Math 125- Calculus I
Fall 2021 Syllabus

Contents

1   Lectures' Instructor Information

Students attend lectures three times per week MWF and they will attend laboratory sections two times per week (TR or MW) with a graduate teaching assistant.

Instructor	Section	Time	Classroom	Instructor's Email	Office
Niknejad, Jila (Course Coordinator)	18422	MWF 3-3:50PM	Budig 110	jila@ku.edu Zoom: 125127	Snow 651 MWF 10-11AM
Lang, Jeffrey (Professor)	18424	MWF 1-1:50 PM	Budig 110	haras@ku.edu	Snow 506

2   Labs' (recitations') Instructor Information

Instructor	Instructor's Email/Zoom	Office	Section	Time	Classroom
Alyssa Curry	alyssa.curry@ku.edu Zoom:96669804378 Code:193364	Tu 11AM-12PM 528 Snow	18425	MW 8-8:50AM	MAL 2048
Alyssa Curry	alyssa.curry@ku.edu Zoom:96669804378 Code:193364	Tu 11AM-12PM 528 Snow	18427	MW 9-9:50AM	MAL 2048
Neethu Suma-Raveendran	n502s550@ku.edu Zoom: 91791390708 Code: 1212	Tu 2-3:30 pm 562 Snow	18428	MW 9-9:50AM	CDUP 1200
Neethu Suma-Raveendran	n502s550@ku.edu Zoom: 91791390708 Code: 1212	Tu 2-3:30 pm 562 Snow	19268	MW 10-10:50AM	CDUP 1200
Brett Ehrman	ehrman.brett@ku.edu Id:97062174349 Code:125125	W 2-3PM 252A Snow	19267	TuTh 8-8:50AM	SNOW 120
Ritika Nair	rnair@ku.edu Zoom: 94095286563 Code:125125	F 1-2PM 451 Snow	18426	TuTh 9-9:50AM	CDUP 1200
Ritika Nair	rnair@ku.edu Zoom: 94095286563 Code:125125	F 1-2PM 451 Snow	18429	TuTh 10-10:50AM	CDUP 1200
Dylan Beck	beck924@ku.edu Zoom: 96793291551 Code: 44163	TuTh 2-3PM 557 Snow	18430	TuTh 11-11:50AM	SUM 405
Dylan Beck	beck924@ku.edu Zoom: 96793291551 Code: 44163	TuTh 2-3PM 557 Snow	18431	TuTh 12-12:50PM	SUM 405
Brett Ehrman	ehrman.brett@ku.edu Id:97062174349 Code:125125	W 2-3PM 252A Snow	18434	TuTh 1-1:50PM	CDUP 1200
Mehmet Yenisey	mehmet.yenisey@ku.edu Zoom: 93886607094 Code: 423359	M 3-4PM 543 Snow	18435	TuTh 2-2:50PM	CDUP 1200
Mehmet Yenisey	mehmet.yenisey@ku.edu Zoom: 93886607094 Code: 423359	M 3-4PM 543 Snow	18436	TuTh 3-3:50PM	CDUP 1200

3   Disclaimers

This syllabus contains the basic information for MATH 125. Students should regularly visit the course Canvas page to find their grades, course announcements, assignments, detailed course schedule, and links to course materials.

Students must regularly check both their KU email and the course Canvas page .

The "Total" column of Canvas grade book is not accurate and we will post an excel sheet, called grade-calculator , for you to compute your overall grade after each exam.

4   Textbook

Textbook: Calculus Early Transcendentals, 4E, by Rogawski & Adams

Other Material Needed:

Achieve and iClicker App:
* Achieve is the online homework platform and is accessed through **Canvas**.
* IClicker is used in **lecture** to collect your answers to questions.
* You will have access to Achieve, iClicker and Ebook through "First Day Access" on Canvas.
* Make sure to **use your KU email** in Achieve and iClicker.
* Visit https://www.iclicker.com/students/apps-and-remotes/apps to down load an iClicker app.

Zoom App: The classes and help room are in-person but some of the instructors will hold office hours on zoom.

Calculators and Midterms/Final Exams: **Only basic or scientific calculators** will be permitted while taking exams. Calculators must not be able to perform calculus calculations (limits, derivatives, integrals, series) and must have no graphing capabilities.

5   Grading System

A	B	C	D
$\geq 88\%$	$\geq 76\%$	$\geq 64\%$	$\geq 50\%$

Note that there are no plus/minus grades in the calculus sequence. The letter grade cut-offs will not change at the end of the semester and there will not be a curve.

Most assignments and assessments will have extra credit opportunities. The following is a breakdown for MATH 125 showing the components of the course and how much each component is worth.

Final Exam	25%
Midterm 1	20%
Midterm 2	20%
Achieve Homework	9%
Gateway	10%
Lab Activities & Worksheets	10%
iClickers	4%
In-class Quizzes	2%
PreLecture WarmUp (Extra Credit)	2%

6   Gateway, Midterm and Final Exams

Midterm exams contain many fill-in-the-blank questions and we collect all the work shown for those questions, which are hand graded by MATH 125 instructors. Midterm Exams from two previous semesters will be posted on Canvas 10 days before the exam dates.

Exam	Day	Date	Time	Room	Content
Paper Gateway		October 6 or 7		In Lab	Derivatives
Midterm 1	Tuesday	September 28	5:50-7:50 PM	Budig 120	Chapter 2 and Sections 3.1, 3.2, 3.3
Midterm 2	Tuesday	November 2	5:50-7:50 PM	Budig 120	Sections: 14.7, 14.8, 13.1-13.3
Final Exam	Monday	December 13	4:30-7 PM	TBA	Accumulative

7   Withdrawal Dates

Day	Date	Type	
Monday	September 13, 2021	Last day to withdraw/drop without a "W"	
Wednesday	November 17, 2021	Last day to withdraw from a class or the University	

8   The Lecture and Lab Participation

Lecture Participation

The attendance in Lecture is taken using iClicker reef.

If you answer any iClicker question during a lecture, you will earn 1 point for participation for entire session (this is one time only in each class). If you answer any question correctly, you will earn 0.5 points.

The maximum iClicker points to earn full credit in lecture attendance is 60.

You will have opportunity to earn up to 80 iclicker points.

You can access iClicker reef, for this course only, using the first day access.

It is recommended to download the app to your phones. https://www.iclicker.com/students/apps-and-remotes/apps

Laboratory (Recitation) Participation

By attending each lab and working on groupwork section of each lab worksheet in your groups you will earn attendance points.

The attendance for each lab will be added to your worksheet during the lab. The total points possible points for each lab is 1.5 points.

Rubrics for Attendance in each lab is as follows:

* 0.5 points for having the questions ready in class, working in your group, asking questions and interacting with your group and the instructor.
* 0.5 points for contributing to the discussion in the group.
* 0.5 points for mostly correct answers to groupwork written in the worksheet.

9   The Gateway Exams

Information regarding the Gateway can be found at
 Students can earn a score of 0 or 10 on the Gateway. Students earn full credit by passing either the paper (written) Gateway Exam or the computerized in-lab Gateway Exam retakes. Information about the Achieve Gateway Exams, including deadlines and location, will become available on Canvas course.

Paper Gateway	October 6 or 7	In Recitation	Click for Questions	Click to Watch the prep-videos.
Computerize Retake	MTWRF	10/13-10/26	Tentatively 1-5PM	Snow 159

 A paper (written) Gateway Exam will be administered in laboratory (recitation) sections during the 2nd meeting of Week 7. Students who correctly answer 8, 9, or 10 of the 10 questions earn full credit and do not need to retake the In-Lab Gateway Exam.

10   Summary of the Structure of Assignments and Assessments

Worksheets	2×1.5 points for Group Work per week (30% of the score). Turn in or upload to Canvas to be graded by your grader. (70% of the score) Turn in the entire work for the week in lab or upload to Canvas. Find a pdf of the questions and an upload link in the week's Canvas module. (Print the pdf if possible) Worksheets help you with active learning. Write all details of your work. Due in the 2nd lab of the week or upload by the Friday of the week.
Achieve Homework	Find a link on the week's Canvas module. Achieve homework gives you instant feedback. You have 10 attempts for each assignment.
PreLecture WarmUp	Find a link to them on the week's Canvas module. They are fill-in-the-blanks, True/False and matching. While working on them, follow the same academic integrity codes as an proctored exam even though they are not proctored. They are due at 1 PM on MWF before each lecture to prepared you for it. Extra credit. You have ten attempts on each.
In-class Quizzes	They are low stake assessments that **may** help in reducing the testing anxiety for other assessments by giving you practice. Each covers 2-3 sections of the book.
Gateway Exam	Each exam contains 10 questions on taking derivatives. Pass score is 80% or higher and full points will be awarded. Any score below 80% is awarded zero points. A paper Gateway exam will be given in the 2nd recitation session of Week 7. If you didn't pass the paper gateway, multiple computerized retakes will be available in the Week 8-10 in Snow 159.
Midterm & Final Exams	They are administered in the evening. They come with review sessions and practice exams

Late Policy for Assignments:

  Achieve Homework can be completed after the deadline; assignments can be extended automatically through Achieve. All Achieve Homework assignments close permanently at 11:59pm on Thursday, December 9. No late worksheet please.

11   The Structure of Laboratory Sections

Laboratory sections (recitation sections) meet twice per week with a graduate teaching assistant. (Your lab either meets on TuTh or MW) Very little to no lecturing is expected in the lab (recitation) sections. Students will review the most recent material, work through problems that supplement lecture material, and have an opportunity to ask questions and receive feedback in a small classroom environment. 10% of the final grade is earned through laboratory sections' participation and worksheets; 30% allocated for participation and 70% for correct worksheets. The participation points is taken in the lab when you work on worksheets with your groups. The in-class quizzes and Paper Gateway exam will be proctored during your laboratory meetings. Print the worksheets before the lab section if possible or write the questions

12   The Structure of Lecture Sections

They are taught in the auditoriums. IClicker is used to take attendance. Print the lecture notes on the week's Canvas module before the class if possible.

13   Math Help

Every instructor and graduate teaching assistant is available for help outside the classroom, see individual webpages to find times and locations. The Mathematics Help Room is in Snow 651 and is staffed by helpful and competent mathematics graduate teaching assistants. Before searching for a private tutor, be sure to visit either your instructor or the Mathematics Help Room as they are free for KU students. The schedule of Help Room will be posted on Canvas on the second week of classes.

14   GroupWork and Tutors

Students may discuss homework/Worksheet problems in groups, but each student is responsible for doing their own work and for turning in individual solutions. When a student works with a tutor, it is the responsibility of both the student and the tutor to ensure that it is the student who works to arrive at the solution of the problems. Tutors should not do student homework or provide solutions for assignments. Members of the class are encouraged to study together, but EACH must write out their own solutions to the assigned problems. Copying of another person's homework is not allowed. HOMEWORK IS A MAJOR PART OF THE LEARNING PROCESS IN MATHEMATICS. It is essential that you work on problems on your own and do the homework on a regular basis.

15   Prerequisite

MATH 103 or MATH 104, with a grade of C- or higher; or 3 years of college preparatory mathematics including trigonometry, with a score of 28 or higher on the ACT Mathematics exam.

16   Learning Objectives and Course Content

The course covers differential calculus and the basics of integral calculus, covering most of Chapters 2-5 of the text. The precise sections to be covered are listed in the schedule given on Canvas. The objective of the course is to acquire mastery of the material covered in the course in the following senses:

1. Mathematical understanding, as demonstrated by the ability to solve appropriate mathematical problems.

2. Practical understanding, as demonstrated by the ability to solve appropriate word problems in the sciences, in engineering and in the social sciences.

17 Course Goals and Topics

By the end of MATH 125, students should have begun to build fundamental knowledge and skills so they can apply calculus to future STEM academic training and professional practice. Fundamental calculus knowledge and skills will be learned and evaluated based on specific objectives related to:

Limits

- Have an intuitive understanding of the definition of a limit.
- Evaluate limits (two-sided, left, and right) of a piecewise defined function given algebraically or graphically.
- Calculate infinite limits and detect vertical asymptotes.
- Detect when a function is continuous and identify the type of discontinuity.
- Apply the Intermediate Value Theorem to mathematically prove two functions intersect on a set interval.

Derivatives

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- Apply limits to calculate the slope of a tangent line or an instantaneous velocity.
- Understand how the first and second derivative affect the shape of a functions graph.
- Compare the different differentiation formulas and recognize when to use each.
- Understand the connection between implicit differentiation and the chain rule.
- Find the slopes of implicitly defined functions.
- Apply implicit differentiation and the chain rule to solve many types of related rates problems.
- Apply L'Hôspital's Rule to calculate limits of various indeterminate forms.
- Calculate the derivative of any elementary function.
- Recognize when to apply logarithmic differentiation.
- Use the tangent line or differentials to estimate how a function is changing around a specific point.
- Use the Closed Interval Method to identify absolute maxima and minima of a function.
- State the Mean Value Theorem and intervals for which a function satisfies it.
- Identify local extrema using either the First or Second Derivative Tests.
- Summarize all your current algebra and calculus knowledge to sketch an accurate graph of a function.
- Apply your maxima/minima knowledge to solve optimization problems.
- Recognize how and why Newton's Method can approximate the roots of differentiable functions.

Integrals

- – Compute general antiderivatives for select elementary functions.
- – Solve initial value problems for using antiderivatives.
- – Use antiderivatives to calculate velocity or position from acceleration.
- – Estimate the area under a curve using rectangles with heights given by left, right, or midpoints.
- – Identify how the definite integral relates to area under the curve.
- – Manipulate integral expressions using the basic properties of the integral.
- – Relate slopes and areas through the Fundamental Theorem of Calculus.
- – Develop a substitution rule to find antiderivatives of more complicated functions.

18   Keys to Success in Math 125

- • Join lecture and your laboratory section prepared to learn and engage with the material! Watch the videos if you need help.

- • After each class, review the material and do the assigned work and suggested homework in the textbook.

- • Prepare for the next class meeting:

  - – Visit Canvas to check the schedule and announcements.
  - – Read the upcoming section in the textbook.
  - – Find help! Take advantage of both your lecturer and your laboratory leader's office hours. Visit the Calculus Help Room on MS Teams! The help room schedule can be found in the course Canvas.

- • Study! Gather a group of friends and regularly work and study together using the Help room MS Teams or your Lab Teams.

- • You will need a good background in algebra, trigonometry and Chapters 1 can serve as an excellent reference for reviewing prerequisite material and doing practice problems.

19   General Comments on Study Habits

Regular class attendance is important for success in this course. Even if you've taken a previous Calculus course, this course is likely to be taught from a more sophisticated perspective, and if you think this class will be review, you are probably mistaken. You should expect to spend **at least two hours** studying outside of class **for every hour** spent in class. In contrast to most high school math classes, if you don't understand the topics being covered, you should NOT assume that your instructor will repeat material until you understand or master it. Ideally, you should ask questions at the time in class. Of course, you will also probably need to spend time thinking things through on your own, but if you've tried that and are still confused, make use of the Calculus Help Room and instructor office hours. Don't wait! Mathematics is cumulative, so anything you don't understand now is likely to keep giving you trouble as the semester goes on.

20 Policy on Students with Special Needs

The KU Office of Student Access Services (AAAC) coordinates accommodations and services for all eligible students with disabilities. If you have a disability and wish to request accommodations, you should contacted AAAC as soon as possible (22 Strong Hall; 785-864-4064 (V/TTY); http://access.ku.edu/. We also recommend that you contact your instructor and graduate teaching assistant privately in regard to your needs in this course.

21 Religious Holidays

Any student in this course who plans to observe a religious holiday which conflicts in any way with the course schedule or requirements should contact your instructor before the end of the third week of classes to discuss alternative accommodations.

22 Excused Absence and Making Up Missed Work

Exams and Laboratory Section: Students with a conflict with another course or verifiable excuse, temporary orders necessitating the absence of those in the US Armed Forces, sanctioned university activities, or a medical crisis of themselves, a relative, or friend and living in a different time zone may be excused from being present. It is the responsibility of the student to initiate discussion with their instructor or graduate teaching assistant prior to the absence examination/test if possible. Students can formally request their exam to be rescheduled due to a conflict by completing an Exam Conflict form which will be forwarded 10 days before the exam is scheduled.

23 Policy on Academic Misconduct

You are required to abide by all KU policies on academic integrity. Cheating, plagiarism or other academic misconduct will result in a failing grade on the assignment in question, notification of the student's dean, and usually further disciplinary sanctions, possibly including a failing grade in the course. You are encouraged to collaborate with other students on the homework assignments. However, each student must write up his or her own solutions and acknowledge all collaborators. Copying someone else's homework, or allowing someone else to copy yours, is considered to be a form of cheating. For more information, see KU's official policies on academic misconduct at http://policy.ku.edu/governance/USRR#art2sect6.

24 Policy on Masks Wearing

We follow the guideline in University policy.

25 KU Firearm Policy

Individuals who choose to carry concealed handguns are solely responsible to do so in a safe and secure manner in strict conformity with state and federal laws and KU weapons policy. Safety measures outlined in the KU weapons policy specify that a concealed handgun:

- Must be under the constant control of the carrier.

- Must be out of view, concealed either on the body of the carrier, or backpack, purse, or bag that remains under the carrier's custody and control.

- Must be in a holster that covers the trigger area and secures any external hammer in an un-cocked position

- Must have the safety on, and have no round in the chamber.

26 Intellectual Property

- Course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor are the property of the instructor.

- Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited.

- Permission to make such recordings may be granted by the instructor on a case-by-case basis, on the condition that the individual making the recording uses these recordings only as a study aid.

- Unless explicit permission is obtained from the instructor, recordings of lectures and review sessions and course content may not be modified and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

27 Commercial Note Taking

Pursuant to the University of Kansas' Policy on Commercial Note-Taking Ventures, commercial note-taking is not permitted in MATH 125. Lecture notes and course materials may be taken for personal use, for the purpose of mastering the course material, and may not be sold to any person or entity in any form. Any student engaged in or contributing to the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with University policy. Please note: note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the AAAC, is not the same as commercial note-taking and is not covered under this policy.

28 Grade Disputes

All graded material will be become available on laboratory section's Canvas. You can view the feedback by clicking on the grades. The instructors of MATH 125 will check the grading of any assignment if the assignment was graded within the past two weeks; after two weeks, the instructors are not obligated to check the grading of an assignment. Initially contact your GTA before contacting your lecturer for any grade disputes.