



MATH 111: Introduction to the Calculus

Classroom:
Seeley Mudd 014

Instructor Info —



Dr. Miriam Kuzbary



Pronouns: She/Her/Hers



Please call me: Prof. Kuzbary,
Dr. Kuzbary, or Dr. K.



Office Hours:

Mon 11:30am-12pm

Mon 3:30-5pm

Wed 2-3pm

Thu 1-2pm

Fri 11:30am-12pm

By appointment through Moodle
link



Office: SMUD 303



Course Website: On Moodle



mkuzbary@amherst.edu

Course Info —



Mon, Wed, Fri



9-9:50am



Location: SMUD 014

Welcome to Calculus!

Calculus allows us to study how things change. How do we measure change? How are different changing quantities related? How can we estimate real-life quantities accurately? More mysteriously, calculus also allows us to study infinite quantities: things that are infinitely large, and things that are infinitely small! For example, if we add up an infinite number of infinitely small objects, will we get a finite number?

What you'll learn along the way

Everyone in this class has different (and sometimes overlapping) goals for themselves, which might include:

- Learning some cool math
- Getting a good grade
- Challenging yourself
- Fulfilling a prerequisite for a class you want to take
- Fulfilling a major requirement
- Seeing if you like math enough to keep taking it in college
- Preparing for more advanced math
- Taking the advice of someone important to you by taking a math class
- Building a mathematical foundation for non-math topics you like

and many others! That said, there are also goals that I as the instructor and the math department as a whole has for you, such as the following:

- Demonstrate fluency with computational techniques in differential and integral calculus,
- Gain a deep understanding of what concepts in calculus intuitively mean and how they apply to a variety of situations,
- Use calculus to model real-world problems,
- Expand your problem solving skills and independence, and
- Communicate clear and convincing solutions to mathematical problems.

We'll work towards both the individual goals you have for yourself and our communal course goals together.

How are we going to do that?

Learning new mathematics is a difficult thing to do, and takes a lot of work and time! That said, *you are completely capable of mastering this material if you are willing to put in the time, attention, and strategic effort into it.* For learning to happen, both of us (you and me as the instructor) will have to work hard!

Moreover, as you are engaging in a liberal arts education here at Amherst College, we will also explore the meaning of what we're learning. This will include questions like "what is the point of learning this topic?" and "how does this idea fit into my current goals and what I want for my future?" Ultimately, I can only teach you the mathematics. You get to decide and develop what that mathematics means to you!

It is very easy to familiarize yourself with a topic, particularly now since it is so easy to use a search engine or generative AI model to summarize the topic for you and use the correct words. Learning is much deeper; it is difficult both to create and measure. In the "components of the course and their purpose" section of this syllabus, you will see the concrete aspects of the course designed to support your learning.

The big picture of this course structure works like this:

1. Your introduction to each new math topic will happen as a combination of our work together in class and you reading the textbook outside of class. Because math is a physical skill that requires focused practice over time to improve, you should work problems *along with me* in class. This is a difficult course, and will take lots of work! The pace will most likely be faster than you are used to in a high school math course, and theory and concepts will get a heavier emphasis.

2. The first check in about how you're understanding the current topic happens in real time, in class. I'll *ask you to work a problem with your neighbors or on your own* and I'll give you a hint or two once you've tried the problem for a bit. Then, I'll ask for your ideas about the problem! Finally, we'll finish the problem together in class.
3. The next check in about the topic happens on *homework*. The homework is your first chance to get feedback on your written work about the topic, and you have all of the resources of me, your book, your math fellows, and many other resources available to you. The graders will give you feedback, guided by me, that you can use to continue to develop your understanding and skills.
4. Now that you've had more experience with the topic, you'll take a short *quiz* in class asking straightforward questions with only a page of notes as a resource. Your work on this quiz will give both of us information on your growing independence and fluency, and my feedback on the quiz will help point you to areas that need more attention.
5. Finally, after all of this work, you will have hopefully learned enough to be fluent in the topic! To demonstrate that, you will study for and take a timed *exam* that is both closed book and closed note. The exam feedback and grade will be a very important data point for both of us on how your mastery of the topic is coming along.

Please remember that every professor at Amherst College is different, and every course is different. This is a feature of the academic freedom we enjoy at this wonderful liberal arts college, not a bug! Even distinct sections of the same course may have very different course structure, rhythms, and even topic orders. Know that the math department professors talk to each other regularly and have agreed on common material and skills for all of the core classes of the department; though we all have our own styles, we all get you to the same final goal!

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Mutual Expectations

Some of the things you can expect from me:

- The most important thing to me is that you learn something in this class, and that will require work from both of us!
- I am committed to creating a learning environment in which all of my students feel safe and included. Our classroom is a living community that will change and grow based on our participation and interaction in it, and as its facilitator I will constantly work to help it be a place of trust, curiosity, and mutual respect where learners with many different communication styles, needs, and goals can participate meaningfully. I hope you will, too!
- I have been teaching and tutoring for quite some time (since 2009). Students from a huge range of backgrounds and with many different kinds of preparation for college math have succeeded both in my classes and others I have helped them with. This means when I make choices in the classroom or suggest something for you to try, it's because I have seen it work many times before, and think it might help you, too!
- I will always assume you are acting in good faith and with good intentions, and I hope you will assume that of me and your fellow classmates as well!
- I will respond to your emails within two business days (meaning Monday through Friday, excluding holidays), during normal business hours (9am-5pm) unless it is an emergency, in which case I will do my best to respond sooner. You can always email me questions at any time, including about specific problems!
- I will do my best to clearly communicate expectations and standards in this class, and will regularly solicit feedback from you on how it's going,

Some of the things I will expect from you:

- Approach this course with curiosity and commitment: some struggle is expected and is necessary for learning mathematics! I will *never ask you to do something I don't believe you are capable of doing*, and sometimes we learn and grow the most by trying things that feel difficult.

- Trust yourself that you are capable of meeting the expectations I have for you in this course. Mistakes are good: they help you clarify how you are understanding the material and where you have more room to grow!
- Use our class time effectively and treat your fellow class members with respect and care. This can include asking questions, even if they feel silly, because if you have a question there are usually multiple other students with the same question who aren't speaking up! Participating in class in a respectful way also includes listening to your classmates, stepping up to take space when appropriate, and stepping back to allow other class members to take up space when appropriate.
- Assume good intentions from other students and myself, but please acknowledge in a timely fashion if you are feeling hurt by information in the class and/or the way it is shared.
- Try not to make assumptions! Please ask questions to learn more about other perspectives and strategies from your peers and me, especially those that are different from your own.
- If something is going on with you that affects your participation in this class, please tell me as early as possible!
- Read the entire syllabus carefully, familiarize yourself with the entire course Moodle page, and check your email every day, even if you take a business day or two to respond to non-urgent emails.
- If what you've done so far in the course isn't giving you the results you want, please be open to changing how you are studying, doing homework, participating in class, or participating in office hours (among other things) and please come to office hours or schedule a meeting with me to chat about it!
- If you have a concern about a grade you've earned on an assignment, reach out to me **AS SOON AS POSSIBLE**. I won't be able to address regrade requests or concerns about a grade if I get them more than *one week* after you have received the grade.
- Keep track of deadlines and assignments, turn things in on time, and take in-class assessments on time.
- Follow assignment instructions carefully.
- Carefully justify all of your work with clear, organized solutions that can be understood easily by your peers in class, and by future you trying to study for the final exam!

Illness Policy

If you are showing symptoms of a contagious illness and/or testing positive for COVID-19 on a regular class day, please follow the Amherst College illness protocols at <https://www.amherst.edu/campuslife/health-safety-wellness/covid-19> and do not come to class. If you still want to attend class virtually while ill (though there is no pressure to do so!) please ask me about options over email.

If it is an exam day, please email me immediately to schedule a makeup exam. I (and some of your classmates) are high risk, so if you are sick please rest and protect yourself and our community!

The components of this course and their purpose

In-class work, discussion, and lecture

During our lecture time we will have many conversations about what we are learning, so come to class expecting that you will be both contributing to the discussion and taking away something interesting to think about. We are creating this class together. The in-class portion of this course is time to engage with material together, ask questions, and do practice problems and proofs with immediate feedback from me. Our class time is also your opportunity to think out loud, make mistakes, and ask questions!

I encourage you to stop me during the lectures and ask questions. If you are feeling lost, it is extremely likely there is someone else sharing the same feeling. Asking your question ensures the whole class gets to benefit from the answer!

I like to stop from time to time and ask around questions about the material, please do not feel intimidated! It is a way to encourage thinking through things in a different way, and for me to check in with how you all are connecting with the material in real time.

Cold Calling

I will ask you lots of questions during class, just like I expect you to ask me lots of questions! I will call on specific students to answer, with the goal of every student speaking at least once per week (which I will keep track of as part of your effort grade).

When I call on you, you always have the option of saying "pass" with no questions asked! While I would love to hear your ideas, I know it can be scary to speak in public. Just remember that thinking through things is an important part of learning. If you ever worry about making a mistake in public, know that I am a "think out loud" kind of person and will make more public mistakes and typos this semester than you could possibly make :)

Group Work Tips

There will be many times in class that I'll ask you to work with your neighbors and report back to me what you figured out. Please be generous with both your own ideas and your listening ear; everyone thinks about math a little differently, and talking through math together in pairs or small groups can teach you a lot!

Studying and learning outside of class

We only spend 3 hours in class each week together, and according to the Federal Credit Hour standard that means you should expect to spend at least 2 hours outside of class per week for each credit hour of class. Therefore the time you spend outside of class on this material is the single biggest component of the course! To help support you with this work outside of class, I will post handouts and other resources throughout the semester.

The time outside of class you spend learning and studying is how you develop your own perspective on the course material, deepen your understanding, and strengthen your skills. It is also important that you check in with yourself regularly on how the class is going, and part of your Effort grade will involve occasional reflection assignments.

Reading Assignments

College courses have significantly fewer contact hours than high school courses; this is because you are expected to both attend class and read material outside of class in order to get the understanding you need to master the material.

It would be amazing if we could all learn something once and have it stick forever, unfortunately human brains do not work this way! We learn best and most deeply from encountering and engaging in material multiple times, in multiple different ways. This is part of why it is so crucially important that you both come to class and *do the assigned reading each week*.

As the semester goes on, you will get a better idea of the rhythm of your own learning. Some students prefer to skim the reading before class and dive back in more carefully after class! I want you to learn this mathematics as best as you can, in the way that is most effective for you. The goal of this class is not to turn you into another version of me!

Homework

Learning math (or any other skill, like playing music or sports, learning a new language, or writing poetry) would be *so much easier* if we could watch someone do it and then automatically reproduce it. Unfortunately for most of us (myself included), we have to actually *practice* new skills in order to be able to do them easily and quickly. This is what homework is: practicing the new things you've learned, and applying them to new situations to strengthen your knowledge and creativity! This means that homework is a stepping stone on your journey to learning this mathematics, it is *not your final product*. Therefore, you should treat it as you do any other thing you practice doing!

There will be one homework assignment per week, due on *Wednesdays by 11:59pm* through Gradescope. Homework will generally be posted one week before it is due.

You will get the most out of homework and will probably find doing it less stressful if you *start working on each problem set the same day it is assigned*. If you wait until the last minute to do it, you will get less benefit from the practice, just like you can't cram all your instrument practice for the week into the night before a concert and expect to sound as good as if you had practiced every day!

I will not accept homework in person, you must scan it and turn it in online. Homework turned in after the due date will not be accepted (see the special arrangement section of the syllabus for extension policies). In order to make sure your work is organized well, please make sure you write legibly and label the problems in the same order as listed in the assignment. I will drop your lowest homework grade.

Your homework consists both of reading the relevant sections of the book and of doing the assigned problems. (Only the written work counts directly in your grade, but I expect you to do both.)

Homework grading will involve more general feedback than feedback on quizzes and exams; this is intentional to help you feel more comfortable trying out the material for the first time. Please make sure you check the rubric on the right side of your returned assignments on gradescope as well as comments made directly on your submission in text boxes. The homework graders and I leave many notes on your work, please let me know if you're having trouble seeing them.

On quizzes and exams, you have had more time and practice with the material. After each homework assignment, I will post solutions to selected problems or point you towards solutions in the book. I will mainly post selected solutions to the more difficult problems. *Once the solutions have been posted, I will not accept that homework assignment late, even if you haven't used up your two allowed extensions.*

Working in groups and talking through your ideas is a great thing to do, and a skill that will be invaluable throughout your mathematical journey. However, the homework you turn in must be written *by you*. Copying or paraphrasing the work of others is plagiarism and is *a violation of the honor code*. This includes using ChatGPT, Chegg, CourseHero, Wolfram Alpha,

and similar websites and programs. If you happened to work on an assignment with other people and you all came up with the same solution, please write the name(s) of the other students involved.

Weekly quizzes

Starting the second week of class, there will be weekly short quizzes on Friday during weeks we don't have an exam.

These quizzes are to provide a regular check in for both of us on how the material in the class is going for you. Since a semester has many twists and turns for everyone, I will drop your lowest quiz grade. The quizzes will be easier than the hardest questions on the exams; this is both because I don't expect you to have learned the material as thoroughly as I would for a midterm, and because we will have less time!

Additionally you will be allowed one 8.5" x 11" page of notes (you can use the front and back of the paper) which you must turn in with your quiz since you are still getting used to the material. The midterm exams are closed note. I strongly suggest making your own page of notes rather than sharing with another student, as making your own note sheet will help you organize your thoughts in the best way for you and usually helps you study.

Extra Credit

There will be several extra credit opportunities throughout the semester. They are meaningful assignments, however, since they are often reflective tasks or tasks to encourage review of foundational material, they are optional in this class.

"Pop" Mastery Quizzes

The common joke that calculus teachers often say is that "students don't struggle in calculus, they struggle with algebra and trigonometry *while* taking calculus."

This means that calculus relies so strongly on the skills we have from previous math classes (which, let's be real, we most likely haven't practiced in a while) that sometimes we have trouble succeeding in the new calculus material because we aren't fluent in the algebra and trig foundations the new material uses!

In order to reward you for reviewing this background material, I have created short mastery quizzes for you to test yourself on this foundational material and earn extra credit:

1. The unit circle
2. Factoring polynomials
3. Graphic conic sections (parabolas, hyperbolas, circles, ellipses)
4. Solving equations with multiple solutions or solving inequalities (involving powers, absolute values, roots, exponents, or trigonometric functions)

All of these quizzes are currently up on Moodle, without solutions. At any time during the semester, you are welcome to print one out and come by my office to take the quiz in 5 minutes (or longer if you have accommodations). In order to not waste paper by printing out more copies than there are students who want to take a particular quiz, in order to be eligible for this extra credit you must *print out your own copy of the quiz from moodle* and bring it to my office during office hours or an appointment you make with me.

If you get more than 80% on the quiz, you will get extra credit. You're welcome to retake any quiz if you haven't gotten at least an 80%, but you can't get extra credit on a quiz you've already gotten more than an 80% on.

Exams

There will be 3 midterm exams in class and one comprehensive final exam during final exam week.

One week before each exam, I will post a few additional study materials to help you. However, it is your responsibility to keep track of when your exams are and develop your own study plan and materials that work best for you!

As you take harder classes at Amherst (the higher the first number of a course number, the more advanced the course is), you will be expected to become more independent. This means that future classes will generally not give you as many study resources as I am giving you. This is *normal*. Take inspiration from the study materials I give you in this class, and if a later class doesn't give you something similar, make it for yourself!

Midterm Exam 1	Friday, October 2
Midterm Exam 2	Friday, October 30
Midterm Exam 3	Monday, December 4
Final Exam	TBA

An important part of learning the material in this course is gaining fluency in the concepts and computations we are learning together. Being able to succeed on an exam in a timely fashion is part of being able to demonstrate that fluency. For example, if you wanted to become fluent in a new language, one of your goals would probably be to be able to have a conversation without having to refer to a dictionary for most of the words and grammatical structures during the conversation (this is one of the skills distinguishing different levels of fluency in a language by the ACTFL and CTFR scales). For this reason, the exams for this class will be closed book and closed note. Calculators, cell phones, laptops, ipads, etc. are not permitted in exams.

Additionally, the kind of deep studying required for an exam allows you to engage in the material in a different way and learn the material more thoroughly. Think about it this way: would you study harder for a class with no exams or a class with exams?

Finally, exams provide valuable feedback for both of us on specific things you are understanding and not understanding in this course, and can help both of us make an informed decision about how the class is going.

Final Exam

The final exam period this semester is December 14-18, and the final exam date and time will not be announced until well into the semester. *Do not make any travel plans for the end of the semester until after final exam dates are announced.* Final exams cannot be taken as makeup exams or rescheduled due to travel by policy of the Class Deans, and I do not have the power to make exceptions for this.

Office hours and Math Fellow Hours

Office hours with myself, the Math Fellows, and the Q Center are your time to have smaller group interaction and feedback with us to clarify concepts, ask questions, and get help if you are stuck on a problem. I have a mix of drop-in and by appointment office hours so that you can choose what kind of environment you'd like!

Please come to office hours as often as you'd like, and please know that *all of us* need help sometimes! I will never judge you or think less of you for coming to office hours and I truly hope to see all of you in office hours!

You can think about going to office hours like meeting with a coach or a trainer: I can demonstrate lifting a weight for you, I can help you make a plan to improve your lifting, but ultimately, if you don't also actually lift the weight yourself you won't get the benefits from lifting weights! Office hours are for helping you navigate problem solving and learning the material in the course, which is not the same thing as simply telling you the solutions to homework problems. Office hours supplement the rest of the components of this course, but they *cannot replace any other component of the course.*

Some of the things you can expect from the Math Fellows and QCenter Fellows

- Treating you with dignity and respect,
- Holding regular office hours,
- Supporting your problem solving and learning in this course with a student-centered approach,
- Asking you questions to pinpoint exactly where you need more support in this class, and providing that support based on their significant experience and expertise (this might not include giving you the final answer!)
- Their support will likely be a mix of helping with specific problems and more broad, structural advice about studying and engaging with the course; both will help support your success!
- They will be patient with you and respect the learning process.

Some of the things the Fellows will expect from you

- Treating them with dignity and respect,
- Trusting their experience and expertise and that you will try out the things they suggest you try,
- Assume they are acting with good intentions and in good faith and have been chosen as Fellows because they know what they are doing!
- You will be patient with them and respect the learning process.

My Office Hours

Drop in hours (all in SMUD 303):

Monday: 11:30-12pm, 3:30-5pm
Wednesday: 2-3pm
Thursday: 1-2pm (starting September 17)
Friday: 11:30-12pm

Appointment booking link is [here](#) . Appointment slots will generally be Tuesdays from 3-4:30pm and Wednesday from 11:30am-12pm.

You can book 15 minute slots at a time and are allowed to book multiple slots in a row. You can book appointments up to 24 hours in advance, and are welcome to email me for a last minute appointment if my schedule hasn't filled up already. Please indicate if you would like to meet in person in my office or on zoom.

Appointment office hours are for when you would prefer to talk to me in a smaller setting or if the drop-in office hours don't work for your schedule. You are welcome to bring friends with you if you would like but please do not interrupt someone else's appointment office hour time without their consent!

Tenure track and tenured professors at Amherst College both teach math and do research in math, so our time is split between these two tasks. If you're curious about my research, check out [this link](#).

Appointments with Moss Quantitative Center

Schedule with Tim St. Onge using [this link](#)

Fellow Office Hours

RDrop in hours (all in SMUD 207):

Sunday: 6-7:30pm Maren Forrest

Monday: 6-7:30pm Sophie Curry-Levine

Tuesday: 7:30-9pm Darrell Louis Beason III (DJ)

Wednesday: 6-7:30pm Maren Forrest

Thursday: 6-7:30pm Sophie Curry-Levine, 7:30-9pm Darrell Louis Beason III (DJ)

Strategic Learning Center

The strategic learning center is an incredible tool for supporting your learning; they can help you work on your time management, work on techniques to reduce stress from your classes, develop a study schedule for an exam, try out different note-taking strategies, interpret a quiz grade, and a lot more.

Click [here](#) to view the same day availability or schedule a future appointment with the SLC.

Required and Recommended Texts

All required textbooks at Amherst are now provided by the college! You will receive an email from customerservice@efollett.com notifying you that course materials are ready for pickup.

Please bring your Student ID to the textbook distribution center at the Alumni House to collect your course materials. If you drop the course on or before the last day of the add/drop period, you must return the print materials to the same Alumni House location.

Distribution Dates: August 17 - September 11

Location: Alumni House

Hours Monday - Saturday, from 9 a.m. - 5 p.m. (Open on Labor Day)

Saturday - Sunday from 10 a.m. - 3 p.m..

Required texts

Calculus, 9th edition by James Stewart. Copies of the textbook and its solution manual are on reserve in the Science Library.

Add/Drop and Attendance Policy

It is very difficult to catch up in a math class if you miss classes, even the first couple of days of the semester. We will start out the semester with some tricky, geometric ideas and trying to catch up if you miss the topics the first time in class is unnecessarily difficult. If you're interested in adding this class, you should attend every class the first week.

Our time together in class is very important and there is quite a lot of data that attending class regularly strongly correlates with success in the course (see Credé, Roch, and Kieszczyńska 2010).

As a result, I will take attendance in this class. If you have at least four unexcused absences (which is over 10% of our class meetings for the semester) you must schedule an individual meeting with me to discuss your absences. This may or may not be paired with a grade penalty.

If you come to class more than 15 minutes late without an excused reason, that will count as an unexcused absence.

The Amherst College Honor Code

The Amherst College Honor Code applies to this course. It is your responsibility and mine to be familiar with and uphold *all aspects* of this code, including the Statement of Intellectual Responsibility, the Statement of Respect for Persons, the Statement of Freedom of Expression and Dissent, and the Statement of Student Rights.

Generative AI Policies and Philosophy

Generative AI will not be allowed on any in-class assignment and if used will be considered a violation of the honor code.

Using generative AI (artificial intelligence or machine learning tools such as Gemini, ChatGPT or Dall-E 2) has become very common. While some students use it to completely generate assignments, it is even more common for students to use it in other ways.

For example, students are using it to:

- Generate practice problems
- Generate study schedules
- Generate outlines or generic steps for solutions
- Replace office hours
- Talk through ideas
- Replace a tutor
- Ask guiding questions

While it is true that many companies now expect their employees to use generative AI tools to increase efficiency, it is also true that generative AI is most effective when used by *experts* in the area it is being used in. Right now, you are not an expert in MATH 111. If you were, you would be better served by taking a different math class! Since you are not an expert, it is actually very difficult to tell if the information generative AI is giving you is accurate or helpful, and generative AI is very good at presenting information that looks accurate and helpful at first glance.

For example, think about the posters and advertisements you have seen around Amherst or your hometown that were obviously created using AI. You likely ignore them; in fact, there is emerging research that AI-generated advertisements have up to 70% less engagement than traditionally created marketing. However, those posters and advertisements exist because someone decided they were "good enough" for their purposes. You are an expert in being marketed to, and this is why many of you might find this kind of advertisement alienating instead of attractive.

A liberal arts education is about thinking deeply, not about producing output that is "good enough." Therefore, I encourage you to think about whether you would trust your math education to a computational tool that is extremely convincing and reassuring, but might be giving you AI slop instead of what you actually want from it. Without expertise, it's very difficult to tell the difference.

How to earn a specific grade in this class

Your final grade in the class will be computed by:

Effort	4%
Weekly Quizzes	13%
Two Highest Midterm Exams	38% (19% each)
Lowest Midterm Exam	15%
Final Exam	25%
Homework	5%
Extra Credit	2%

“Effort” is a combination of class attendance, class participation, and handing in problem sets. Final grades will be determined based on a holistic evaluation of your performance throughout the course. This will include, but is not limited to, mastery of the content of the course, participation, improvement over time, and engagement with course materials. At the end of the semester, I as the instructor reserve the right to make adjustments to the final grade to reflect overall learning and effort in the course. Final course grades will be curved.

Any student who skips an exam for an unexcused reason or fails to hand in at least 50 homework problems *on time* over the course of the semester *automatically* gets an F in the class.

A bit of advice for the homework in this class:

- Start each problem thinking first about what it is you are trying to do (write it down!) and then thinking about what information you have to start with.
- Start the homework *the day it is assigned*, even if we haven’t covered all of the material for the assignment. You can still work on the problems related to material we have covered!
- Study for your homework: look over your notes from class and the reading before looking at homework problems. It is more important to focus on learning the material well using the homework as practice than to just focus on finishing every problem!
- Space out studying and working on your homework throughout the week; cramming can increase stress and decrease our long term retention of new material. Try out *the study cycle*!
- Start on scratch paper first to organize your thoughts and try things out. Then, once you think you have a solution, write it up carefully to turn in!
- Justify all your logical steps in a problem, and use the grading example on Moodle as a guide for the level of explanation the graders and I are looking for.
- Once you’ve tried a problem out by yourself, it can be very helpful to talk things out with your classmates! I strongly encourage you to form study groups and do homework together.
- You will get more out of office hours if you start thinking about the material and where you might be confused before you come. Office hours and math fellow hours are finite, so preparing for them can help them be more useful for you!

Special arrangements

Illness Policy

If you are showing symptoms of a contagious illness and/or testing positive for COVID-19 on a regular class day, please follow the Amherst College *protocols* and do not come to class. If it is an exam day, please email me immediately to schedule a makeup exam.

Extensions and Make-Ups

If for some reason you cannot hand in your homework in time or take a quiz on time, you can request up to TWO extensions during the term with no questions asked. You must contact me no later than the day before the due date to let me know. If you have a religious holiday on the same date as an exam in this course, let me know within the *first two weeks of the semester*.

Accommodations

I strive to support all students so please come meet with me if you have any questions or concerns about your engagement and success in this course. Students seeking general disability services and/or accommodations should contact Accessibility Services. You can reach them via email at accessibility@amherst.edu, or via phone at 413-542-2337. Once you have your

accommodations in place, I will be glad to meet with you privately during my office hours or at another agreed upon time to discuss the best implementation of your accommodations. For more information, please visit the Accessibility Services website.

Electronics Policy

Please silence your phone and put it away during class. As many students find laptops distracting, if you plan to use a laptop during class please sit in the back row.

What you'll be doing and when

The following times and topics are tentative and may shift slightly to foster a more effective learning environment. Nothing will be made due earlier than indicated but some things may be pushed back or eliminated altogether, depending on time. All changes will be announced in class and posted on the course website.

Week	Topics we'll explore
Week 1	• Review Foundations • Review of functions • Basic limit notions
Week 2	• Calculating limits of functions • Continuity • Quiz 1
Week 3	• Derivatives: limit definition • Tangent lines and approximating functions • Differentiability • Quiz 2
Week 4	• Differentiation rules • Exponential function and its derivative • Quiz 3
Week 5	• Chain rule • Related rates • Exam 1
Week 6	• Local and absolute extrema • Local and absolute extrema on a closed interval
Week 7	• Derivatives and the shape of a graph • Limits at infinity • Quiz 4

Week 8

- Optimization problems
- Quiz 5

Week 9

- Definite integrals
- The Fundamental Theorem of Calculus
- Exam 2

Week 10

- Antiderivatives
- U-Substitution

Week 11

- Integral of the exponential function
- Derivative and integral of logarithmic function
- Quiz 6

Week 12

- Integrating $\frac{1}{x}$
- More exponential and logarithm in real life
- Linear approximation
- Quiz 7

THANKSGIVING BREAK

Week 13

- Applications of integration
- Exam 3

Week 14

- Wrap up

FINAL EXAM WEEK

Important Dates

September 1	First Day of Classes
September 10	Last Day of Add/Drop
October 12-13	Mid-Semester Break
November 2-6	Advising Week for Spring 2026
November 23-27	Thanksgiving Break
December 9	Last Day of Classes
December 14-18	Final Exams

This syllabus provides a general plan for the course; deviations may be necessary.

You are responsible for all of the information in this syllabus, so please read it carefully and refer back to it regularly.