Math 31A: Differential and Integral Calculus

Summer Bridge 2020

Instructor:	Leticia Mattos da Silva	**Time:**	M-F 09:00 – 10:50
Email:	lmattos@ucla.edu	**Zoom ID:**	955 2559 3463

Disclaimer: Due to the online nature of this course, you will find the lengh of the syllabus to be more extensive than usual. The objective is to provide you with as much information as possible. Please read each item carefully and in full.

Course Page:

1. https://ccle.ucla.edu/course/view/201C-ENGR20-1

Piazza:

1. https://piazza.com/ucla/summer2020/engr20

Tutoring Hours: Miranda Diaz-Infante 7:00–9:00pm PST, 8–10 Sept and 14–17 Sept

Textbook: J. Rogawski, *Single Variable Calculus*, (**4th Edition**) **DO NOT PURCHASE**

Objectives: The goal of Math 31A is to provide a solid introduction to differential calculus in one variable. The Summer Bridge Math 31A is an accelerated preview of the course that covers up to its first midterm.

Prerequisites: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry). Students must either take and pass the Mathematics Diagnostic Test at the specified minimum performance level, or take and pass Math 1 at UCLA with a grade of C- or better.

Important Dates:

Midterm	9:00am PST Friday Sept 11 - 9:00am PST Saturday Sept 12
Final Exam	9:00am PST Friday Sept 18 - 9:00am PST Saturday Sept 19

Grading Policy: Homework (25%), Quizzes (10%) Midterm (30%), Final (35%).

Midterm: Midterm duration is 1 hour and 30 minutes. You will have a 24 hour window to start and finish your midterm. The midterm will be administered through Gradescope. Once you open the midterm you will have a countdown of 1 hour and 30 minutes to finish. You should start your midterm **at least** 1 hour and 30 minutes before the end of the 24 hour window to have full time to complete it. The midterm will be designed to be completed in 1 hour and the remaining 30 minutes are given so that you can upload your answers to Gradescope.

 The midterm is open book and open notes but you are strongly encouraged to prepare as if the midterm was closed book and closed notes. The time will not allow much space for you to consult your notes, heavily relying on your notes may result in not finishing the exam on time. The midterm is **not** collaborative, you should complete your midterm individually and not receive or provide help to other classmates. Computational engines such as WolframAlpha are strictly prohibited. In general, an instructor is able to tell by your answer if such resource has been used. Posting exam questions on forums or online tutoring services such as Chegg or MathStack Exchange is stricly prohibited as well. Failure to comply with these guidelines will result in a score of zero.

Remember ENGR 20 is an official course at UCLA. Any violation of course policies, including but not limited to the ones described in this syllabus, will be referred to the Dean of Students. Please follow the Student Code of Conduct at all times.

Note: The second half of our lecture on Friday Sept 11 is reserved to take the midterm, if you desire to take it at that time. The instructor will be online on zoom during that hour to answer any questions about statements. You are free to take the midterm at any other time within the 24 hour window. You may send a message on Piazza to ask a question at other times but there is not a guarantee that a reply will reach you within your midterm time limit.

Final Exam: Final exam duration is 3 hours. You will again have a a 24 hour window to start and finish your exam. Remember once you open the exam you will have 3 hours to finish so you should start your exam **at least** 3 hours before the end of the 24 hour window. The exam will be designed to be completed in 2 hours and the remaining 1 hour is given to upload answers to Gradescope. The final exam is also open book and open notes but again there will not be much time space for you to consult notes. Please prepare for the exam as if it was closed book and closed notes. Again the exam is **not** collaborative and you should complete it without the aid of classmates. Aid of computational engines such as WolframAlpha is again not permitted. Posting exam questions on forums such as MathStack Exchange or using tutoring services such as Chegg remain strictly prohibited.

Note: Our entire lecture on Friday Sept 18 is reserved to take the final exam, if you desire to take it at that time. The instructor will be online on zoom during those 2 hours to answer any questions about statements. You are free to take the exam at any other time within the 24 hour window. You may send a message on Piazza to ask a question at other times but again there is not a guarantee that a reply will reach you within your midterm time limit.

Quizzes: There will be two quizzes administered through Gradescope. The objective of the quizzes is to ensure that you will have a minimum amount of preparation before each examination. Quizzes are **not** collaborative and you should work by yourself. The quiz will have a similar format to the midterm and exam but you will be (randomly) assigned a single question to take rather than a full length examination. The duration of the quiz is 25 minutes. The quiz will be designed to be completed in 15 minutes and the remaining 10 minutes are given for you to upload you answer on Gradescope. You will have a 12 hour window to start **and finish** your quiz from **11:00am-11:00pm PST Thursday Sept 10 and Sept 17**.

Note: There is no reserved time in lecture to complete the quizzes, please plan accordingly.

Homework: Homework will be assigned daily except on midterm and final exam days. Please plan to spend at least 1 hour of outside study time, including review and homework completion, for each hour of lecture. Homework will be submitted through Gradescope. The due date and time of homework assignments will always be **8:55am PST of the next day**. Only 3 problems will be graded for correctness, the remaining will be graded for completion. These 3 problems will be selected randomly. **No late submission will be accepted**, please consult with me if you believe you qualify for an exception due to extenuating circumstances. Make sure your written work is legible — illegible homework will not be graded.

Submission: How to submit assignments, midterm and exam? If you have a smartphone with that supports CamScanner, Scanner Pro, or similar, please use the app to scan your work on paper. If you have a tablet and pen, you may complete your handwritten work digitally if you wish. In general these are the fastest and best ways to submit work. Alternatively, you can take camera pictures of your written work on paper and submit those to Gradescope, but please be attentive to the quality and readability of your pictures. Another option, in general slower, is to use a traditional scanner. Regardless of your chosen option, **you must use print clear paper, NO GRAPH OR LINED PAPER**. No need to write or print the statement of a problem but you MUST label each solution with the correct problem number and make the division clear.

Typed (not handwritten) work will only be accepted if typed in LaTeX. Please do not learn LaTeX for this class, choose one of the other many options available. If for some exceptional reason you are fluent in TeX, please refrain from TeXing midterm and exam in the interest of time. You may TeX your homework.

Attendance: Attendance is expected and mandatory. The instructor will take note of attendance during the Zoom meeting. You are expected to arrive on time and note will be taken of tardiness. **The mandatory attendance system is designed to help you succeed**. Attending class synchronously with the instructor is ideal to keep up with the pace of a rigorous coursework. Please, if there are circumstances that prevent you from attending class synchronously, including but not limited to family schedule, time zone difference, contact me and exceptions can be made on a case-by-case basis. All lectures will be recorded and available to all students after lecture. Access to the recording does not exempt you from the attendance requirement, unless you contact me as per guideline.

Tentative Course Outline:

Lecture	Section	Topics
1	2.1	Limits, Rates of Change, and Tangent Lines
	2.3	Basic Limit Laws
2	2.4	Limits and Continuity
	2.5	Evaluating Limits Algebraically
3	2.6	Trigonometric Limits
	2.7	Limits at Infinity
4		Review
		Midterm
5	2.8	Intermediate Value Theorem
	3.1	Definition of the Derivative
6	3.2	The Derivative as a Function
	3.3	Product and Quotient Rule
7	3.5-6	Higher Derivatives, Trig Functions
8	3.7	Chain Rule
		Review
9		Final Exam