

Econ 204
Mathematical Tools for Economists
Summer/Fall 2018

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_18.html

Course Schedule

The course runs from July 23 – August 15.

Lectures: MTWThF 9:00 – 11:30 am, July 23 – August 10 3108 Etcheverry 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 15 9:00 am – 12:00 noon, 10 Evans Hall

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 27 in lecture

Problem set 2: due Tuesday July 31 in lecture

Problem set 3: due Friday August 3 in lecture

Problem set 4: due Tuesday August 7 in lecture

Problem set 5: due Friday August 10 in lecture

Problem set 6: due **Monday August 13 – 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 23

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

Lecture 2 Tuesday July 24

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

Lecture 3 Wednesday July 25

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

Lecture 4 Thursday July 26

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

Lecture 5 Friday July 27

dlF 2.6, 2.7

Lecture 6 Monday July 30

dlF 2.8

Lecture 7 Tuesday July 31

dlF 2.9, 2.11 (read 2.10 on your own)

Lecture 8 Wednesday August 1

dlF 3.1–3.3

Lecture 9 Thursday August 2

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

Lecture 10 Friday August 3

dlF 3.6, 3.4, Diagonalization and Quadratic Forms

Lecture 11 Monday August 6

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

Lecture 12 Tuesday August 7

dlF 4.3, begin 5.2

Lecture 13 Wednesday August 8

dlF 5.2, 5.3, 6.1(d)

Lecture 14 Thursday August 9

Handout on Difference and Differential Equations

Lecture 15 Friday August 10

Handout on Difference and Differential Equations