

Math 118, Fundamental Principles of Calculus, Fall 2018, Section 39441

Exterior Course Website: <http://www.stevenheilman.org/~heilman/1182f18.html>

Prerequisite: Math 108 or Math 117 or Placement exam in Math.

Course Content: Derivatives; extrema. Definite integral; fundamental theorem of calculus. Extrema and definite integrals for functions of several variables. Not available for credit toward a degree in mathematics.

This Document: Reading this syllabus counts as one homework grade. In order to receive credit for reading the syllabus, you must read the syllabus by August 24, 5PM PST. Make sure to read to the end.

Lecture Meeting Time/Location: Mondays, Wednesdays, and Fridays, 12PM-1250PM, SOS B46

Instructor: Steven Heilman, stevenmheilman@gmail.com

Office Hours: Mondays, 11AM-12PM, 1PM-230PM, KAP 406G

TA: Mengsha Yao, mengshay@usc.edu

TA Office Hours: Occur in the [Math Center](#). **Discussion Session Meeting Time/Location:**

- 39436, Tuesdays and Thursdays, 8AM-850AM, KAP 165
- 39437, Tuesdays and Thursdays, 9AM-950AM, KAP 165

You are not required to buy a textbook. Free lecture notes are provided on the course website. However, you are required to access [wileyplus](#) in order to complete online homework assignments. If you buy a textbook, make sure it comes with an access code. If you do not buy a textbook, you can purchase access to [wileyplus](#) separately. Access to [wileyplus](#) includes access to a (non-downloadable) online version of the course textbook; everyone will have a 14 day free trial for [wileyplus](#) at the beginning of the semester. Once you have your access code, you can input it to your online homework assignment in [blackboard](#).

Recommended Textbook: Hughes-Halett, Applied Calculus, any edition. The usual Hughes-Halett textbook for this course is a custom USC edition that is not sold on Amazon. The USC edition has some material that does not appear in the version sold on Amazon, but this extra material also appears in our freely available lecture notes.

First Midterm: Monday, September 24, 12PM-1250PM, SOS B46

Second Midterm: Friday, November 2, 12PM-1250PM, SOS B46

Final Exam: Wednesday, December 5, 2PM-4PM, Location TBD. (This final is for all 118 students)

Math Center: The [Math Center](#) is located in 263 KAP and is open Monday-Friday from 8am to 7pm on most days. It is primarily run by math graduate students here at USC.

Email Policy:

- My email address for this course is stevenmheilman@gmail.com.
- It is your responsibility to make sure you are receiving emails from stevenmheilman@gmail.com, and they are not being sent to your spam folder.

- Do NOT email me with questions that can be answered from this document.
- Homework questions sent to me by email will be answered altogether in the form of a “digest.” I will get to every question, but I cannot reply to every email. This digest will be sent out typically two days before the homework is due. So, one digest will answer online homework questions on Sunday, and another digest will answer quiz questions around Tuesday.

Exam Procedures: Students must bring their USCID cards to the midterms and to the final exam. Phones must be turned off. Cheating on an exam results in a score of zero on that exam. Exams can be regraded at most 15 days after the date of the exam. This policy extends to homeworks as well. All students are expected to be familiar with the [USC Student Conduct Code](#). (See also [here](#).)

Disability Services: If you are registered with disability services, I would be happy to discuss this at the beginning of the course. Any student requesting accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in 301 STU and is open 8:30am-5:00pm, Monday through Friday.

<https://dsp.usc.edu>

213-740-0776 (phone)

213-740-6948 (TDD only)

213-740-8216 (fax)

ability@usc.edu

Exam Resources: [Here](#) is a page containing some old calculus exams. [Here](#) is another page containing old calculus exams. [Here](#) is a page containing final exams for Math 118 at USC.

Occasionally these exams will cover slightly different material than this class, or the material will be in a slightly different order, but generally, the concepts should be close. (Even the old Math 118 exams have different material than the current 118 class.)

Homework Policy:

- Online homework will be due on Tuesdays at 11PM PST. Since computer issues are possible, I recommend that you complete the online homework well before this deadline.
- Online homework is accessible under the “Content” tab of the [blackboard](#) course site. The default homework settings (subject to change) allow ten attempts per question, with a 25% score penalty and hint after the fifth attempt.
- If you miss the deadline for the homework, then the number of days it is late will be deducted from the score, with at least a 20% score reduction. (The estimate of the number of days is rounded arbitrarily and not guaranteed to be accurate.)
- All online homework scores will be finalized at 8:00PM on the last day of class (November 30), i.e. your online homework score cannot change after this time.

- I will not answer any questions related to technical issues with the [wileyplus](#) system. For technical support, see [Wileyplus Tech Support](#) or send an email to tokorche@usc.edu
- You may not use the internet to try to find answers to homework problems.
- The **lowest two** online homework grades will be dropped. This policy is meant to account for illnesses, emergencies, etc.
- Do not submit homework via email.
- In addition to the online homework due on Tuesday, there will be several quizzes occurring in discussion section on Thursdays. (See the quiz policy below.)
- Collaboration on the homework is allowed and encouraged.
- All homework assignments must be **written by you**, i.e. you cannot copy someone else's solution verbatim. I would encourage you to understand carefully how the homework solutions work, and how you would find such a solution on your own. Overusing collaborations or search technology should result in poor performance on the exams.
- Quiz solutions will be posted each Saturday, after the quizzes occur.
- Reading this syllabus counts as one homework grade. In order to receive credit for reading the syllabus, you must read the syllabus by August 24, 5PM PST.

Quiz Policy:

- There will be several quizzes throughout the semester, as listed in the schedule below. Each week, a list of quiz problems will be posted on the course website. The quiz will have a few problems similar or identical to the posted list of problems. The quiz could also repeat a question from the online homework.
- The **lowest two** quiz grades will be dropped. This policy is meant to account for illnesses, emergencies, etc.
- Quizzes will be administered in your discussion section on Thursdays. Each quiz should last about 15 minutes.
- No notes, no books, no calculators, etc. will be allowed during the quizzes.

Grading Policy:

- The final grade is given by the larger of the following two schemes. Scheme 1: online homework (5%), quizzes (10%), the first midterm (20%), the second midterm (25%), and the final (40%). Scheme 2: online homework (5%), quizzes (10%), the largest midterm grade (35%), final (50%). The final grade will be curved. However, anyone who exceeds my expectations in the class by showing A-level performance on the exams and homeworks will receive an A for the class.

- If you cannot attend one of the exams, you must notify me within the first two weeks of the start of the quarter. Later requests for rescheduling will most likely be denied.
- You must attend the final exam to pass the course.
- Since this class has a coordinated final, you cannot take the final at any time other than its schedule time. If you are passing the class at the time of the final, and if you are unable to attend the final, you will be assigned an Incomplete grade and then take the final of 118 in the next semester. If you are not passing the class at the time of the final, you cannot receive an Incomplete grade.
- Since this class has a coordinated final, the curve for your final course grade will take into account your performance compared to all students in all sections of the 118 course this semester.

Tentative Schedule: (This schedule may change slightly during the course.)

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	Aug 20: Introduction, The Calculus Paradigm	Aug 21	Aug 22: 1.1, 2.1, Limit Laws, Continuity	Aug 23: Quiz in Section (based on Q1). Read the Syllabus	Aug 24: 2.1, Evaluating Limits
2	Aug 27: 2.1, Intermediate Value Theorem	Aug 28: Online Homework 1 due	Aug 29: 2.1, Derivatives	Aug 30: Quiz in Section (based on Q2)	Aug 31: 2.2, 2.3, 3.1, Derivative as a Function
3	Sep 3: No class (Labor Day)	Sep 4: Online Homework 2 due	Sep 5: 3.4, Product and Quotient Rule	Sep 6: Quiz in Section (based on Q3)	Sep 7: 3.3, Chain Rule
4	Sep 10: 2.4, Higher Derivatives	Sep 11: Online Homework 3 due	Sep 12: 3.2, Exponential Functions	Sep 13: Quiz in Section (based on Q4)	Sep 14: 3.2, Inverse Functions
5	Sep 17: 3.2, Logarithmic Functions	Sep 18: Online Homework 4 due	Sep 19: 2.3, Linear Approximation	Sep 20: No quiz.	Sep 21: 4.1, Extreme Values and Optimization
6	Sep 24: First Midterm	Sep 25: No homework due	Sep 26: 4.2, 4.3, Graph Sketching, Mean Value Theorem	Sep 27: Quiz in Section (based on Q5)	Sep 28: 4.4, Applied Optimization
7	Oct 1: 5.1, 5.2, Definite Integral	Oct 2: Online Homework 5 due	Oct 3: 5.3, 5.4, Definite Integral	Oct 4: Quiz in Section (based on Q6)	Oct 5: 7.1, Indefinite Integral
8	Oct 8: 5.5, Fundamental Theorem of Calculus	Oct 9: Online Homework 6 due	Oct 10: 5.5, Fundamental Theorem of Calculus	Oct 11: Quiz in Section (based on Q7)	Oct 12: 7.2, Integration by Substitution, 6.1, Average Value
9	Oct 15: 7.4, Integration by Parts	Oct 16: Online Homework 7 due	Oct 17: 7.3, Improper Integrals	Oct 18: Quiz in Section (based on Q8)	Oct 19: Vectors in the Plane
10	Oct 22: Vectors in Three Dimensions	Oct 23: Online Homework 8 due	Oct 24: Dot Product	Oct 25: Quiz in Section (based on Q9)	Oct 26: Planes in Three Dimensions
11	Oct 29: 9.1, 9.2, Functions of Two or Three Variables	Oct 30: Online Homework 9 due	Oct 31: 9.3, Partial Derivatives	Nov 1: No quiz.	Nov 2: Second Midterm
12	Nov 5: 9.4, Partial Derivatives	Nov 6: No Homework due	Nov 7: 9.4, Differentiability and Tangent Planes	Nov 8: Quiz in Section (based on Q10)	Nov 9: Gradient and Directional Derivatives
13	Nov 12: Gradient and Directional Derivatives	Nov 13: Online Homework 10 due	Nov 14: 9.5, Optimization	Nov 15: Quiz in Section (based on Q11)	Nov 16: 9.5, Optimization
14	Nov 19: 9.6, Lagrange Multipliers	Nov 20: Online Homework 11 due	Nov 21: No class (Thanksgiving)	Nov 22: No class (Thanksgiving)	Nov 23: No class (Thanksgiving)
15	Nov 26: Double Integrals	Nov 27: Online Homework 12 due	Nov 28: Triple Integrals	Nov 29: Quiz in Section (based on Q12)	Nov 30: Review of Course (last day of class)

Advice on succeeding in a math class:

- Review the relevant course material **before** you come to lecture. Consider reviewing course material a week or two before the semester starts.
- When reading mathematics, use a pencil and paper to sketch the calculations that are performed by the author.
- Come to class with questions, so you can get more out of the lecture. Also, finish your homework at least **two days** before it is due, to alleviate deadline stress.
- Write a rough draft and a separate final draft for your homework. This procedure will help you catch mistakes.
- If you are having difficulty with the material or a particular homework problem, review Polya's [Problem Solving Strategies](#), and come to office hours.

Compliance

Ten percent of your homework grade is reading and complying with this document. To acknowledge that you have read and agree to the above, click [here](#), and follow the instructions. (This link may not work on some smartphones, so make sure to use a computer instead.) To receive credit, this form must be submitted by 5PM PST, August 24, 2018.