

# ECON 1088 - MATH TOOLS FOR ECONOMISTS II

Summer 2023

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<b>Instructor:</b>	Anand Butler	<b>Time:</b>	MTWThF 1:00 – 2:35p
<b>Email:</b>	<a href="mailto:Anand.Butler@colorado.edu">Anand.Butler@colorado.edu</a>	<b>Place:</b>	117 Economics Building

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## Course Page:

- <https://canvas.colorado.edu/courses/94146>

## Office Hours:

- Monday, Tuesday, Wednesday, and Thursday: 10am-11am - in Econ 414
- You are also welcome to arrange another time to meet with me if that would be preferable.

## Course Textbook:

- Kurt Sydsaeter, Peter Hammond, and Arne Strom: *Essential Mathematics for Economic Analysis*. Pearson. (Any Edition)

**Prerequisites:** Econ 1078 or equivalent (including placing into 1088)

**Description:** This course is the second of two courses designed to give you the mathematical background necessary for future courses in economics. Topics to be covered in this course include differentiation, single-variable optimization, functions of multiple variables and their derivatives, and integration.

## Course Policies:

- **General**
  - Please be respectful and courteous to your classmates as well as myself. In an effort to promote the best environment for learning, I ask that you come to class prepared, engage with the material and coursework, and ask questions as needed to facilitate you and your classmates learning.
  - You are always welcome to contact me in person or via email. Please allow up to 24 hours for an email response during the week and up to 48 hours over the weekend.
- **Lectures**
  - I ask that you attend class as that will be the main vehicle for instruction. Class will consist primarily of lectures on course material, followed by problem solving practice.
  - Please be courteous and refrain from creating distractions during class. This includes silencing and putting away your phone, using any other non-calculator electronic devices only for the purpose of note-taking, and waiting to discuss things outside of the scope of the class until after the lecture.
  - You will receive an attendance grade for being present in class. You will be given up to three unexplained absences that do not hurt your attendance grade. After that, further misses will come out of your attendance grade. If there is some protracted or significant unexpected cause for absences, please let me know so that I can consider it in your attendance grade.

- I will post the notes from the day's lecture on Canvas for reference. It is your responsibility to go over and learn any material that you miss from class; I cannot promise that everything I say or do in class will appear in the posted notes online. I am always happy to answer your questions about any material.

- **Assignments**

- You will have regular problem sets throughout the term for each class. Math skills are generally learned best when they are practiced regularly in small doses, as opposed to just occasionally in large amounts. We are also on a condensed and accelerated timeline in this class, meaning even weekly problem sets would need to cover a lot of material and likely would become very long. As such, you will have regular short problem sets to ensure you get to practice all the tools we cover in digestible amounts.
- I understand that you all have other responsibilities and commitments. To help accommodate this, I will be dropping the grade of your lowest four problem sets. We will have somewhere on the order of 17-19 problem sets (they will be short!), meaning you will be able to drop one a week with no penalty to your grade.
- Each problem set will be weighted equally, and the individual grade of an assignment will be split 50% for completeness (did you give a thorough attempt of each problem) and 50% for accuracy (is the answer correct). Note that this means a correct answer with no explanation or work provided to show how that answer was arrived at will not receive full credit.
- I encourage you to work together. I do ask, however, that you clearly indicate on your problem set the names of any individuals who you collaborated with and that you write out the work/answer in your own hand. Direct copying is considered plagiarism (see Honor Code under University policies). This applies to any other outside source (an online resource, for example) and you are still required to detail the steps in solving the problem.

- **Exams**

- All exams (midterms and final) will be in-person. Please do not be late for any of those - no additional time will be given.
- I will not give any make-up exams. If you need to take an exam early, please let me know at least one week in advance. In the case that you have to miss any of the midterms because of a family or medical emergency, and only if you provide documentation to justify that absence, the weight for the corresponding midterm will be added to the final exam. In all other cases, a missed exam will result in a grade of zero for that exam.
- The final exam cannot be missed under any circumstances. During all the exams (midterms and final), the use of calculators is allowed as long as the calculator is not on a phone. All calculations will be simple enough to do without one. You will need something to write with (pen or pencil) for your exams. Should an emergency arise, please notify me as soon as possible so that we can make accommodations.

- **Grading Framework**

Attendance .....	20%
Problem Sets .....	20%
Midterm #1 .....	20%
Midterm #2 .....	20%
Final Exam .....	20%

- **Letter Grade Distribution:**

A .....	93.00-100
A- .....	90.00-92.99
B+ .....	87.00-89.99
B .....	83.00-86.99
B- .....	80.00-82.99
C+ .....	77.00-79.99
C .....	73.00-76.99
C- .....	70.00-72.99
D+ .....	67.00-69.99
D .....	63.00-66.99
D- .....	60.00-62.99
F .....	0.00-59.99

## University Policies:

### • Classroom Behavior

- Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the classroom behavior policy, the Student Code of Conduct, and the Office of Institutional Equity and Compliance.

### • Requirements for COVID-19

- As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.
- The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the “Accommodation for Disabilities” statement on this syllabus.
- If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). Please contact me via email to let me know that you have contracted COVID-19 and will not be able to attend class safely.

### • Accommodation for Disabilities

- If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu) for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

- **Preferred Student Names and Pronouns**

- CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

- **Honor Code**

- All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution ([honor@colorado.edu](mailto:honor@colorado.edu)); 303-492-5550). Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

- **Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation**

- CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, protected-class discrimination and harassment, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about university policies, reporting options, and support resources can be found on the OIEC website. Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of any issues related to these policies regardless of when or where they occurred to ensure that individuals impacted receive information about their rights, support resources, and resolution options. To learn more about reporting and support options for a variety of concerns, visit Don't Ignore It.

- **Religious Holidays**

- Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please let me know at least two weeks ahead of time of an exam if we need to schedule an earlier time to take the exam. Additionally, if a non-exam class will be missed, please let me know ahead of time so that I do not count the absence against your attendance. See the campus policy regarding religious observances for full details.

**Tentative Schedule**

Week	Date	Content
1	Jun 5-9	Course material: Math Foundations; 6.1-6.4; 6.5; 6.6-6.7; 6.8-6.9
2	Jun 12-16	Course material: 6.10-6.11, Review; <b>Midterm Exam 1</b> ; 7.1-7.2; 7.4-7.6; 7.7
3	Jun 19-23	Course material: <b>No Class Juneteenth</b> ; 7.8-7.9; 8.1-8.3; 8.4-8.6; 8.7, Review
4	Jun 26-30	Course material: <b>Midterm Exam 2</b> ; 11.1-11.2; 11.3-11.4; 11.5-11.7;
5	July 3-7	Course material: 11.8, 9.1; <b>No Class July 4th</b> ; 9.2-9.4; 9.5-9.6; Review & <b>Final Exam</b>