

Mount Holyoke College  
Econ 201: Game Theory  
Spring Semester 2022  
Tuesday and Thursday 3:15 pm - 4:30 pm

**Contact Information:**

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**This syllabus provides a general plan for the course; deviations may be necessary.**

**Course Objective:**

Game theory, also known as multi-person decision theory, analyzes situations in which payoffs to players depend on the behavior of other players as well as the player himself/herself. Game theory has found many applications in various fields, such as economics, biology, business, law, politics, sociology, and computer science. The purpose of this course is to introduce the basics of game theory to undergraduate students in various disciplines. It focuses on fundamentals of game theory including basic concepts and techniques, various ways of describing and solving games, and various applications in economics, political sciences, and business. It will help students sharpen their understanding of strategic behavior in different situations involving many individuals. The students will learn how to recognize and model strategic situations, to predict when and how their action will have an influence on others, and to exploit strategic situations for the benefit of their own.

**Textbooks:**

1. *Games of Strategy* by Avinash Dixit, Susan Skeath, and David McAdams (Any edition is okay)
2. *Strategy and Game Theory: Practice Exercises with Answers* by Felix Munoz-GarciaDaniel Toro-Gonzalez (Available as an ebook)

## Course Requirements:

The course requirements include class participation, homework assignments, short paper, presentation, and two exams. Homework will be submitted on Moodle or in class and must be professionally presented for full credit. Presentations will have assigned general content. Practice problems will be posted along with corresponding answer keys. These questions will be similar to the problems we solve in class and be good practice for exams.

Assessment	Date	Share of final grade
Class participation		10%
Exam 1	March 3,2022	25%
Exam 2	April 21, 2022	25%
Homework		15%
Proposal presentation		5%
Team project		15%
Final presentation		5%

If you would like to request accommodations, please contact AccessAbility Services, located in Wilder Hall B4, at (413) 538-2634 or [accessability-services@mtholyoke.edu](mailto:accessability-services@mtholyoke.edu). If you are eligible, they will give you an accommodation letter which you should bring to me as soon as possible.

Cheating will result in a Fail grade for the course and the student will be reported to the College. If you are unclear about what constitutes plagiarism, see the Mount Holyoke tutorial: [http://www.mtholyoke.edu/lits/ris/Plagiarism/honor\\_code.htm](http://www.mtholyoke.edu/lits/ris/Plagiarism/honor_code.htm) or talk with me. Discussing quizzes and exams across sections is plagiarism.

### Tentative schedule

Week	Topic	Reading
January 25, 2022	Introduction to game theory	1,2
January 27, 2022	Games with Sequential moves	3
February 1, 2022	Games with Sequential moves	3
February 3, 2022	Games with Simultaneous moves - discrete strategies	4
February 8, 2022	Games with Simultaneous moves - discrete strategies	4
February 10, 2022	Games with Simultaneous moves - continuous strategies	5
February 15, 2022	Games with Simultaneous moves - continuous strategies	5
February 17, 2022	Combining sequential and simulatenous moves	6
February 22, 2022	Simulationeous-Move Games: Mixed Strategies	7
February 24, 2022	Simulationeous-Move Games: Mixed Strategies	7
March 1, 2022	Exam Review	
March 3, 2022	Exam 1	
March 8, 2022	Strategic moves	8
March 10, 2022	Strategic moves	8
March 15, 2022	Spring Break	
March 17, 2022	Spring Break	
March 22, 2022	Proposal Presentation	
March 24, 2022	Uncertainty and information	9
March 29, 2022	Community Day	
March 31, 2022	Uncertainty and information	9
April 5, 2022	Repeated Games	10
April 7, 2022	Repeated Games	10
April 12, 2022	Collective Action Games	11
April 14, 2022	Collective Action Games	11
April 19, 2022	Exam Review	
April 21, 2022	Exam 2	
April 26, 2022	Games in network/ Any fun topic?	
April 28, 2022	Final Presentation	
May 3, 2022	Final Presentation	