University of California, Berkeley
Department of Economics

Econ 204
Mathematical Tools for Economists
Summer/Fall 2009

Revised 7/24/09, reordering the material in Lectures 11 and 12 (see ** below).

Instructors

Bob Anderson
>583 Evans
>anderson@econ.berkeley.edu
>642-5248
>office hours:
>>drop-in hours MTuWThF 10:00-11:00
>>other times by appointment

Vladimir Asriyan
>vasriyan@gmail.com

Hui Zheng
>huizheng.gsi@gmail.com

Vladimir or Hui will hold office hours MTuWThF 3:30-5:00 in 597 Evans

Course Material

The first half of the course will cover Chapters 1-5 (and a small part of chapter 6) of Angel de la Fuente, *Mathematical Methods and Models for Economists*. In addition, we will cover material on differential and difference equations from a handout.

Course Schedule July 27-August 18

Lectures: MTuWThF 1-3:00, July 27-August 14, 213 Wheeler
>We will often run past 3:00, so please don't schedule other things between 3:00 and 3:30.

Sections: MTuWThF 9:00-10:30, 10:30-12:00**,** 608-7 Evans
Final Exam: **Tuesday August 18, 9:00am-12:00pm, Location TBA**
Website: http://emlab.berkeley.edu/users/anderson/Econ204/204index.html

Course Requirements

Lectures will cover the theory; the tutorial sections will review the lectures, introduce additional material, and discuss the weekly problem sets. All students should attend the tutorial sections and will be responsible for the material discussed at these sections.

There will be a total of six problem sets, due at the following times:

1   Friday 8 7/31 in lecture
2   Tuesday 8/4 in lecture
3   Friday 8/7 in lecture
4   Tuesday 8/11 in lecture
5   Friday 8/14 in lecture
6   **Monday** 8/17; turn this in to Hui by **9:00am**

Students are urged to work in groups to complete the problem sets. However, you should make a serious effort to solve each problem on your own before meeting as a study group. Each student must turn in their own solutions, in their own handwriting (if a student chooses to type solutions, each must type them separately). Do not simply copy another student's solution; make sure you understand the answer well enough so that you can write out a solution without referring to someone else's answer.

Because of the importance of posting solutions and grading problem sets promptly, we will not accept late problem sets; there will be no exceptions to this rule. Your problem set grade will be based on the five highest grades of the problem sets you hand in; this will allow you to miss one problem set with no penalty.

Grading

The final numerical grade for 204 will be computed as follows
    20% problem sets
    80% final exam **9:00am-12:00pm Tuesday August 18, Location TBA**

Course Outline: In the following list of topics, references are to sections in de la Fuente. The lectures will contain some additional material related to, but not included in, the indicated sections of the text.

1 Monday 7/27
1.2-1.3, begin 1.4, plus Corrections to de la Fuente and Set Formation and Axiom of Choice handouts (read 1.1 on your own)

2 Tuesday 7/28
1.4 (cont.), 1.5-1.6 (read 1.7-1.8 on your own)

3 Wednesday 7/29
2.1-2.3 plus Lim Sup/Lim Inf handout

4 Thursday 7/30
2.4, begin 2.6 (read 2.5 on your own)

5 Friday 7/31
2.6 (cont.), 2.7

6 Monday 8/3
2.8

7 Tuesday 8/4
2.9, 2.11 (read 2.10 on your own)

8 Wednesday 8/5
3.1-3.3

9 Thursday 8/6
3.3, 3.5-6 plus Matrix Representation, Diagonalization & Quadratic Forms handouts

10 Friday 8/7
3.6, 3.4 plus Diagonalization and Quadratic Forms handout

11 Monday 8/10**
4.1-4.3 (unified treatment, excluding critical and regular points and values); 4.4 plus Taylor Theorem handout (read 4.5 on your own)

12 Tuesday 8/11**
4.3 (cont.: critical and regular points and values), begin 5.2

13 Wednesday 8/12
5.2 (continued), 5.3, 6.1.d

14 Thursday 8/13
Difference and Differential Equations Handout

15 Friday 8/14
Difference and Differential Equations Handout

Ω 2009-2099
Measure Theory handout