

Econ 204
Mathematical Tools for Economists
Summer/Fall 2019

Instructors

Chris Shannon

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(510) 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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Damian Vergara

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Office hours for Farzad and Damian:

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_19.html

Course Schedule

The course runs from July 29 – August 22.

Lectures: MTWThF 9:00 – 11:30 am, July 29 – August 16 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: Thursday August 22 9:00 am – 12:00 noon, 648 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 August 2 in lecture

Problem set 2: due Tuesday August 6 in lecture

Problem set 3: due Friday August 9 in lecture

Problem set 4: due Tuesday August 13 in lecture

Problem set 5: due Friday August 16 in lecture

Problem set 6: due **Monday August 19 – turn in to Farzad/Dami 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 29

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 30

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

Lecture 3 Wednesday July 31

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

Lecture 4 Thursday August 1

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

Lecture 5 Friday August 2

dIF 2.6, 2.7

Lecture 6 Monday August 5

dIF 2.8

Lecture 7 Tuesday August 6

dIF 2.9, 2.11 (read 2.10 on your own)

Lecture 8 Wednesday August 7

dIF 3.1–3.3

Lecture 9 Thursday August 8

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

Lecture 10 Friday August 9

dIF 3.6, 3.4, Diagonalization and Quadratic Forms

Lecture 11 Monday August 12

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

Lecture 12 Tuesday August 13

dIF 4.3, begin 5.2

Lecture 13 Wednesday August 14

dIF 5.2, 5.3, 6.1(d)

Lecture 14 Thursday August 15

Handout on Difference and Differential Equations

Lecture 15 Friday August 16

Handout on Difference and Differential Equations