 18, 24, 30, 42, 51, 59, 61, 63
2.6	1-4, 5-21(odd), 6, 10, 14, 23-25, 28, 29, 59, 60	1, 10, 13, 14, 15, 21, 29, 60
2.7	1-4(a-f), 5-13	1(a-f), 4(a-f), 8, 10(a)
2.8	1, 2, 9, 12, 14-16, 18, 22-25, 29, 32, 44, 45	2, 9, 15, 22, 25, 29, 32, 44
2.9	1-4, 11-18, 23, 26, 28	1, 2, 11, 12, 15, 23, 28
2.8 Again!	Additional problems for review.	5, 14, 18, 30, 33
3.1	1-6, 7-13(odd), 15-54(multiples of 3), 35, 46, 52, 55, 69	6, 9, 11, 21, 35, 36, 39, 46, 52, 55
3.2	5-10, 11-14, 17-20, 26, 27, 29, 31, 34, 35	8, 13, 14, 17, 19, 26, 31

Course Coverage and Problem List for Calculus I		
Section	Problems	Turn-In Problems
3.3	1-8, 9-29(odd), 12, 14, 16, 33-44, 64, 65, 67, 77	3, 6, 7(c), 9, 12, 14, 16, 23, 40, 64
3.4	1-4, 7-29(odd), 14, 18, 22, 36-38, 45-55(odd), 56	4, 9, 12, 14, 15, 18, 22, 56
3.5	3-36(multiples of 3), 13, 26, 29, 40, 45, 46, 50, 51	13, 18, 24, 26, 29, 40, 46, 50
3.7	2-4, 10-16, 7, 21, 22, 25, 27-38, 40, 54, 55, 65	4, 7, 15, 21, 32, 35, 38, 54
3.8	2, 4, 6-8, 11, 15-21(odd), 14, 16, 22, 29, 31, 35	6, 11, 14, 16, 21, 29
3.9	3-18(multiples of 3), 24-42(multiples of 3), 40, 46, 53, 56, 57, 72	3, 12, 27, 40, 42, 46, 56
3.7 Again!	Additional problems for review.	10, 16, 25, 36, 55
4.1	1, 3-5, 13, 17, 21, 22, 24, 25, 32	4, 13, 21, 22, 24, 25
4.2	1-3, 5, 10, 12, 17-19, 21, 22, 27, 28, 33-37, 41, 42, 47-49, 59-61, 70	2, 18, 21, 22, 34, 37, 48, 60
4.3	3-6, 9-36(multiples of 3), 32, 53-58, 62, 76	3, 12, 15, 21, 32, 38, 62, 76
4.4	1-15(odd), 21-42(multiples of 3), 10, 20, 23, 35, 41, 45, 48, 55-58	3, 10, 20, 23, 33, 35, 41, 57
4.5	1-29(odd), 6, 14, 18, 37, 38, 43, 45, 48, 60	6, 13, 18, 23, 30, 37, 48, 60
5.1	1-4, 5-27(odd), 12, 35, 56, 57	1, 3, 7, 11, 12, 21, 35, 56
Chap 4 Review	Additional problems to review of integrals - Chapter 4 Review, Page 349	13-16, 18, 24, 36
5.2	1-17(odd), 2, 18-24, 39, 40, 45	2, 9, 11, 18, 20, 24, 39
5.3	1, 2, 3-25(odd), 6, 10, 12, 18, 29, 30, 37-39, 45	2, 5, 10, 12, 17, 21, 29, 38
5.4	1-3, 7-9, 11, 13, 16, 18, 21, 23, 24, 26	2, 3, 8, 13, 18, 21, 23, 26
5.5	1, 3, 5-10, 13, 14, 17, 19, 24	3, 7, 8, 10, 13, 14, 24