

## Syllabus of Calculus I, Fall Semester 2021

- Instructor:** Dr. Xizhong Zheng  
Boyer, 112A, email: *ZhengX@arcadia.edu*  
phone: 215-620-4803
- Office Hours:** Monday and Wednesday 2:45–3:50pm (Zoom ID: 2676204803)  
or by appointment
- Textbook:** “CALCULUS, Single Variable”, 7th edition.  
Hughes-Hallett, Gleason, McCallum, et al.  
Wiley, New York, 2017. ISBN: 978-1-119-13931-7 (print)  
978-1-119-37426-8 (e-Text)
- Lecture:** MA201.1 MWF 09:45 – 10:50  
MA201.2 MWF 11:00 – 12:05  
MA201.3 MWF 13:30 – 14:35

**Prerequisite:** MA 110 (Precalculus) or equivalent

**Help:** Help is available from me during office hours or by appointment. Free tutoring is also available from the Learning Resource Network Lab ([www.arcadia.edu/academics/academic-support/learning-resource-network](http://www.arcadia.edu/academics/academic-support/learning-resource-network), Phone: 215-572-4033, E-mail: [tutor@arcadia.edu](mailto:tutor@arcadia.edu)).

**Objectives:** In this course we will cover chapters 1-4 and parts of chapter 5 and 6 of the mentioned textbook. The goal for this course is mainly to learn, understand, and be able to work with the main ideas of differential calculus, including limits, continuity, differentiation, and various applications of the derivative. We will also explore briefly the basic idea of integration which will be discussed more thoroughly in the course Calculus II. The students are expected to be able to work through problems similar to ones seen in the homework as well as to articulate the ideas presented in the course in a clear and coherent manner as well.

The approach of the text and the course is to emphasize understanding and applications and to de-emphasize routine manipulation. Because of the emphasis on understanding and the fast pace of the course, the average student should expect to spend 8-10 hours each week outside of the class working problems and studying the materials.

Each student may borrow a TI Voyage 200 calculator from the Department of Mathematics and Computer Science or may use his/her own TI-92 or 89 or Voyage 200. We will use the calculators as tools, freeing us to concentrate on problem-solving rather than on repetitive manipulative drill.

**Grading:** There will be two one-hour exams, a cumulative final exam, and a weekly 10-15 minutes quiz. Questions on the quizzes will be similar to the procedural problems assigned for homework and may also include definitions and

statements (but not proofs) of theorems. Students who regularly do homework should find the quizzes relatively easy. The lowest quiz (but not the lowest exam) will be dropped. If you miss a quiz (with or without an acceptable excuse) that quiz will be the one which will be dropped. If you missed a second quiz and have an acceptable excuse, then your quiz grade will be calculated as the average of those you take. Make-up of hour exams are at the discretion of the instructor and require prior approval and a written, acceptable medical excuse.

Grades will be based on 500 points.

Quizzes	100 points
2 one-hour exams	200 points
Final exam	200 points
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Total possible	500 points

Points (not letter grades) from quizzes and exams (including final) will be totaled. The final course grade will be determined based on your final course score, but it will be no harder than 90% – A, 80% – B, 70% – C, 60% – D. In addition, your general performance in the classroom, your homework, in particular your **attendance** will be taken into account when your final grades are determined.

**Honesty:** Students are expected to follow principles of academic honesty. The first violation these principles will result in a zero on that quiz or exam. The second violation will result in an F for the course.

**Student-Athletes:** Student-Athletes should identify themselves the first class and then present a team schedule. Absences for games/meets (but not practices) will be treated with exactly the same policies as other excused absences.

**Facilitating contact tracing:** If an individual in the class tests positive for COVID, the University will contact people who were in close proximity to that person for an extended period of time. In our class, we will utilize the following measures to facilitate this process:

**Wearing masks during class:** Masking requirements can fluctuate during the semester based on changes in the pandemic. Please follow current University mask requirements and when required to wear a mask, use it to cover your nose and mouth.

When masks are required in the classroom and a student is not wearing one, or is wearing one without covering their nose and mouth, the instructor or a fellow student can remind them to wear one or to wear one properly. If a student does not have a mask, the instructor can provide guidance for where to find one and the student can return to class after acquiring it. If a student will not wear a mask or will not wear one properly, even when provided with access to a mask, the instructor should follow normal procedures for student conduct issues.

**In-person and remote class attendance:** Most students will attend classes in person with exceptions for online courses and approval for fully remote learning.

Some students may require access to short periods of remote learning for a number of reasons such as illness, quarantine, or isolation. In these types of situations, the instructor will be notified that a student cannot attend class in person, although the reason will not be disclosed. The student should contact their instructor to arrange for remote access to class and/or access to class recordings.

As in any semester, students may have other reasons to request short-term remote access to class or access to class recordings, such as an emergency situation or other unanticipated challenge that affects their ability to attend class. Students should contact their instructor to make this type of request and it is up to the discretion of the faculty member to determine the best course of action.

**When not to come to class in person:** To support the health and safety of Arcadia community members, please do not attend class for any of the following reasons and contact Student Health Services for assistance:

- A positive test for COVID
- Assignment to quarantine or isolation
- You feel unwell
- Notification or personal awareness that you may have been exposed to a person with COVID

**Possible University-wide shifts to remote learning:** While most classes are planned for in-person participation with some remote learning opportunities, changes in the pandemic could result in shifts by the University to remote learning. Because of the availability of the vaccine and our capacity for COVID testing, such changes would likely be for short periods of time. Decisions will be made based on changes in our environment, and local, state, and national guidance.

**Title IX Statement:** Arcadia University is committed to providing a learning, living, and working environment that is free from discrimination. The University has an Interim Policy Prohibiting Sexual Harassment and Sexual Misconduct detailing our commitment to preventing and addressing such behavior. I understand the impact that sexual harassment and sexual misconduct can have and am committed to doing my part to foster an environment that is safe and equitable.

Please know that all faculty on campus are mandatory reporters. This means that if you disclose an experience of sexual harassment or sexual misconduct to me outside of a classroom discussion, a writing assignment, or a University-approved research project, I must share what you reported to me with Arcadia's Title IX Coordinator. This does not mean that you will have to pursue an investigation or go through a grievance process. Even if you do not choose these options, the Title IX Office can provide supportive measures and other resources to you.

If you or someone you know has experienced sexual harassment or sexual misconduct, please know that you are not alone. If you would like to speak to someone confidentially, confidential resources are provided on the Office of Equity and Civil Rights website.

## Calculus I, Assignments 2021F (7th Edition)

<b>Chapter 1</b>	<b>A Library of Functions</b>	<b>9 classes</b>
1.1	1, 9, 11, 13, 17, 21, 29, 32, 55, 65.	
1.2	5, 7, 9, 11, 13, 17, 25, 27, 31, 38, 47.	
1.3	1, 8, 13, 21, 33, 37, 43, 47, 59, 61, 67 – 70.	
1.4	3, 5, 15, 21, 25, 31, 49, 52, 53, 54, 57, 58.	
1.5	7, 9, 19, 21, 23, 25, 62, 69, 71.	
1.6	1, 11, 19, 21, 23, 55, 68, 69.	
1.7	1, 3, 5, 7, 9, 18, 25, 33, 35, 41, 53, 66.	
1.8	3, 9, 11, 13, 27, 39, 55, 59, 61.	
1.9	5, 21, 23, 25, 33, 37, 47, 57, 61, 70, 71, 72.	
<b>Chapter 2</b>	<b>The Derivatives</b>	<b>7 classes</b>
2.1	1, 4, 9, 13, 14, 17, 21, 22, 23, 29.	
2.2	1, 5, 11, 13, 21, 25, 36, 59, 63.	
2.3	1, 11, 19, 23, 33, 41, 49, 50, 57.	
2.4	3, 5, 9, 17, 24, 29, 43, 49.	
2.5	3–6, 13, 14, 15, 21, 21, 37, 37.	
2.6	1, 3, 9, 12, 13, 15.	
<b>Chapter 3</b>	<b>Short Cuts to Differentiation</b>	<b>10 classes</b>
3.1	9, 11, 17, 23, 29, 35, 42, 43, 49, 69, 73, 83, 95.	
3.2	4, 5, 11, 17, 21, 24, 29, 37, 45, 49.	
3.3	1, 3, 9, 20, 27, 35, 35, 43, 52, 53, 59.	
3.4	3, 19, 23, 27, 29, 31, 49, 59, 68, 73, 87.	
3.5	3, 5, 15, 23, 25, 29, 31, 43, 59, 61, 62.	
3.6	9, 11, 13, 25, 27, 29, 35, 63, 65, 69.	
3.7	3, 13, 17, 18, 27, 39.	
3.9	3, 6, 15, 19, 27, 34.	
3.10	3, 6, 7, 14, 15, 19, 26.	
<b>Chapter 4</b>	<b>Using the Derivatives</b>	<b>7 classes</b>
4.1	1, 3, 17, 35, 41, 43, 47, 51, 53, 59.	
4.2	1, 3, 5, 7, 18, 33, 35, 39, 41, 47, 49.	
4.3	5, 9, 23, 35, 39, 42, 47.	
4.4	1, 5, 13, 31, 55, 57.	
4.5	1, 5, 16, 19, 25, 27.	
4.6	1, 13, 15, 31, 39, 43, 51.	
4.7	5, 31, 37, 41, 47, 51, 59, 64, 67, 73.	
<b>Chapter 5</b>	<b>The Definite Integral</b>	<b>4 classes</b>
5.1	1, 11, 15, 17, 26, 29, 36, 39.	
5.2	3, 7, 11, 19, 31, 35, 37, 42, 51, 61, 71.	
5.3	1, 7, 9, 13, 19, 23, 25, 35, 40, 44.	
5.4	3, 5, 7, 13, 15, 21, 25, 33, 41, 50, 51, 54.	
<b>Exams and Review</b>		<b>5 classes</b>
<b>Total</b>		<b>42 classes</b>

## Tentative Schedule of Calculus I (Fall 2021)

class number	date	section	class number	date	section
1	08/30 (M)	1.1	23	10/22 (F)	3.4
2	09/01 (W)	1.2		10/25 (M)	FallBreak
3	09/03 (F)	1.3	24	10/27 (W)	3.5
	09/06 (M)	LabourDay	25	10/29 (F)	3.6 Q7
4	09/08 (W)	1.4	26	11/01 (M)	3.7
5	09/10 (F)	1.5 Q1	27	11/03 (W)	3.9
6	09/13 (M)	1.6	28	11/05 (F)	3.10 Q8
7	09/15 (W)	1.7	29	11/08 (M)	4.1
8	09/17 (F)	1.8 Q2	30	11/10 (W)	4.2
9	09/20 (M)	1.9	31	11/12 (F)	4.3 Q9
10	09/22 (W)	2.1	32	11/15 (M)	4.4
11	09/24 (F)	2.2 Q3	33	11/17 (W)	4.5
12	09/27 (M)	2.2	34	11/19 (F)	4.6 Q10
13	09/29 (W)	2.3	35	11/22 (M)	4.7
14	10/01 (F)	2.4 Q4		11/24-28	ThanksGiven
15	10/04 (M)	2.5	36	11/29 (M)	review
16	10/06 (W)	2.6	37	12/01 (W)	Test 2
17	10/08 (F)	3.1 Q5	38	12/03 (F)	5.1-2
18	10/11 (M)	review	39	12/06 (M)	5.3
19	10/13 (W)	Test 1	40	12/08 (W)	5.4
20	10/15 (F)	3.2	41	12/10 (F)	6.1+Q11
21	10/18 (M)	3.3	42	12/13 (M)	Review
	10/19 (Th)	Mid-semester		12/14 (T)	Reading Day
22	10/20 (W)	3.4 Q6			