

# ECON 4560: MATHEMATICAL ECONOMICS

Spring 2010, MW, 11:30 a.m.-12:45 p.m., WB 113

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Textbook: Chiang, Alpha C. and Wainwright, Kevin, *Fundamental Methods of Mathematical Economics*, McGraw-Hill Irwin, 4<sup>th</sup> ed., 2005.

This syllabus is our contract, so please read it carefully.

- **Course Objectives:**

Many of the economic concepts that we are familiar with can best be analyzed using some fairly straightforward mathematical tools. These tools often prove to be very powerful analytical devices because (a) a mathematical model can frame an economic problem and reinforce its implications more succinctly, and (b) economic intuition can sometimes fail, whereas mathematical models can illuminate various counter-intuitive situations. Although we will often build rather abstract mathematical models, we will always try to connect these models to economic theory, to current economic events, and to economic decisions that we make in day-to-day living. This course should help develop a solid base in matrix algebra, differential calculus, and optimization methods that are used in economics. If possible, we will also cover some topics in dynamic optimization.

- **Special Accommodation:**

In accordance with requirements of the Americans with Disabilities Act, reasonable accommodation and materials in alternative format will be provided for persons with disabilities. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Services for Students with Disabilities (SSD), preferably during the first week of the course. Any request for special considerations relating to attendance, pedagogy, taking of examinations etc., must be discussed with and approved by the instructor.

- **Examinations and Assignments:**

There will be three midterms and one final examination. While each midterm will be based on material covered since the previous midterm, the final will be a comprehensive examination. Also, homework assignments and/or quizzes will be given periodically. Students will be informed in advance about in-class quizzes, if any.

- **Examination Schedule:**

Mid-term 1: Wednesday, February 17, 2010  
Mid-term 2: Wednesday, March 17, 2010  
Mid-term 3: Wednesday, April 14, 2010  
Final: TBA.

- **Grading Policy:**

Item	Weight
Exams (4)	80% (20% each)
Homework assignments (3)	15%
Quizzes/Participation	5%

- **Grade Scale:**

Percentage score	Grade
100-93	A
92-90	A-
89-87	B+
86-83	B
82-80	B-
79-77	C+
76-73	C
72-70	C-
69-67	D+
66-63	D
62-60	D-
Below 60	F

- **Tentative Course Outline:**

Section 1:	Economic Models	Ch. 2
	Equilibrium Analysis in Economics	Ch. 3
	<b>Mid-term 1</b>	
Section 2:	Linear Models and Matrix Algebra	Ch. 4
	Linear Models and Matrix Algebra (Continued)	Ch. 5
	<b>Mid-term 2</b>	
Section 3:	Comparative Statics and the Concept of Derivative	Ch. 6
	Rules of Differentiation and Their Use in Comparative Statics	Ch. 7
	Comparative Static Analysis of General Function Models	Ch. 8
	<b>Mid-term 3</b>	
Section 4:	Optimization: A Special Variety of Equilibrium Analysis	Ch. 9
	Exponential and Logarithmic Functions	Ch. 10
	The Case of More than One Choice Variable	Ch. 11
	<b>Final exam</b>	

**Note:** Any request of taking exams on dates other than the ones mentioned above must be made AT LEAST ONE WEEK in advance, and the exam must be taken prior to the scheduled date.

- **Plagiarism:**

Weber State University has well defined policies about plagiarism, which hopefully will not be an issue for this class. Plagiarism includes knowingly “representing, by paraphrase or direct quotation, the published or unpublished work of another person as one’s own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.” The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.