

Econ 204
Mathematical Tools for Economists
Summer/Fall 2017

Instructors

Chris Shannon

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643-7283

Office hours:

drop-in: 11:30 – 12:30 (end of lecture + 1hr) MTWThF
other times by appointment

Farzad Pourbabaee

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Walker Ray

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Office hours for Farzad and Walker:

MTWThF 4:00-5:00 pm 648 Evans Hall (discussion section room)

Course Material

The course will cover Chapters 1-5 and part of Chapter 6 of *Mathematical Methods and Models for Economists* by Angel de la Fuente. Additional material will be covered from several handouts.

Website http://elsa.berkeley.edu/users/cshannon/e204_17.html

Course Schedule

The course runs from July 17 – August 9.

Lectures: MTWThF 9:00 – 11:30 am, July 17 – August 4 141 McCone Hall

Note: We will often run past 11:30, so do not schedule anything else between 11:30 and 12:00.

Sections: MTWThF 1:00 – 2:30, 2:30 – 4:00, 648 Evans Hall

Final Exam: Wednesday August 9 9:00 am – 12:00 noon, Location TBA

Course Requirements

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

There will be a total of six problem sets, due according to the following schedule:

Problem set 1: due Friday July 21 in lecture

Problem set 2: due Tuesday July 25 in lecture

Problem set 3: due Friday July 28 in lecture

Problem set 4: due Tuesday August 1 in lecture

Problem set 5: due Friday August 4 in lecture

Problem set 6: due **Monday August 7 – turn in to Farzad/Walker by 9:00 am**

Students are encouraged to work in study groups. Students must turn in their own solutions in their own handwriting (or typed individually), however.

Because of the importance of posting solutions and grading problem sets promptly, **no late problem sets will be accepted**. There will be no exceptions to this rule. The problem set grade will be based on the 5 highest grades among the 6 problem sets. This allows for missing one problem set without penalty.

Grading

The grade for Econ 204 will be based on problem set scores and the final exam, according to the following formula:

Problem sets 10%

Final exam 90%

Prerequisites

Math 1A – 1B and Math 53 – 54, or equivalent

Course Outline

References below are to sections in de la Fuente. Lecture notes may contain additional material not contained in the textbook.

Lecture 1 Monday July 17

dIF 1.2-1.3, begin 1.4 (see Corrections handout), Set Formation and Axiom of Choice handouts (read dIF section 1.1 on your own)

Lecture 2 Tuesday July 18

dIF 1.4, 1.5-1.6 (read 1.7-1.8 on your own)

Lecture 3 Wednesday July 19

dIF 2.1-2.3, handout on lim sup and lim inf

Lecture 4 Thursday July 20

dIF 2.4, begin 2.6 (read 2.5 on your own)

Lecture 5 Friday July 21

dIF 2.6, 2.7

Lecture 6 Monday July 24

dIF 2.8

Lecture 7 Tuesday July 25

dIF 2.9, 2.11 (read 2.10 on your own)

Lecture 8 Wednesday July 26

dIF 3.1–3.3

Lecture 9 Thursday July 27

dIF 3.3, 3.5 – 3.6 and handouts on Matrix Representation, Diagonalization and Quadratic Forms

Lecture 10 Friday July 28

dIF 3.6, 3.4, Diagonalization and Quadratic Forms

Lecture 11 Monday July 31

dIF 4.1-4.3, 4.4 and Taylor Theorem handout (read 4.5 on your own)

Lecture 12 Tuesday August 1

dIF 4.3, begin 5.2

Lecture 13 Wednesday August 2

dIF 5.2, 5.3, 6.1(d)

Lecture 14 Thursday August 3

Handout on Difference and Differential Equations

Lecture 15 Friday August 4

Handout on Difference and Differential Equations