

Mathematics 1A (Section 1)

Calculus, Fall 2015

(revised December 10, 2015; the link to the Syllabus for the Final included)

Professor Mariusz Wodzicki
995 Evans Hall

Office Hours: 5-6:30pm TuTh

Text: J. Stewart, *Multivariable Calculus (Early Transcendentals)*, 8th edition (paperback custom edition for UC Berkeley).

Fundamentally important concepts are also covered in *The Conceptbook*, a collection of supplementary notes with a fair number of concept exercises. The permanent URL is:

<https://math.berkeley.edu/~wodzicki/1A.F15/Conceptbook.pdf>

Class meetings: The lectures are Tuesdays and Thursdays, 3:30 am-5:00, in Room 2050 of Valley Life Sciences Building.

In addition, there are 10 discussion sections:

Section	Teaching Assistant	Time (MWF)	Location
101	Freidberg, G	8-9 am	75 Evans
103	Freidberg, G	9-10 am	70 Evans
105	Castle, B T	10-11 am	75 Evans
107	Castle, B T	11-Noon	85 Evans
109	Park, S	12-1 pm	6 Evans
110	Park, S	1-2 pm	6 Evans
112	Zhu, T T	2-3 pm	87 Evans
114	Zhu, T T	3-4 pm	237 Cory
115	Munteanu, C	5-6 pm	237 Cory
116	Munteanu, C	4-5 pm	121 Latimer

	Date	Topic	Homework
1	Aug 27		1.1:2,4,8,10,14,28,34,40,46,48,52,54,70 1.2:2cef,4
2	Sep 1		1.2:8 1.3:8,30,32,34,36,38,42,44,48,50
3	Sep 3		1.3:53,61,63 1.4:2,4,6a,14,18,20,24
4	Sep 8		1.5:2,4,6,8,10,12,16,18,20,22,24,26,30,32,34,50,76
5	Sep 10	homework due Wed, Sep 16	<i>Conceptbook</i> :17,18,19,20,21,22
6	Sep 15		2.26,8,12 <i>C-book</i> :23,24,25
7	Sep 17		2.3:4,8,12,14,26,42,44 2.4:2,4,16,18,26,36
8	Sep 22		2.5:4,6,8,10,12,14,16,18,20,26,40,42
9	Sep 24		2.5:22,24,28,30,34,44,46,48,49,50 2.6:4,14
10	Sep 29		2.6:16,20,28,44,48,50,52 2.7:6,8,28,36,38,42
11	Oct 1		2.5:52,56,58,62,63,64,65,68,69(with a proof),72 2.7:60 2.7:24,26
12	Oct 6		p.76:4,6,8,12b,16 p.170:1,2,3,4,5
13	Oct 8	Midterm #1	covers lectures 1-11
14	Oct 13		p.169-170:1,2,3,7 3.1:4,6,14,18,65,67,72,74
15	Oct 15		3.2:2,26,30,34,46,48,52,54 App.E:37,38
16	Oct 20		3.4:2,6,8,10,16,22,38,44,52,68,72,98,99
17	Oct 22		3.4:26,30,40,46,48 3.5:6,8,12,14 <i>C-book</i> :32,33,35
18	Oct 27		3.5:22,26,28,30,32 3.6:10,24,28,9,11,48,50,53,55
19	Oct 29		3.8:2,6,8 3.9:2,4,8 p.258:1,3 3.11:18,19,29,44,46
20	Nov 3		4.1:2,4,6,8,10,12,16,22,28 4.2:2,6,8,10
21	Nov 5		4.130,32,34,36,40,46 4.2:12,17,18,20,22,29
22	Nov 10	Review	
23	Nov 12	Midterm #2	covers lectures 11-21 (the syllabus link below)
24	Nov 17		4.1:48,50,53,60,69,77 4.3:4,6,8,10,20,22,24
25	Nov 19		4.4:2,4,6,14,18,24,28,30,46,54,56,61,63,64,73
26	Nov 24	due Wednesday, Dec 2	4.4:48,58,68,74,76,84,85,87,89,90 4.5:4,8,22,52
27	Dec 1		Write down the rigorous definition of the Riemann integral as I did present it in my Tuesday lecture both for a weight function w of a subinterval $I \subseteq [a, b]$ and for a function f of a point $x \in [a, b]$
28	Dec 3		<i>the last lecture posted</i> (the link below)
	Dec 18	FINAL EXAM (7-10 pm)	covers all lectures (the syllabus link below)

The Final Exam syllabus:

<https://math.berkeley.edu/~wodzicki/1A.F15/syll-Final.html>

The last lecture complete:

<https://math.berkeley.edu/~wodzicki/1A.F15/1A-20151203.pdf>

The 2nd midterm syllabus:

<https://math.berkeley.edu/~wodzicki/1A.F15/syll-2.html>

OVERVIEW OF THE COURSE

Topic	Number of lecture hours
Functions and models	6
Limits and Derivatives	8
Differentiable Rules	8
Applications of Differentiation	8
Integrals	5
Applications of Integration	3
Midterms	3
Total	41

HOMEWORK AND QUIZZES

A weekly quiz will be given each Wednesday in the discussion sections. No make-up quizzes will be given, but we will drop the two lowest quiz scores in computing your grade.

Homework from a Tuesday lecture is due the next Friday in the discussion sections; homework from a Thursday lecture is due the next Monday in sections.

TESTS

Exam	Date	Material covered
Midterm #1	Oct 8	Lectures 1-11
Midterm #2	Nov 12	Lectures 13-23
Final Exam	December 18	All lectures

GRADES

Work	Percentage of final grade
Homework and Quizzes	20%
Midterm #1	20%
Midterm #2	20%
Final Exam	40%

You must take the midterms and the Final on the dates given above. No make-up exams will given. In exceptional circumstances you may miss one of the two midterms. If you do not take Midterm #1, Midterm #2 will count for 40% of your grade. If you take Midterm #1 but not Midterm #2, the Final Exam will count for 60% of your grade. You will not pass the course if you take neither Midterm #1 nor Midterm #2.

Grading policy. We put considerable emphasis on *getting the correct answer* in the grading of computational problems on the midterms and on the final exam. Approximately half the points will be given for setting up a problem properly and about half for computing the numerical answer correctly. You will loose many or even all points for setting up the calculation incorrectly, even if the subsequent computations or the answer are correct.

The grading policy thus emphasizes the importance in Mathematics tests of actually getting the correct answer. We feel very strongly that you must obtain the right answer to earn substantial credit, at least for the easier problems. (For more difficult problems, we may give partial credit for partial solutions.)

There is also a practical reason for this grading policy: in a large class it is extraordinarily difficult to assign partial credit to a student's calculations, *after* the student has made a mistake (even a simple error). There are an infinite number of erroneous pathways a calculation can take once there has been a mistake, and as a practical matter the graders do not have time to sort through all the subsequent computations and possible further errors.