

**Economics 321-Applied Game Theory**  
**Rutgers University-Camden**  
**Fall 2019 Syllabus**

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Prof. John Smith  
327 Armitage Hall  
Phone: (856) 225-6319  
Office Hours: Mondays 4:30-5:30 PM, Tuesdays 11:30 AM-12:30 PM, or by appointment.<sup>1</sup>  
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Time: Mondays 6:00-8:50 PM  
Location: 207 Armitage  
Website: <https://sakai.rutgers.edu/portal/site/fca6d4b4-d7fa-49d0-b08e-9fee1f0d358d>  
(or follow the link from <http://crab.rutgers.edu/~smithj> )

Textbook: Games of Strategy by Avinash Dixit, David Reiley and Susan Skeath, 3<sup>rd</sup> edition.

This class is designed to improve your understanding of the strategic situations ranging from what you face every day to the strategic interaction between nations.

Prerequisites: High School Algebra. It is not assumed that you have taken Economics 361.

How is this class related to Economics 361? Economics 361 focuses on the theory of games. This class focuses on the interpretation and application of the theory. Neither is a prerequisite for the other.

Academic integrity violations are serious matters and will be handled in accordance with Rutgers University Policy. For more information, visit <https://academicintegrity.rutgers.edu>.

Students with disabilities should contact the Rutgers-Camden Office of Disability Services (ODS). For more information, visit <http://learn.camden.rutgers.edu/disability-services>. Accommodations will be made in accordance with Rutgers University Policy.

I only accept email attachments in pdf format.

Lecture notes will be posted on the course website after every class meeting.

Review sessions will be given in class before every exam.

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<sup>1</sup> I will be in my office most days. Just send me an email to make sure.

<sup>2</sup> While I will respond as soon as possible, do not expect an instant response.

Participation in an experiment will account for 5% of your grade.

The class participation portion of the grade will be determined by classroom behavior. Constructive comments or questions will lead to a higher grade. Distractions, such as taking during class or use of any electronic device during class, will lead to a lower grade.

If you are not able to purchase the textbook, it will be reserve in the library. It is available for a limited time at the Circulation Desk.

**Grading:**

Problem Sets: 10%

Participation in experiment: 5%

Class participation: 5%

Maximum of the following:

\*Best 2 of 3 Midterms: 30%

\*All 25 Quizzes: 20%

\*Final: 30%

or

\*All Three Midterms: 40%

\*All 25 Quizzes: 20%

\*Final: 20%

or

\*Best 2 of 3 Midterms: 30%

\*Best 20 of 25 Quizzes: 15%

\*Final: 35%

or

\*All Three Midterms: 40%

\*Best 20 of 25 Quizzes: 15%

\*Final: 25%

You are advised against attempting to calculate your grade. The best advice is to work as hard as possible throughout the entire semester.

There are no makeup midterms for any reason. If you miss a midterm then this will count as your lowest exam. Midterms will be given in class on **September 30, October 21, and November 18**

The Final Exam is on **December 9, during class.**

Twenty-five in-class quizzes will be given. These quizzes will be given at the beginning, the middle, or the end of class. There are no makeup quizzes for any reason, including arriving late or leaving early. If you miss a quiz then you will receive a score of zero. However, up to 5 quizzes may not count towards your grade. Quizzes are designed to test

basic comprehension and will only take a few minutes. Notes taken during class can be used during the quiz.

Exams require the use of a pencil. It is the responsibility of the student to bring their own pencil to exams. Quizzes require the use of a pencil or a pen. It is the responsibility of the student to bring their own pencil or pen to every class.

## **Schedule**

### **September 9** (Quizzes 1 and 2)

Lecture 1

Chapter 1: Basic Ideas and Examples

Lecture 2

Chapter 2: How to Think About Strategic Games

### **September 16** (Quizzes 3, 4, and 5)

Lecture 3

Chapter 3: Games with Sequential Moves

Lecture 4

Chapter 4: Simultaneous-Move Games with Pure Strategies I: Discrete Strategies

### **September 23** (Quizzes 6, 7, and 8)

Lectures 5 and 6

Chapter 4: Simultaneous-Move Games with Pure Strategies I: Discrete Strategies

Chapter 5: Simultaneous-Move Games with Pure Strategies II: Continuous Strategies and III: Discussion and Evidence

### **September 30**

#### **First Midterm Review**

#### **First Midterm**

### **October 7** (Quizzes 9 and 10)

Lecture 7

Chapter 6: Combining Sequential and Simultaneous Moves

Lecture 8

Chapter 7: Simultaneous-Move Games with Mixed Strategies I: Two-by-Two Games

### **October 14** (Quizzes 11, 12, and 13)

Lecture 9

Chapter 7: Simultaneous-Move Games with Mixed Strategies I: Two-by-Two Games

Lecture 10

Chapter 8: Simultaneous-Move Games with Mixed Strategies II: Some General Theory

### **October 21**

#### **Second Midterm Review**

#### **Second Midterm**

**October 28** (Quizzes 14 and 15)

Lecture 11

Chapter 9: Uncertainty and Information

Lecture 12

Chapter 9: Uncertainty and Information

**November 4** (Quizzes 16, 17, and 18)

Lectures 13 and 14

Chapter 10: Strategic Moves

**November 11** (Quizzes 19, 20 and 21)

Lectures 15 and 16

Chapter 11: Prisoner's Dilemma and Repeated Games

**November 18**

**Third Midterm Review**

**Third Midterm**

**November 25** (Quizzes 22 and 23)

Lecture 17

Chapter 12: Collective-Action Games

Lecture 18

Chapter 13: Evolutionary Games

**December 2** (Quizzes 24 and 25)

Lecture 19

Chapter 17: Bidding Strategy and Auction Design

**Final Exam Review**

**December 9**

**Final Exam**