

ECON 511: Mathematical Economics

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Fall 2022

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Office Hours: W 4:00-6:00pm & by appointment

Office: Pray-Harrold 703J

Class Hours: W 6:30-9:10pm

Class Room: Pray-Harrold 217

Course Description

Course Overview

Survey of mathematical techniques used in contemporary economic analysis. Topics include applications of linear algebra, multivariable calculus, integration, and optimization theory to micro and macro economics.

Prerequisites

[(MATH 119 or MATH 120), ECON 411, and ECON 412] or equivalent

Course Materials

Required: Fundamental Methods of Mathematical Economics, 4th Edition by Chiang and Wainwright

Course Structure

Canvas

All announcements, assignments, quizzes, grades, and extra materials will be posted on canvas; you are responsible for all materials posted on canvas. The canvas announcements in this course will contain critical information, so make sure you are receiving them. If you have any difficulties accessing canvas it is your responsibility to resolve the issue; for help with canvas you can contact the IT Help Desk at 734-487-2120 or visit their [website](#).

Grading Policy

Your final course grade will be based solely on your performance in the course and will be a weighted average of the graded components of this course:

- 40% Midterm Exam
- 40% Final Exam
- 20% Homework

Once all coursework is graded, I will assign final letter grades based on a standard grading distribution: Once all coursework is graded, I will assign final letter grades according to the following distribution:

Above 93%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
Below 70%	F

I will **not** round your grade; please do not ask.

Assessments

Exams: There are two exams for this course: a midterm and a final. The midterm is scheduled for **Wednesday, October 19, 6:30pm** and the final exam is **Wednesday, December 14, 6:30pm**. Detailed exam procedures will be posted on Canvas and announced in class before each exam.

Homework: Homework is due **before class each Wednesday**. Homework assignments will be announced on Canvas. Please see the course schedule at the end of the syllabus for topics. Typically, there will be one assignment due each week. If time permits, we may work through homework problems in class together, so you should be prepared to do so at the start of each class.

Course Policies

Make-up Assignments

Unless there are extreme circumstances, I do not offer make-up assignments for homework or quizzes. Exams are open for multiple days, so it is unlikely a student will need to schedule an alternate exam time. If this does come up and you know about it beforehand, please contact the instructor **before the scheduled exam time**. No makeup exams will be given after the exam

is closed. In extreme circumstances that cause you to miss a midterm exam, I will consider re-weighting your grade towards the final exam. To qualify for re-weighting, you must notify me within two days after an exam. You should work with the Dean of Students' office to provide verification that your absence was due to an extreme circumstance.

Attendance Policy

Your grade will not formally depend on your attendance during the lectures, but you are responsible for everything covered in class. Any notes posted to Canvas are not intended to be a perfect substitute for class time.

Email and Office Hours Policy

My office hours are specific times set aside for you. I encourage you to stop in during these hours to ask any questions or discuss any material from the course. If you cannot make my office hours, please e-mail me and we can set up an appointment.

The best way to contact the professor is via e-mail. Please identify yourself as an economics 202 student. You can expect a response from me within **48 hours** during business hours. All communication should come from your Eastern Michigan University email address or through Canvas.

Academic Integrity and Honesty

Any violations of the academic integrity policy will result in a failing grade for the assignment or exam and a complaint may be filed with the University's Academic Integrity Office. Cheating of any form will not be tolerated.

In addition to the articulated course specific policies and expectations, students are responsible for understanding all applicable university guidelines, policies, and procedures outlined in the [EMU Student Handbook](#). For questions about any university policy, procedure, practice, or resources, please contact the Office of the Ombuds: 248 Student Center, 734-487-0074, emu_ombuds@emich.edu, or visit the [website](#). For a list of EMU course policies, please click [here](#).

Accessibility and Accommodations

Eastern Michigan University is committed to providing equal opportunity for participation in all university programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Disability Resource Center (DRC), 246 Student Center, 734-487-2470. Once your eligibility for an accommodation has been determined, you will be issued a letter of accommodation (LOA). Please present your LOA to me at the start of the academic semester or once it has been distributed to you by the DRC.

Schedule and weekly learning goals

The schedule is tentative and subject to change. Any changes to the schedule will be announced in class and on Canvas. The learning goals below should be viewed as the key concepts you should grasp after each week, and also as a study guide before each exam, and at the end of the term.

Week 01, 08/29 - 09/02:

- Fractions/Exponents/Logarithms
- Functions and Graphing (2.4 - 2.5)
- Equilibrium Analysis (3.2, 3.4)

Week 02, 09/05 - 09/09:

- Introduction to Derivatives (6.1 - 6.3)

Week 03, 09/12 - 09/16:

- Derivative Rules (7.1 - 7.3)
- Partial Derivatives (7.4 - 7.5)

Week 04, 09/19 - 09/23:

- Linear Algebra (4.1 - 4.2, 4.5 - 4.6)

Week 05, 09/26 - 09/30:

- Linear Algebra (5.1 - 5.2, 5.4 - 5.6)

Week 06, 10/03 - 10/07:

- Comparative Statics (8.1 - 8.5)

Week 07, 10/10 - 10/14:

- Comparative Statics (8.1 - 8.5)

Week 08, 10/17 - 10/21:

- **Midterm**

Week 09, 10/24 - 10/28:

- Optimization with One Variable (9.1 - 9.4)

Week 10, 10/31 - 11/04:

- Exponential and Log Functions (10.1 - 10.7)

Week 11, 11/07 - 11/11:

- Optimization with Two Variables (11.1 - 11.2, 11.4 - 11.7)

Week 12, 11/14 - 11/18:

- Constrained Optimization (12.1 - 12.3, 12.5 - 12.7, 13.1)

Week 13, 11/21 - 11/25:

- Thanksgiving, No Class

Week 14, 11/28 - 12/02:

- Integral Calculus (14.1 - 14.6)

Week 15, 12/05 - 12/09:

- Basics of Probability (if time permits)

Week 16, 12/12 - 12/16:

- Final Exam: **Wednesday, December 14, 6:30pm**