

ECON2301: MATHEMATICAL ECONOMICS

Fall 2018

Instructor: Xizi Li
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Location: Oak Hall 104
Office Hours: Friday 14:00 – 16:00 or by appointment (OAK HALL 307)

Description of the Course

The purpose of this course is to introduce the fundamental mathematical methods used for economic analyses such as matrix algebra, comparative statics, optimization. After completing this course, you are expected to be able to understand these important math methods in economics.

Textbook

- *Fundamental Methods of Mathematical Economics, 4th Edition*, by Chiang, A. and Wainwright, K.

Course Web Page

A course web page is available at **HuskyCT** (<https://lms.uconn.edu>). It will include information relevant to the course, such as syllabus, announcements, homework assignments, solutions and exams, etc. **Please check the course page regularly.**

Prerequisite

Course prerequisites are: Econ 1200 or both 1201 and 1202; and Math 1071Q or 1110Q or 1121Q or 1131. For those who have already been familiar with some of the techniques covered in the course, you may benefit from learning the applications to economic problems.

Homework

There will be **8 or 9 (depending on our schedule) homework assignments** in this course. two lowest grades will be dropped. Complete all your homework assignments on your own. **Late Assignment without any formal medical/legal proof will not be accepted.**

Exams

There will be two midterm exams and one final exam. The midterms are scheduled on **Oct. 11th and Nov. 15th** (tentative) in class. The schedule for final exam will be announced later. Final exam will be cumulative. The exams will be closed book and notes. You are allowed to bring a calculator and one piece of cheat sheet (US Letter) for the midterm and the final.

Grading

1. Homeworks (20%)
2. Exams (80%)

$$\max \{ (40\% \text{midterm 1} + 40\% \text{midterm 2}), (35\% \max \{ \text{midterm 1}, \text{midterm 2} \} + 45\% \text{final}) \}$$

In general, the class average corresponds to the lowest B

Tentative Course Outline

Part I: Static (or Equilibrium) Analysis

- Matrix Algebra
- Matrix Properties
- Linear Models and Applications

Part II: Comparative-Static Analysis

- Derivative, Differentiation and Comparative Static Analysis
- Multivariate Calculus
- Comparative Static Analysis of General Functions

Part III: Optimization Problems

- Derivative Test and Optimization
- Multivariate Unconstrained Optimization
- Constraint in Optimization
- Multivariate Optimization with Constraints

Academic Integrity Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

ADA If you have special needs as addressed by the Americans with Disabilities Act (ADA) and need assistance, please notify the Department of Human Resources Americans with Disabilities Act (ADA) Accommodations Case Manager is charged with processing and facilitating requests for employee ADA accommodations. If you believe you may need an accommodation, or if you are a supervisor or manager who has been presented with a request for an accommodation, please contact the ADA Case Manager, Ryan Bangham, and/or visit our page on Employee Accommodations. See the guide to HRs Reasonable Accommodations Process. Students who require an accommodation in the academic setting should contact the Center for Students with Disabilities. Please feel free to contact the ADA Case Manager at (860) 486-2036 or via e-mail at ryan.bangham@uconn.edu for further assistance.

For other policy Against Discrimination, Harassment and Related Interpersonal Violence and the Statement on Absences from Class Due to Religious Observances and Extra-Curricular Activities: <http://provost.uconn.edu/syllabi-references/>