
ECON 1078-001

Mathematical Tools for Economists 1

August 20 - December 4

Instructor information

Instructor: Dr. Sidonia McKenzie
Office: ECON 04C
✉ sidonia.mckenzie@colorado.edu
Office hours: T/TH 11 am to noon

Course information

Lecture times: T/TH; 2:00–3:15 p.m.
Lecture room: KCEN N100–N101
Prerequisite(s): [Be excited!](#) 😊

From the Flatirons to the Classroom – Welcome, Buffs!

Thank you for enrolling in this fun and practical foundation-level course!

Course Description

This is a one-semester course on the mathematical tools most frequently used by economists. The course is designed to build skills gradually, ensuring a smooth transition into more advanced economics and business classes. We will begin with foundational topics such as algebra, equations (linear and nonlinear), and functions and their graphs. From there, we will move into systems of equations, set theory, summation, logic, and introductory proofs. Along the way, we will emphasize not only how to solve problems, but also why these tools matter for economic analysis. By the end of the semester, you will have developed a strong mathematical foundation that will support your success in upper-level coursework and provide confidence in applying quantitative reasoning to real-world economic questions.

Note that hyperlinks are embedded throughout this document. Please click on the words in [this color](#) to access email links, documents, and web pages.

Objectives

The course's primary objectives are to help you:

1. [Cultivate quantitative reasoning and problem-solving.](#) Apply algebra, functions, and logical reasoning to solve novel problems, and evaluate how mathematical tools provide insight into economic analysis.
2. [Enhance your ability to communicate mathematical and economic ideas effectively.](#) Demonstrate your understanding through clear explanations, well-structured solutions, and respectful engagement in discussions with peers and instructors.
3. [Foster a collaborative learning community.](#) Work with classmates to tackle challenging problems, support one another's growth, and develop confidence in using mathematics as a language for economics.
4. [Build durable mathematical knowledge for future economics coursework.](#) Develop the ability to retrieve, connect, and apply foundational mathematical ideas across topics and in unfamiliar settings, with particular emphasis on preparing for ECON 1088 and subsequent economics courses.

Course Resources and Structure

Required Textbook & resources

Knut Sydsaeter, Peter Hammond, and Arne Strom, *Essential Mathematics for Economic Analysis*, 6th Edition.

Note: You may use an alternative edition of the textbook—just make sure to match up the relevant chapters, sections, and page numbers with what’s listed in the syllabus.

How We Will Learn in This Course

Learning mathematics involves more than being able to reproduce a procedure immediately after seeing an example. Throughout this course, you will practice retrieving earlier material, connecting ideas across topics, explaining why a mathematical method works, and applying familiar tools in unfamiliar economic settings. As the semester progresses, earlier concepts will therefore continue to appear in class activities, assignments, quizzes, and exams.

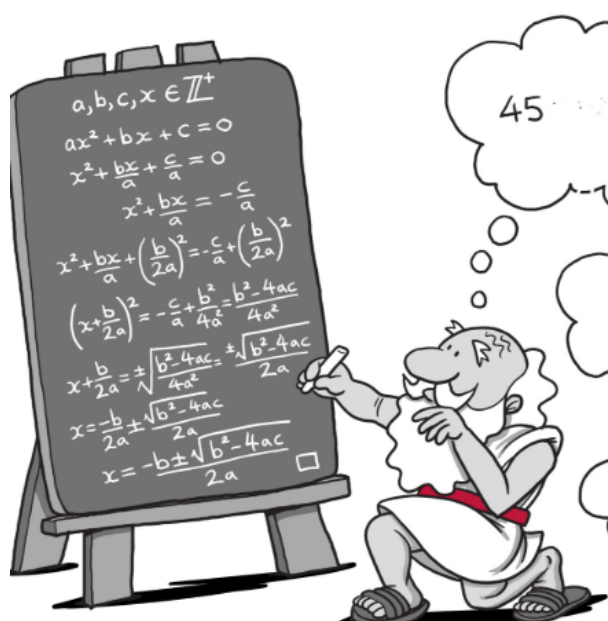
Many problems will ask you to move among different ways of representing the same idea—for example, an equation, graph, table, verbal description, or economic situation. You may also be asked to interpret what a mathematical result means rather than simply calculate it. These activities are designed to help you build mathematical knowledge that remains useful after an individual chapter or exam has ended.

Preparing for ECON 1088 and Beyond

ECON 1078 is the first course in a two-course sequence. Throughout the semester, we will periodically identify where the mathematical ideas introduced here reappear in ECON 1088 and later economics courses. The goal is not simply to complete ECON 1078 successfully, but to leave the course with a mathematical toolkit that you can recognize and use when you encounter new economic problems.

Learning From Errors

Mistakes are useful evidence about what you understand and what still needs attention. Some class activities will therefore ask you to diagnose an incorrect solution, explain where the reasoning went wrong, revise your approach, or compare alternative solution strategies.



Course Assessments

The course assessments are designed to serve different purposes in the learning process. Rather than treating each assessment as an isolated test of recent material, the course uses frequent retrieval, feedback, revision, and cumulative assessment to help you build knowledge that remains useful throughout the semester and in future economics courses.

- **Midterm Exams (36% total; 12% each).** Three in-person midterms will provide periodic opportunities to demonstrate independent mastery of the course material. Midterms will be partially cumulative, so earlier concepts may reappear when they are relevant to later topics.
 - Midterm 1: Thursday, Sept. 24
 - Midterm 2: Thursday, Oct. 22
 - Midterm 3: Thursday, Nov. 19
- **Comprehensive Final Exam (24%).** The final exam will assess your ability to connect and apply ideas from across the semester, including using mathematical tools in unfamiliar economic settings.
 - Wednesday, December 9 from 1:30–4:00 p.m.
 - Please verify the final examination date, time, and location in the Buff Portal once the University posts official section-specific final exam assignments.
- **Assignments (18% total; 6% each).** Three assignments will provide opportunities for deeper problem-solving, mathematical explanation, economic application, and revision after feedback. Each assignment will allow two attempts, and the higher score will be recorded.
- **Canvas Quizzes (12% total).** Five short quizzes will provide frequent retrieval practice and feedback on your learning. The lowest quiz score will be dropped, so your best four quizzes will count toward your final grade.
- **Engagement & Participation (10%).** Participation reflects active engagement with the learning process and may include retrieval activities, class problem solving, short reflections, exit tickets, peer explanation, and other course activities.

Important holidays & University days:

- Sept. 7 - Labor Day Holiday (No Classes; University Closed)
- Oct. 8 - Midsemester Reading Day (No Classes; No Exams)
- Nov. 23–27 - Fall Break (No Classes; University Closed Nov. 26 & 27)
- Dec. 4 - Last Day of Classes

Grade, Exams, & Assignments policies

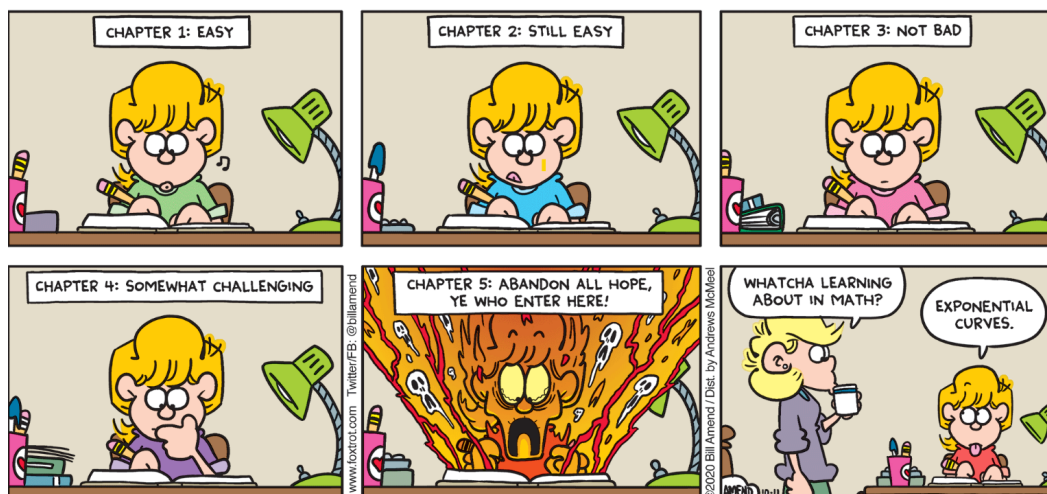
I strictly adhere to the Department's grading policy, where a curve may be applied to determine your overall grade. In other words, if applicable, the curve is usually computed when all problem sets, quizzes, and exam scores have been tallied but can be applied after any exam during the semester. The Economics department determines the curve, so the instructor has absolutely no input about this grade distribution. **The historical average grade across all 1000-level Econ courses corresponds to a B-.**

The nominal grade cutoffs presented below may be utilized to calculate overall grades in this course. If these percentages are not achieved in a particular exam, percentiles based on the department's curve will be applied to attain these cutoffs. In simpler terms, grades will be determined relative to the class average. For instance, a student scoring above the class average will receive a grade higher than the class average, while a student scoring below will receive a grade lower than the class average. **Following each midterm, we will provide you with relevant statistics on scores in the 25th to 95th percentiles, along with the corresponding letter grades (A, B, C, etc.).**

- | | |
|---|-----------------------------------|
| • A $\rightarrow \geq 93\%$ [or $\geq 90^{\text{th}}$ percentile] | • C $\rightarrow 73\% - 76.99\%$ |
| • A- $\rightarrow 90\% - 92.99\%$ | • C- $\rightarrow 70\% - 72.99\%$ |
| • B+ $\rightarrow 87\% - 89.99\%$ | • D+ $\rightarrow 67\% - 69.99\%$ |
| • B $\rightarrow 83\% - 86.99\%$ | • D $\rightarrow 63\% - 66.99\%$ |
| • B- $\rightarrow 80\% - 82.99\%$ | • D- $\rightarrow 60\% - 62.99\%$ |
| • C+ $\rightarrow 77\% - 79.99\%$ | • F $\rightarrow < 60\%$ |

Exam modality & locations: All midterms and the final exam are administered in person in our classroom. **For students with testing accommodations, you must register your academic accommodation with Disability Services. If it is determined that your exams should be taken in the Testing Center, we will follow the established process for scheduling exams through the Student Testing Center.**

Requests for re-grading: Regrade requests must be submitted to me in writing up to one week after your work is returned. Your written explanation should address legitimate concerns such as mistakes or oversight. Please do not approach me or the TA with an oral request before making the written request.

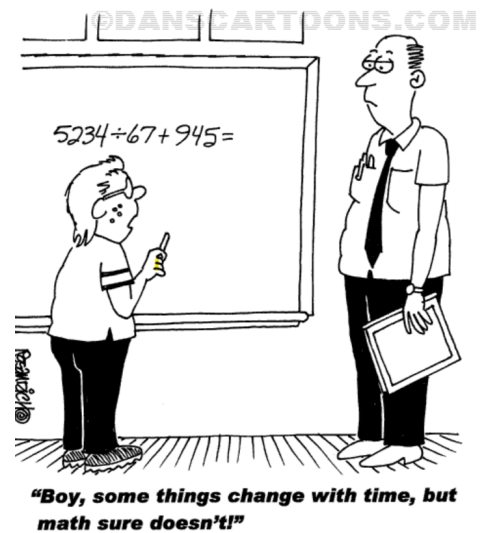


Exam content

ECON 1078 is a college-level class, and exams are designed to assess not just memorization, but your ability to apply mathematical concepts to problem-solving in economics. This means you will need to demonstrate mastery of algebra, functions, equations, and other tools by using them in new contexts.

While the general structure of questions will remain consistent, each exam will look different and may include variations or problem types you have not seen before, as I design multiple ways to test your level of understanding.

Therefore, do not expect to succeed by simply memorizing solutions from past exams, practice problems, or worksheets. Strong preparation comes from practicing the methods, understanding why each technique works, and being ready to apply them flexibly to new problems.



Responsibility

As the instructor of the course, I take responsibility for providing timely and consistent uploads of the relevant course content and resources that will facilitate the achievement of the course objectives. I am committed to a fair, equitable, and transparent grading process to help you achieve mastery of the course content and motivate you. To this end, I will maintain a flexible schedule to provide academic assistance and adjust, where feasible, to the vicissitudes of life.

I reserve the right to resolve any remaining ambiguities and revise the course schedule and other pertinent aspects of the course as needed.

You are responsible for taking the initiative to participate in all aspects of the course that will enable your successful completion. This is not a self-paced course! You have to complete the weekly readings and assignments and study for the quizzes and exams. If you are looking for a class you can visit for a few minutes each week, read chapters at the last second, and still pull an A or Pass, then this class is definitely not it. However, if you are looking for a course that helps you gain a deeper understanding of how people interact and manage their scarce resources across various facets, then this is that course and so much more! If you put in the effort, I think your hard work will pay off, and you will leave the class knowing way more than you did coming in. This can be a really rewarding class! We all have to make decisions at one point; the materials taught in this course can help you beyond your university life by exposing you to tools that will help you make sense of this complex world.

Contract

A syllabus is a contract between students and the instructor that provides information about the course and provides a commitment device to prevent arbitrary behavior. By enrolling in this course, it is assumed that you are familiar with and agree to all policies outlined in this contract. **Should you find that these terms are not suitable for any reason, you have several options to opt out of this agreement.** These include [dropping the course by September 4](#) or [withdrawing from the course by October 27](#), subject to [University policies and deadlines](#).

The policies and content outlined in this syllabus are subject to change at the instructor's discretion. If new guidelines are issued by the Provost after the semester begins and they supersede course policies, the syllabus will be updated accordingly. Any changes will be communicated clearly to students.

Success tips: Frequently asked questions and answers

Q: What are your basic expectations for the class?

A: **Professional conduct is always expected, regardless of the mode of delivery.** I expect that you will arrive at lectures on time, participate in and be respectful towards each others' views during class discussions. We are part of a respectful college community, so comments and language should be appropriate for this setting, including addressing your instructor appropriately (Professor or Dr. McKenzie). Tolerance and respect towards each other must always be displayed. We all come from various backgrounds and bring different viewpoints and experiences to this community, which means that we have so much to learn from each other. We can show respect for differences by seeking to understand, asking questions, clarifying our understanding, and/or respectfully explaining our own perspectives. This way, everyone walks away with a new perspective of seeing an issue and respecting others with different values or beliefs.

I firmly adhere to the University's policy on **institutional equity**. Our classroom is a safe space where students from different backgrounds can connect around the common goal of learning and applying economic concepts to create a measurable impact on our lives and those around us.

I hope you will dedicate at least two lecture sessions this semester to focused study and assignment completion. Beyond our regular class meetings, you should plan to spend about five hours each week on this course (attending office hours counts toward that time!). I encourage you to challenge yourself and, just as importantly, to enjoy the process. This can be a truly rewarding class. At some point, we all face decisions that require clear reasoning and careful analysis—the tools you will learn here can support you not only in your university studies but also in making sense of the dynamic and complex world beyond.

Q: I'm anxious about taking Math for the first time. What is your approach to teaching and expectations for the course?

A: Firstly, breathe ☺. Students enter this course with different mathematical backgrounds, and prior exposure is not the same thing as mathematical ability. You are not expected to arrive having mastered everything we will use. What matters is regular practice, asking questions, using feedback, and being willing to revise your reasoning when a strategy does not work.

My responsibility is to provide multiple opportunities to practice and receive feedback; your responsibility is to engage consistently with those opportunities. That said, every week, you should expect:

- Posting of lecture content based on the topic schedule.
- High-energy, sometimes fast-paced, in-person lectures on T/TH from 2:00–3:15 p.m.. The time will move quickly, so it's best to read ahead before each lecture—that way you'll get the most out of our time together and be ready to engage with the material.
- At times, a short assignment or course reflection to complete. These will be due at the beginning of the following class and often serve as our ice-breaker activity. Completing them is also a reliable way to earn participation points while reinforcing the material. For example, "What was the most challenging concept from today's class, and how would you explain it to a peer?"

Please note that on days we have exams, we will not have lectures.

Q: I'm anxious about my performance in an exam. How soon will grades be posted?

A: The **grade book** in Canvas will be updated regularly (almost weekly, if possible) so that you are aware of your current progress in the course and can make informed decisions about your continuation. This is done to promote transparency and accountability, which should prompt you to take action and seek academic help if you are not pleased with your current performance. Please take advantage of my student hours (they're for your benefit!), or reach out via email to schedule an appointment.

Q: How does the grading work?

A: Due to the structure of the course, **you must take all midterms and the final exam to receive an overall score in your Buff Portal**. Exams will not be rescheduled for any reason unless apocalyptic. Exams will not be rescheduled if you miss one. Notice the liberal grading policy, which includes a wild card and multiple attempts. For example, the lowest of five quiz scores will be dropped, so your best four quiz scores will be recorded. For assignments, you get two attempts where the higher score is recorded. Please use these cards wisely. If you already foresee an issue with the midterm and final exam dates, you should take the class in a different semester. The Department of Economics offers Econ 1078 every term, including the summer.

You can opt for a Pass/Fail option (see further details on your grading options [here](#)). If you select this option, to pass the class, you will need to score 70% (C) or better on each component of the course assessment.

Q: What do you mean by a “curve” and why does it seem so ambiguous?

A: A curve, more formally grading on a curve, means adjusting students’ scores after an exam based on a predetermined distribution, usually a bell curve (see the illustration below). The Department of Economics determines this distribution to mitigate the vicious cycle of [grade inflation](#), which has permeated higher education. Though this practice is evidently contentious, in the words of renowned Economist Thomas Sowell, “there are no solutions, only trade-offs”.

To understand grade curving in the context of this class, it is best to consider your “real grade” (r), that is, the nominal grade (i) adjusted for grade inflation or a measure of your performance relative to the class (π). Conceptually, this is the Fisher equation applied to grading. That is,

$$r = i - \pi$$

where π can be negative or zero. In very rare cases, π could be positive. The ambiguity of grading on a curve is that π is unknown and difficult to predict ex-ante. In this course, π is determined after all exams have been graded, the measures of central tendency for the class are derived, and the department’s grade distribution is considered.



Q: Are calculators allowed in this course?

A: Calculator use will depend on the purpose of the activity or assessment. Unless explicitly stated otherwise, calculators are not permitted on the baseline diagnostic, Canvas quizzes, midterm exams, or the final exam. These assessments are designed to measure your ability to retrieve, manipulate, explain, and apply foundational mathematical ideas independently.

For selected assignments, class activities, or economic applications, calculators may be permitted when numerical computation supports—rather than replaces—the mathematical reasoning being practiced. The instructions for each activity or assessment will clearly indicate whether calculator use is allowed.

Q: Are the later midterms “harder” than the earlier ones? Should I prioritize one exam over another?

A: No single midterm is designed to be inherently harder than the others, and all three midterms carry the same weight toward your final grade. However, because this course is designed around cumulative learning, later exams will ask you to connect newer material with concepts introduced earlier in the semester. In other words, the breadth of knowledge you are expected to draw upon will naturally increase as the course progresses.

Each midterm will therefore include a combination of recently introduced material and selected earlier concepts when they are relevant to the problems being solved. **The goal is not to memorize material for one exam and then forget it, but to build a mathematical toolkit that you can retrieve and apply throughout the semester and in future economics courses.**

For this reason, I strongly recommend preparing consistently for all three midterms rather than attempting to “make up” for one exam with another. Use the short quizzes, assignments, feedback, class activities, study groups, and office hours as opportunities to identify gaps in your understanding well before each exam.

.

Q: I am sick on the day of the exam or have a personal emergency and can’t make it to class on exam day. What should I do?

A: Firstly, if you are unwell while on campus, you should contact the [Health Center](#) immediately and your student advisor or the [Student Support & Resources Office](#).

If for valid reasons, with proofs (a note from the Dean’s office or other school advisors), you miss an exam, please notify me immediately. Advanced notice is always preferred, and proofs must be emailed within 36 hours of the missed exam to validate your absence. Viva voce reports will not be accepted, and you will earn zero on the missed exam(s). Missing class for work, a job interview, or a prescheduled family event would not constitute an excused absence.

Under no circumstances will individual exceptions be made when determining grades. This applies to extending deadlines if you forget to complete an assignment. I will not make individual exceptions unless you have an officially approved absence from the university (health center, academic advisor, etc.). The course grading structure includes several built-in forms of flexibility to help accommodate life’s unexpected events. Therefore, if you miss an exam with valid proofs, your score will be reweighted across your other midterm and final exams. If you don’t report your missed exam and provide valid proofs, you will earn zero on the exam. There are no exceptions to this.

If you miss two or more midterms, you may not have provided sufficient evidence of your performance to complete the course successfully. Please contact me immediately so we can determine the appropriate next steps under University and departmental policies.

Q: I arrived late for an exam. Will I be given extra time?

A: No. The classrooms and exam proctors are usually only available during the allotted time. We simply don’t have enough resources to facilitate extra time beyond the end of the exam. That said, please make every effort to arrive at the exam on time.

Q: I missed the deadline for an assignment or quiz. What can I do?

A: Assignments and quizzes are typically due at 11:59 pm on Fridays and Tuesdays, respectively. They are considered late if submitted after the deadline. **Each assignment includes two submission opportunities. Attempt 1 and Attempt 2 will each have clearly stated deadlines. Work submitted after the applicable deadline will not receive credit unless covered by an approved University accommodation.** I understand that internet connectivity issues and other demands can affect your submission, but please do not wait until the last minute to do your assignment. While I can reweight a missed exam for valid reasons, assignments cannot be rescheduled or reweighted. You will be allowed to drop one quiz (the lowest or one that you missed due to unforeseen circumstances). Please use this card wisely.

Q: I feel like I'm behind in the class. Where can I find information to catch up?

A: Firstly, breathe. You are doing better than you think! Class information (changes in assignment dates, exam coverage, notification of new files, answers to frequently asked questions) will be posted on the front page of the class Canvas page under [Announcements](#) or on the discussion board. I will post there at least once a week with a general weekly greeting and overview of activities for that week on Sunday, along with handouts or practice problems that I think may be helpful throughout the week. Make sure to keep up with your syllabus and read the text assignments. Lecture sessions will make a world more sense after having done the reading.

Q: Should I email you if I have questions about an assignment or exam?

A: Though I welcome all your questions, I strongly suggest you post all questions relating to assignments, exam queries, or anything you need clarification on via the CANVAS Discussion forum. In addition, other students are welcome to answer questions posed by their classmates and can upvote the best responses. This is a great way for us to interact and learn from each other (see course objectives 3).

As such, class-related questions will not be answered via email. Of course, for personal matters, please don't hesitate to contact me and put "ECON 1078: [subject of email]" in the subject line of your email. Due to the many emails I receive daily, I will likely miss your email if you don't adhere to this. Please allow 24 - 48 hours to receive a reply.

Dr. P. M. Forni once said "We respect other people's time when we learn to value it as much as our own. Even better, we can get to a point where we won't distinguish between our time and the time of others." In other words, please be respectful of your instructor's time by arriving at lectures and office hours on time and sending emails during the work week (Monday - Friday) before 10 pm.

Q: But what if I have to miss class for religious reasons?

A: CU Boulder is committed to fostering an academic community that is respectful and welcoming of individuals from all backgrounds. To support this commitment, our policy on academic accommodations for religious holidays stipulates that students will not be penalized for class absences due to religious observances. If you anticipate observing a religious holiday that coincides with a class meeting, scheduled exam, or assignment deadline, please inform me as soon as possible, preferably within the first two weeks of the course. While I have intentionally avoided scheduling exams on religious holidays, if you encounter any conflicts, don't hesitate to reach out to me immediately.

Q: What happens if I cheat, plagiarize, or use artificial intelligence in a way that is not permitted?

A: Academic integrity applies to all work completed in this course, including work that involves generative artificial intelligence. You are encouraged to collaborate with classmates when collaboration is permitted, discuss course concepts, and use approved learning resources. However, work submitted for individual assessment must reflect your own reasoning unless the instructions explicitly state otherwise.

Using unauthorized materials, submitting another person's work as your own, misrepresenting AI-generated work as your own reasoning, or using AI on an assessment where it is prohibited may constitute a violation of CU Boulder's [Honor and Academic Integrity System](#). Suspected violations will be handled according to University procedures.

Q: May I use [ChatGPT Edu](#) or other generative AI tools in this course?

A: Yes, but only when the activity or assessment permits it. Generative AI can be a useful learning tool when it helps you practice, diagnose errors, ask better questions, or test your understanding. It is much less useful when it simply replaces the mathematical reasoning that you are supposed to develop. For that reason, AI use in this course is conditional: some activities will permit or encourage it, while quizzes and exams will require you to work independently without generative AI.

CU Boulder provides eligible students access to [ChatGPT Edu](#), an institutionally supported version of ChatGPT. Students must complete the University's required training before accessing ChatGPT Edu. When an assignment permits the use of generative AI, I recommend using ChatGPT Edu rather than a public AI platform because it provides stronger privacy protections for CU users and CU data.

Q: How should I use AI when it is permitted?

A: The goal is to use AI to support your thinking, not to outsource it. A useful sequence is:

[Attempt](#) → [Diagnose](#) → [Seek a Hint](#) → [Revise](#) → [Explain](#) → [Transfer](#)

1. Attempt: Try the problem yourself before using AI.
2. Diagnose: Identify where you became stuck or what part of your reasoning you are uncertain about.
3. Seek a Hint: Ask for a hint, guiding question, or explanation rather than requesting a complete solution immediately.
4. Revise: Use the feedback to correct or improve your own solution.
5. Explain: Make sure you can explain why the method works and what the result means without relying on the AI response.
6. Transfer: Test your understanding by solving a new or modified problem without assistance.

For example, instead of asking an AI tool, "Solve this problem for me," consider prompts such as:

- "I attempted this problem and became stuck at this step. Give me one hint without solving it for me."
- "Ask me questions that will help me identify the error in my reasoning."
- "Give me a similar problem in a different economic context, but do not provide the solution."
- "Check whether my interpretation of this graph is correct and explain what I should reconsider if it is not."

Q: When is AI not allowed?

A: Unless I explicitly state otherwise, generative AI is not permitted on Canvas quizzes, midterm exams, or the final exam. These assessments are designed to provide independent evidence of what you can retrieve, explain, and apply without external assistance. Additional assignments or class activities may also restrict AI use when independent practice is necessary for the learning objective. The instructions for each assessment will specify the permitted level of AI use.

Q: Do I need to disclose my use of AI?

A: When an assignment permits generative AI, follow the disclosure instructions provided with that assignment. At minimum, you should be prepared to identify the tool you used and briefly explain how you used it. You remain responsible for checking the accuracy of any AI-generated information and for ensuring that your submitted work reflects your own reasoning and complies with the assignment requirements.

Generative AI tools can produce incorrect, incomplete, fabricated, or misleading responses, including mathematically plausible-looking answers that are wrong. Learning to evaluate those outputs critically is part of using AI responsibly. My goal is not to prohibit tools that you are likely to encounter in academic and professional settings, but to help you learn how to use them in ways that strengthen rather than weaken your quantitative reasoning and metacognitive habits.

This policy may be updated as University guidance and available technologies evolve. Any changes will be communicated clearly through Canvas.



How to Use AI in This Course

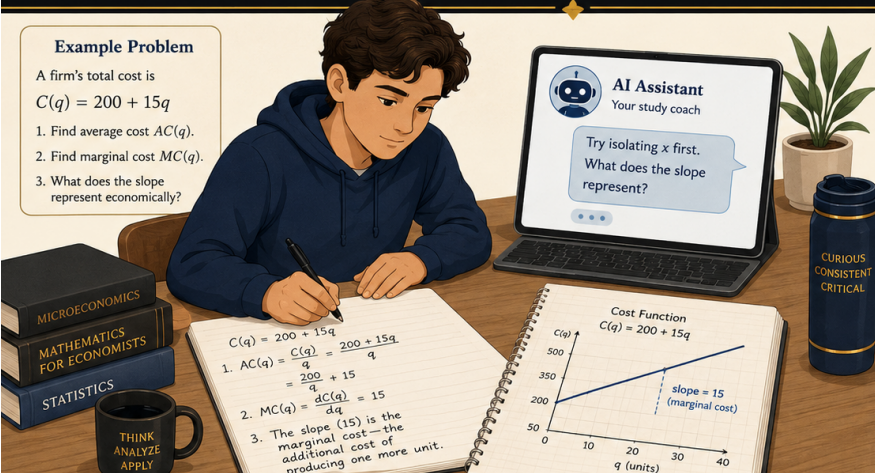
Use AI to *support* your thinking — not replace it.



Example Problem

A firm's total cost is
 $C(q) = 200 + 15q$

- Find average cost $AC(q)$.
- Find marginal cost $MC(q)$.
- What does the slope represent economically?



AI Assistant
Your study coach

Try isolating x first.
What does the slope represent?

Cost Function
 $C(q) = 200 + 15q$

$C(q) = 200 + 15q$
 $AC(q) = \frac{C(q)}{q} = \frac{200 + 15q}{q}$
 $= \frac{200}{q} + 15$

$MC(q) = \frac{dC(q)}{dq} = 15$

3. The slope (15) is the marginal cost—the additional cost of producing one more unit.

Graph: A line on a coordinate plane with q (units) on the x-axis and $C(q)$ on the y-axis. The line starts at (0, 200) and has a slope of 15. A dashed line from the point (30, 350) to the x-axis is labeled "slope = 15 (marginal cost)".

Books: MICROECONOMICS, MATHEMATICS FOR ECONOMISTS, STATISTICS

Mug: THINK ANALYZE APPLY

Thermos: CURIOUS CONSISTENT CRITICAL

Good Use

Ask for guidance that helps you think and learn.

I'm stuck at this step—give me one hint.

Goal: Build understanding and develop your skills.

Avoid

Don't outsource your thinking or the whole problem.

Solve this for me.

Result: You miss the learning and weaken your skills.

Use AI as a Thinking Partner: A 6-Step Process

- Attempt**
Work on the problem first. Show your own effort.
- Diagnose**
Identify where you are stuck and why.
- Seek a Hint**
Ask AI for a small hint or a guiding question.
- Revise**
Use the hint to adjust your approach and work it out.
- Explain**
Explain your solution in your own words (or teach it).
- Transfer**
Apply the idea to a new but related problem.

★ AI can be a powerful coach. **You** bring the effort, judgment, and understanding. *That's* how learning happens.

Mathematical Tools for Economists

Q: What are additional student support resources that I need to know about?

A: CU Boulder has abundant resources to meet your basic needs for a holistic college experience. Below, I list a few that I think you should be aware of.

– **Accessibility:** CU Boulder is committed to ensuring that its physical campus and digital resources are accessible to all. In this course, that means every student should have equitable access to materials and the opportunity to demonstrate mastery. Students with disabilities may benefit from accommodations through the Student Testing Center (STC). Disabilities may include physical, learning, executive function, or mental health conditions. To register or learn more, visit the STC in the CASE Building, Room E130 (first floor), email ✉ testing@colorado.edu, or call 303-735-2044.

– **Health and Wellness Services:** Our campus community is collectively committed to supporting the success and well-being of our students. As a student, you have access to a full range of [on-campus health and wellness services](#) in addition to a variety of virtual offerings. If you are feeling distressed or overwhelmed, please reach out for help. Students can access confidential resources through the [Counseling and Psychological Services](#) (CAPS).

– **Drop-In Peer Tutoring (No monetary cost & no appointment needed):** You are encouraged to take advantage of the [Economics Drop-In Tutorial Lab](#), where you can get help with a specific question, review course material, or work through concepts alongside peers. For those seeking more individualized support, the department also maintains a [list of private tutors](#) (for a fee). In addition, peer tutoring is available not only for this course but also for many introductory classes across Applied Math, Astronomy, Chemistry, Computer Science, Writing, and more. For details, visit the [OUE Tutoring website](#).

– **Women in Economics (WiE):** I might as well include a shameless plug for one of the best student organizations on campus—WiE! ☺ Few things are better than connecting with female-identifying rockstars who are committed to making the world a better place through the principles of economics. The great part is, you don't need to be an Econ major to join! If you're curious, passionate about improving our world, and interested in economics, this club is for you. Reach out to ✉ [Alpna Bhatia](#) ASAP!