

Economics 4808
Introduction to Mathematical Economics
Spring 2019

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Office Hours: T, TH 8:35 – 9:10am, 12:20 – 1:55pm, and by appointment (please give 2 weeks' notice for appointments).

Course Description

Econ 4808 is a course that will improve your math skills and will introduce you to how mathematical tools are applied in economic analysis. The ability to apply mathematics is crucial for economic analysis.

The course covers the mathematics and economic applications of equilibrium, slopes and derivatives, differentials, optimization (maximizing profit and utility, and minimizing cost), constrained optimization (e.g., maximizing utility subject to the budget constraint) and integration. Applications include problems in consumer and producer theory, general equilibrium, and welfare economics.

Prerequisites

Principles of Economics, Econ 2010 and Econ 2020, are prerequisites, as are Econ 1078 (Mathematical Tools for Economists 1) and Econ 1088 (Mathematical Tools for Economists 2), or the equivalent. One or more semesters of Calculus would suffice for Econ 1078 and 1088, but “Business Calculus” is not recommended. Econ 3070 is a prerequisite, but this course and 3070 are complements so you may be able to take them at the same time. It is **very** important that you fulfill the prerequisites **before** you take this course, and **still** understand the materials in the prerequisites. To be successful in mathematical economics, you need to first be comfortable with algebra and derivatives. If you have any uncertainty as to whether you are under or over qualified to take the course, please talk to me ASAP. The prerequisites must be strictly enforced.

To be sure you are prepared for the material to be covered in this course, you will take a preliminary quiz. The quiz will cover some basic economics and calculus. The quiz *may* have an impact on your overall grade. Two items are very important for passing this course: a good economics and math foundation, and more importantly, a willingness to strive to find answers even when they are not obvious. For this reason, you either need to score 80% or more on the prerequisite quiz, **or** at least continue to att

a bit. These cooperative learning exercises are extremely helpful in preparing you to solve more in-depth analytical problems.

Peer-learning of material is one of the most instructive learning systems because:

- a. *If you are going to inform others about what you know, you must first fully understand it yourselves. If you cannot explain a concept to others you may not fully understand it yourself.*
- b. *Most “real-world” careers require some form of teamwork skills.*
- c. *You can discern what it takes to teach others.*
- d. *It will teach you how to respond to critical questions in front of others.*

4.! Self-study: reading the text and solving the review questions.

In-class Problems

It is important to understand how to apply concepts as we cover them, so you will have the opportunity to work on some problems in class (in pairs or sm

Attendance Policy

There are many studies showing a clear relationship between class attendance and student achievement. I will take attendance each day to gauge effort, which may be important if you have special requests near the end of the term. A sign-in sheet will be circulated daily when necessary. **Most importantly, if you miss more than 20% of the classes (more than 6 days), you will fail the course. In addition, you will be administratively dropped if you do not attend each (all) of the first 3 days of class. It is your responsibility to make sure that you have signed in for each class (having someone else sign your name is a violation of the honor code).** Due to new policy, I have added on to the days you can miss because Wardenburg would rather not have you just stop by to pick up an excuse form. The added days are meant to include absence due to illness, family emergencies, etc. If you must miss an extended period of time (e.g. due to extended illness), please let me know ASAP.

Weights of Assignments:

| | |
|-------------------|-----|
| Group Assignments | 15% |
| Exam I | 20% |
| Exam II | 20% |
| Exam III | 20% |
| Final Exam | 25% |

Incompletes, Extra Credit, etc.

I adhere strictly to the University guidelines on Incompletes (“An I is given only when students, *beyond their control*, have been unable to complete course requirements. A substantial amount of work must have been *satisfactorily completed* before approval for such a grade is completed.”). Bad grades, unsatisfactory performance, too many credit hours, work conflicts, etc. are not reasons for an incomplete.

I am adamant about giving each student an equal opportunity to perform well in the course, so there will be no extra credit opportunities that are not offered to the entire class. You should focus your efforts on learning the material and doing well on the exams.

Grading Scale:

| Your Score | Grade |
|-------------|-------|
| 92% to 100% | A |
| 90% to 91% | A- |
| 88% to 89% | B+ |
| 82% to 87% | B |
| 80% to 81% | B- |
| 78% to 79% | C+ |
| 72% to 77% | C |
| 70% to 71% | C- |
| 68% to 69% | D+ |
| 62% to 67% | D |

Additional Notes:*Honor Code*

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Additional information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode>

Disabilities

treatment and employment in, its educational programs and activities. (Regent Law, Article 10, amended 11/8/2001). CU-Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this CU-Boulder policy, "Protected Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, or veteran status. Individuals who believe they have been discriminated against should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>.

Any University policies that are in conflict with my own policies will supersede my policy!

A e l f e d e a h e h e d i c i b a d f e f c l l e a g e l i e
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