Economics 240.001, Spring 2007 (CRN 085235)

Mathematical Economics

Class meets Mondays, Wednesdays and Fridays from 1:40 PM to 2:30 PM in Tuttleman 401B.

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Office hours: Mondays and Wednesdays 12:15 p.m.–1:25 p.m. Additional hours are available by appointment; these must be scheduled at least two days in advance via e-mail.

INTRODUCTION

This course will cover the basic mathematical techniques required for serious study of economics, and it will provide extensive instruction on the application of these techniques to economic problems. The prerequisites are: two semesters of calculus and Econ 51 and 52. If you have not taken all of the prerequisite courses, or obtained less than a B- grade in any of them, you should discuss the matter with me immediately. This course is particularly appropriate for students planning to pursue graduate studies in economics or related fields. This course is very far from an “easy A”!

TEXT AND INSTRUCTIONAL TECHNOLOGY AND SUPPORT

The textbook is Mathematical Methods for Economics, second edition, by Michael W. Klein, Addison-Wesley 2002. You should purchase a copy of it as soon as possible. From time to time I may have lecture notes and other class materials for you, which I will distribute electronically. My office hours are listed above: I encourage you to use them and to e-mail me your questions as soon as you have them.

Course materials, announcements, and homework assignments will be made available on Blackboard. You should check the class announcements page on Blackboard regularly.

E-mail is your best method of asking me questions outside of class and office hours. Feel free to send me e-mail messages when you have questions or problems relating to the material of the course (my e-mail address is at the top of the syllabus). I check my e-mail frequently and plan to respond to all questions within 24 hours at the very latest, on weekdays, and often within an hour or two. Questions submitted over the weekend may be answered more than 24 hours later. You are also welcome to come to my office to discuss your questions during my office hours, which are listed above. You will find that leaving questions unasked, however silly or scary they may seem at the time they occur to you, is really unwise, and it will compromise seriously your success in the course. There are only two rules governing questions: they must relate to the material of the course, and they must show evidence that the asker has tried to solve the problem before asking, by, e.g., studying diligently the relevant chapter of the textbook.
DISABILITY RESOURCES

Any student who has a need for accommodation based on the impact of a disability should contact the instructor privately to discuss the specific situation as soon as possible. Contact the Disability Resources and Services office at (215) 204 1280 at 100 Ritter Annex to coordinate reasonable accommodations for students with documented disabilities.

CLASS RULES

Your presence in the classroom is very important, as is your cooperation in keeping the class time free of distractions and unpleasantness. You must arrive and be at your seat before the time the class starts. Late arrivals are disruptive, and I will give a stern lecture on that subject to any latecomer. If a student arrives late repeatedly, I reserve the right to refuse this student entry into the classroom after more than three incidents of being late for class.

While in class, we shall all respect each other and try to maximize concentration and learning. For this reason, I will not allow students to make noise or otherwise distract their classmates. If you want to ask a question, by all means raise your hand and I will call on you; but do not ask it of your classmates while the class is going on, because you will distract them. The use of cellular phones, pagers, and any other such devices in the classroom is strictly prohibited. I will monitor class behavior very closely, and I will not hesitate to discipline disruptive behavior, if necessary by ejecting from the classroom students who engage in such behavior.

I consider cheating to be morally reprehensible and a serious enemy of learning. Accordingly, I will monitor all exams very aggressively. If I catch any student cheating on any exam, I will automatically give this student an F grade for the entire course.

Your learning is a very important matter, and these rules are designed to help you learn the most. If there are any students who disagree with these rules, they are advised not to take this class; I will not bend the rules under any conditions.

Your decision to continue attending this course implies that you have accepted all the rules for the course, in addition to the Temple University code of conduct, which is available over the world wide web at http://www.temple.edu/assistance/udc/coc.htm, and that you will abide by all these rules.

GRADING

I will evaluate your progress with regular homework assignments, a midterm examination, and a final examination. The homework will count for 30% of the grade, and the exams for 35% each. You will find it extremely important to do the homework assignments thoroughly and on time; they are an integral part of your learning experience. I will not accept late homework assignments under any conditions.

I will provide make-up examinations for students who miss regularly scheduled exams only for serious, documented reasons (such as receiving medical treatment on the day of the exam), and only if I am notified of the problem before the start of the examination, if physically possible. I reserve the exclusive right to judge whether such reasons as offered for missing an exam are indeed serious and well-documented. If you find yourself having to miss an examination for such a reason, you must contact me as soon as possible and you must provide proof of your problem to me in order to have a make-up examination. I will not give “incomplete” grades, except for students missing the final examination for a valid reason as described above. I will adhere to these rules strictly; do not even imagine that I will make any exceptions.
The final exam will not be cumulative, to the extent that the content of the course allows. This means that direct questions on the material of the first half of the course will not be on the final exam, but most of the material in the second half of the course naturally depends on solid understanding on the material of the first half. Therefore, to answer questions on the final successfully, you will have to retain mastery of the first half of the material.

**COURSE CALENDAR**

The course schedule follows. I will try hard to be faithful to it. You should use it every week as a guide on what to read ahead of me; if you are good about reading ahead, you will find that each class meeting gives you much more information and understanding.

**Week 1** (1/17, 1/19). Introduction to the course, functions (chapters 1, 2).

**Week 2** (1/22, 1/24, 1/26). Exponential and logarithmic functions, systems of equations (chapters 3, 4).

**Week 3** (1/29, 1/31, 2/2). Further topics in linear algebra (chapter 5).

**Week 4** (2/5, 2/7, 2/9). Introduction to differential calculus, univariate calculus (chapters 6, 7).

**Week 5** (2/12, 2/14, 2/16). Multivariate calculus (chapter 8).

**Week 6** (2/19, 2/21, 2/23). Extreme values of univariate functions (chapter 9).

**Week 7** (2/26, 2/28, 3/2). Review. Midterm exam.

*Spring break* (March 3th to March 11th).

**Week 8** (3/12, 3/14, 3/16). Extreme values of multivariate functions (chapter 10).


**Week 11** (4/2, 4/4, 4/6). Difference equations (chapter 13).


**Week 13** (4/16, 4/18, 4/20). Dynamic optimization (chapter 15).

**Week 14** (4/23, 4/25, 27). Review; additional applications.

**Week 15** (4/30). Review.

The **FINAL EXAM** will be on **Wednesday, May 9th, 2007, from 11:00 a.m. to 1:00 p.m.** in our regular classroom, Tuttleman 401B.