

Class Information  
*Integration and Infinite Series*  
Math 31B, Lecture 3  
Fall Quarter 2013  
MWF 11 am–11:50 am, MS 4000A

**Instructor:** Matthias Aschenbrenner

**E-mail:** matthias@math.ucla.edu

(I will not answer questions by E-mail. *E-mail should only be used to make an appointment.*)

**Course webpage:** <http://www.math.ucla.edu/~matthias/31b.3.13f>

**Office & office phone:** MS 5614; 310-206-8576

**Office hours:** W 2:30 pm–4 pm, or by appointment.

(I will *not* hold ‘virtual’ office hours.)

**Discussion sections:**

Section ID	Section	Day	Time	Classroom	TA Name
262186221	3a	Tue	11 am–11:50 am	MS 5127	Hughes
262186222	3b	Thr	11 am–11:50 am	BOELTER 5252	Hughes
262186223	3c	Tue	11 am–11:50 am	MS 5118	Li
262186224	3d	Thr	11 am–11:50 am	MS 5118	Li
262186225	3e	Tue	11 am–11:50 am	MS 5233	Zhang
262186226	3f	Thr	11 am–11:50 am	MS 7608	Zhang

**TA e-mail addresses (all @math.ucla.edu):**

Joseph Hughes: jfhughes, Zhiqiang Li: lizq, Yunfeng Zhang: zyf

Information about TA office hours are announced by the TAs in the first discussion sections.

**Course text:** *Single Variable Calculus*, by Jon Rogawski, 2nd ed., W. H. Freeman, New York.

**Prerequisites:** Course 31A with a grade of C- or better.

**Class meetings:** This course meets for lecture three days a week and for discussion section one day a week (four times total). I will conduct lectures on Monday, Wednesday, and Friday. Please feel free to ask questions in lecture, though preferably none regarding homework problems. *Please turn off all cell phones, pagers, and other electronic devices before the lecture.*

On Tuesdays or Thursdays your teaching assistant (TA) will lead a discussion section where he or she can answer any questions, and homework problems can be discussed. The TAs will also help with those problems during their office hours.

Questions concerning homework problems and the course material should first be addressed to the TAs, and then to me, if further clarification seems necessary. Questions concerning grading should be primarily addressed to me, and not the TAs.

**Homework:** Assigned every week, and usually collected during lecture on Friday, except during the weeks of the midterms and Thanksgiving week, when it will be collected on Wednesdays. Homework is due no later than five minutes after the beginning of the lecture.

**No late homework will be accepted.**

	Due on	Chapter, Section, Problem No.
1	10/04	<b>7.1:</b> 16, 20, 22, 21, 24, 26, 70, 72, 74, 92; <b>7.2:</b> 2, 4, 8, 12, 26, 28, 30
2	10/11	<b>7.3:</b> 30, 32, 54, 56, 86, 88; <b>7.4:</b> 8, 10, 34; <b>7.5:</b> 27, 28; <b>7.6:</b> 2, 10
3	10/16	<b>7.7:</b> 2, 4, 8, 10, 18, 22, 32, 50, 66; <b>8.1:</b> 2, 4, 8, 10, 16, 20, 60, 64
4	10/25	<b>8.2:</b> 2, 8, 10, 12, 30, 42; <b>8.3:</b> 1, 2, 3, 4, 5, 8, 16, 26; <b>8.5:</b> 1, 2, 4, 10, 12, 14; <b>8.6:</b> 4, 14, 16, 46, 48, 61, 63
5	11/01	<b>8.8:</b> 2, 4, 28, 40, 48; <b>9.1:</b> 3, 4, 6, 8, 20
6	11/06	<b>9.2:</b> 2, 6; <b>9.4:</b> 2, 4, 6, 18, 32, 46, 50
7	11/15	<b>11.1:</b> 4, 14, 20, 22, 40, 58, 60, 76; <b>11.2:</b> 11, 12, 15, 16, 20, 24, 30, 32, 38, 42, 46
8	11/22	<b>11.3:</b> 4, 15, 20, 28, 30, 32, 40, 42, 48, 56, 62; <b>11.4:</b> 3, 6, 10, 20, 22, 26, 28
9	11/27	<b>11.5:</b> 10, 16, 22, 24, 36, 42, 52, 56; <b>11.6:</b> 2, 4, 5, 6, 8, 10, 14, 28, 32, 38, 51
10	12/06	<b>11.7:</b> 2, 6, 8, 14, 32, 34, 68

Your lowest homework score will be dropped when computing your grade. Homework will be returned the following week in discussion section. The problems will range in difficulty from routine to more challenging. You may work together on the exercises, but any graded assignment should represent your own work.

Put the following information in the upper right hand corner of the first page:

*Your Name* (first and last)

Date, homework assignment number

TAs name, time and number of discussion section (3a–3f)

On each additional page, put your name in the upper right-hand corner. Work single-sided, i.e., write on only one side of each sheet of paper. STAPLE homework that is more than one page long. Remove all perforation before submitting. Write legibly. Label the chapter + section number as well as the problem number (e.g., 7.2 #2).

**Homework that fails to meet the above requirements will be marked “Unacceptable” and returned unread.**

**Quizzes:** During the last 5-10 minutes of the TA session (starting in Week 3, and except for Thanksgiving week), the TA will give a quiz based on the homework assigned *in the previous week*, which will be graded and returned to you in the following week.

**No make up quizzes will be given under any circumstances.**

Your lowest quiz score will be dropped when computing your grade.

**Exams:** There will be midterm exams on *Friday, October 18* and *Friday, November 8* during class time, location to be announced. There will be a final exam on *Wednesday, December 11, 2013*, 8:00 am–11:00 am, location to be announced.

**No make up exams will be given under any circumstances.**

For each exam, you must bring a picture ID. No books, calculators, scratch paper or notes will be allowed during exams.

**Disputing midterm grades:** We put a lot of effort into grading your exams. If you feel that a mistake was made in grading your midterm exam, you may request a re-grade. After each midterm is returned, a strict deadline will be posted on the web page until which a re-grade can be requested. *Be aware that a re-grade means that your exam will be graded from scratch, and it is entirely possible that you will receive a lower score than originally given, if I decide that the original grade was too high.*

Final exams are kept for one quarter, stored for a second quarter to be picked up, and recycled soon thereafter.

**Grading policy:** Scores and final grades will be available on the MyUCLA gradebook. Your final grade will be based on the following:

5% for homework, 5% for quizzes, 25% for each midterm, 40% for final.

**Letter grades:** Assigned according to the departmental guidelines for Math 31B. Letter grades will only be assigned for your final grade in this course.

**Academic dishonesty:** Students are expected to be thoroughly familiar with the UCLA policy on academic integrity. UCLA has instituted serious penalties for academic dishonesty. *Copying work to be submitted for grade, or allowing your work to be submitted for grade to be copied, is considered academic dishonesty.* Here, ‘copying’ does not only refer to producing verbatim copies, but includes slightly adapting and submitting material originally due to someone else.

**Additional assistance:** Besides the office hours (by the instructor and the TAs), additional help is available Monday-Thursday, in the Student Math Center located in MS 3974, where undergraduate math majors as well as math graduate students will be able to help you. The SMC offers free, individual and group tutoring for all lower division math courses. This service is available on a walk-in basis; no appointment is necessary. For opening hours please check

<http://www.math.ucla.edu/ugrad/smc.shtml>

**Syllabus:** You are responsible for reading the textbook. I highly recommend studying the relevant section(s) before each lecture so that you are in a good position to ask questions about anything that was unclear. See the next page for a detailed description of what we’ll cover when.

Week	Monday	Wednesday	Friday
1			09/27 Derivative of exponential functions (7.1)
2	09/30 Inverse functions (7.2)	10/02 Logarithms and their derivatives (7.3)	10/04 Exponential growth and decay (7.4)
3	10/07 Compound interest (7.5)	10/09 $y' = k(y - b)$ (7.6)	10/11 L'Hôpital's Rule (7.7)
4	10/14 Integration by parts (8.1)	10/16 Trig integrals and substitution (8.2, 8.3)	10/18 <b>Midterm 1</b>
5	10/21 Method of partial fractions (8.5)	10/23 Improper integrals (8.6)	10/25 Numerical Integration (8.8)
6	10/28 Error bounds for numerical integration (8.8)	10/30 Arc length (9.1)	11/01 Fluid pressure and force (9.2)
7	11/04 Taylor polynomials (9.4)	11/06 Taylor's theorem, error bound B (9.4)	11/08 <b>Midterm 2</b>
8	11/11 Sequences (11.1)	11/13 Infinite series (11.2)	11/15 Infinite series, cont'd (11.2)
9	11/18 Convergence of series with positive terms (11.3)	11/20 Conditional convergence (11.4)	11/22 Conditional convergence, cont'd (11.4)
10	11/25 Ratio and root tests (11.5)	11/27 Power series (11.6)	11/29 Thanksgiving Holiday—no class
11	12/02 Power series, cont'd (11.6)	12/04 Taylor series (11.7)	12/06 Taylor series, cont'd (11.7)