

**ECONOMICS 420
GAME THEORY
OREGON STATE UNIVERSITY
SPRING 2018**

Bexell Hall, Room 207, Corvallis
MW 8:00-9:50am (4 Credits)

Instructor: Michael Jerman

Contact Information:

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Office Hours:

M/W 10:30-11:30am

T/Th 8:30-9:30am

Or by appointment

Course Description: Throughout much of the history of economics the discipline focused on matters of decision theory. What goods and services should consumers buy to maximize their utility subject to their budget constraints? What products should firms make, how should they make them, and how many should they make?

In the mid-twentieth century it became clear that many economic decisions had strategic dimensions: That is, outcomes depended not only on the choices of agents, but on the choices of other agents as well. This requires all of the involved agents (or players) to think about what their counterparts care about, predict what they are going to do, and respond accordingly. Game theory is the study of these interactions

Learning Outcomes: Upon completion of the course, students will:

- Gain knowledge of the fundamental principles of game theory
- Become familiar with basic classes of games
- Apply mathematical skills to solve for equilibrium
- Recognize real-world applications and limitations of game theory

Prerequisites: The prerequisite for this course is ECON 311 or ECON 411 (intermediate micro).

Textbook: The course textbook is *Games of Strategy* by Avinash Dixit, Susan Skeath, and David Reiley. The readings and assignments will be from the fourth edition, which is available at the bookstore.

Canvas: All announcements, assignments, and grades will be will be posted on Canvas (canvas.oregonstate.edu). This is the official website for the course, and you will be responsible for any and all information that is posted there. Therefore if you have any difficulties accessing Canvas it is imperative that you resolve them as quickly as possible by contacting the Canvas support at canvas@oregonstate.edu.

Attendance: Participation in periodic in-class exercises will be recorded and account for 10% of the final grade.

Homework: There will be four homework assignments throughout the term. The homework will be graded primarily on completion and effort. No late assignments will be accepted. You are encouraged to work in together in groups, but each person must submit their own assignment.

Exams: There will be one midterm examination and one comprehensive final examination. The midterm will be held in class on Wednesday, May 2 (week 5). The final exam is **tentatively** scheduled for Friday, June 15 at 7:30am (*note that this date and time may be subject to change*). A non-graphing calculator is permitted for each exam.

No makeup exams will be given. If the midterm is missed due to a *documented* emergency, the weight of the exam will be placed on final. An documented emergency that causes you to miss the final will result in an incomplete for the course. Missing any exam for a reason other than a documented emergency will result in a score of zero.

Grades: Your grade will be calculated based on the following weights:

| | |
|----------------|-----|
| Participation: | 10% |
| Homework: | 25% |
| Midterm: | 30% |
| Final: | 35% |

The *minimum* letter grade that you will receive based on your weighted total of points earned is given below:

| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- |
| 93 | 90 | 87 | 83 | 80 | 77 | 73 | 70 | 67 | 63 | 60 |

Statement Regarding Students with Disabilities: Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations.

While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Student Conduct: You are expected to adhere to the university's Code of Student Conduct, which is available at the following website:

http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/code_of_student_conduct.pdf

At a minimum, any incidence of academic misconduct (as defined by the above code) will result in a grade of "F" for the course.

Tentative Schedule

| | Reading | Assignments |
|--|---------------------|--|
| Week 1 | Chapters 1 & 2 | |
| Week 2 | Chapter 3 | |
| Week 3 | Chapter 4 | Homework 1 due, Wednesday April 18 |
| Week 4 | Chapters 5 & 6 | |
| Week 5 | Chapter 7 | Midterm, Wednesday May 2 Homework 2 due, Monday April 30 |
| Week 6 | Chapter 7 | |
| Week 7 | Chapter 8 | Homework 3 due, Wednesday May 16 |
| Week 8 | Chapter 9 & 11 | |
| Week 9 | Chapter 11 | |
| Week 10 | Catch-up and review | Homework 4 due, Wednesday June 6 |
| Final Exam: Friday, June 15 at 7:30am | | |