



Carleton University Department of Economics

Fall 2023

ECON 3880Z

Intro to Strategic Thinking

The Instructor

Instructor: Lanny Zrill

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Office Location: Loeb C875

Office Hours: see Brightspace

The Course

Course Location/Delivery: In person. Log into Carleton Central to view the location on your timetable.

Course Day and Time: Tuesdays, 1135 - 1425

TA: TBA

Email Address: TBA

Office Location: TBA

Office Hours: TBA

Brightspace Course Page: <https://brightspace.carleton.ca/d2l/home/208433>

Course Description

Many important economic interactions require strategic thinking due to the interconnected nature of consequences, from competition between firms to global environmental regulation. Therefore, success in these situations requires careful analysis of the strategic connections between participants. This course will introduce students to the basic tools of strategic thinking, often referred to as Game Theory. Our focus will be on developing an intuitive understanding of formal concepts, as well as testing various theories using laboratory experiments. Where possible, we will also explore real-world applications. Topics include price and quantity competition, insurance, voting, auctions, bargaining and contracts, teamwork, and evolution. Students will acquire an appreciation for the ubiquity of strategic decisions in everyday life and, as a result, a better understanding of the way in which the world is organized around them.

Learning Outcomes

After this course, students will be able to:

- Formally define a strategic interaction as a game
- Recognize abstract types of strategic interactions and categorize them according to their features.
- Implement the appropriate analytical tools to solve a particular game.
- Evaluate models and methods according to experimental evidence.
- Apply formal abstract reasoning to real-world strategic scenarios.

Preclusions and Prerequisites

Precludes additional credit for ECON 3402 (no longer offered).

Prerequisite(s): ECON 1001 and ECON 1002, or ECON 1000 or FYSM 1003.

Course Calendar

| Date | Topic | Readings | Due |
|--|---------------------------------|----------|-------------|
| Sept. 12 | Intro to Games | Ch. 1, 2 | |
| Sept. 19 | Simultaneous Move Games | Ch. 4 | |
| Sept. 26 | Simultaneous Move Games, cont'd | Ch. 5 | PS 1 |
| Oct. 3 | Sequential Move Games | Ch. 3 | |
| Oct. 10 | Mixed Strategies | Ch. 7 | PS 2 |
| Oct. 17 | MIDTERM EXAM: In-class | | |
| Fall Break: Oct. 23 - 27 | | | |
| Oct. 31 | Uncertainty | Ch. 8 | |
| Nov. 7 | Mechanism Design | Ch. 14 | |
| Nov. 14 | Auctions | Ch.15 | |
| Nov. 21 | Repeated Games | Ch. 10 | PS 3 |
| Nov. 28 | Collective Action | Ch. 11 | |
| Dec. 5 | Evolution | Ch. 12 | PS 4 |
| Final Exam Period: Dec. 10 - 22 | | | |

PS – Problem Set

Textbooks and Readings

Texts

| Title | Author(s) | ISBN |
|--|----------------------------|---------------|
| Games of Strategy, 5 th Ed. | Dixit, Skeath, and McAdams | 9780393680843 |

The textbook can be obtained through the Carleton University bookstore <https://www.bkstr.com/carletonstore/shop/textbooks-and-course-materials>

Evaluation

Evaluation

| Assignment/Test | Date | Mode of Delivery | Percentage of Grade |
|----------------------------|--|----------------------|---------------------|
| Participation | Various | In-person | 10% |
| Problem Sets (best 3 of 4) | Various (see above) | Submitted in Writing | 30% |
| Midterm Exam | Oct. 17 | In-person | 20% |
| Final Exam | As Scheduled by the University during the Examination Period | In-person | 40% |
| | | | Total: 100% |

Information About Assignments

Participation: Attendance and active class participation are highly recommended. Students may miss one lecture without penalty regardless of the reason. You will earn 1% for each lecture attended up to a maximum of 10%.

Problem Sets: There will be a total of 4 problem sets, though only the top 3 scores will be counted towards your final grade. I reserve the right, however, to use the remaining problem set as bonus so it is advantageous to submit all 4 problem sets in any case. Each problem set will be equally weighted. Hence, each is worth 10%. Each will be assigned at least two weeks prior to their due dates. Due dates can be found above. Problem Sets must be submitted in person or online before 2:25pm Ottawa-time on the due date. Solutions must be typed or legibly hand-written (no exceptions). Problem sets may be submitted in pairs, i.e. a single submission for two students. Groups larger than two are not permitted. Although individual students and/or groups of two may wish to collaborate in thinking about the problem sets, each individual student and/or group of two should be sure to write up their problem sets independently. You can expect graded problem sets to be returned within two weeks of submission.

Midterm: The midterm exam will take place **in-class on Tuesday, October 17th**. It will cover material from Chapters 2 to 7 inclusive. The format will include multiple choice questions, fill-in-the-blank, and numerical calculations as well as some short explanations. The exam will be open book/notes.

Final: The final exam will take place in-person at a time and place determined by the University. It will be open book/notes and cumulative, i.e. it will cover all material from the course. The format will be the same as the midterm.

Late Policies and Extensions for Term Work

Problems Sets: Late submissions will lose 1 mark per day up to a maximum of 2 marks. Hence, a problem set submitted on Wednesday at 5pm that is graded as 8/10 will receive a score of 6/10. **Problem Sets submitted more than 48 hours after the deadline will receive a grade of zero. Extensions will not be granted except in exceptional circumstances.**

Midterm/Test Policies

- If you are absent for a midterm, email me as soon as possible to discuss how we will weight your course evaluations differently. I reserve the right to request a Self-Declaration form or PMC letter of accommodation depending on the length of incapacitation.

Final Exam

The final exam will be in-person as scheduled by the University during the exam period. Students are not to make travel plans during the exam period as that is not a valid reason for missing a final exam.

Satisfactory Performance Criteria

Students must fulfill all of the course requirements, including the final exam, in order to achieve a passing grade (D- or higher).

Deferred Finals

Students who do not write the final examination because of illness or other circumstances beyond their control may apply for to write a deferred final examination by contacting the Registrar's Office no later than three working days after the original final examination was scheduled. In the event that a student writes a deferred examination, the deferred examination will carry the same weight as the final examination in determining the course grade. Any deferred examination will not be identical to the original final examination.

Deferred finals (which must be applied for at the RO) are only available if the student is in good standing in the course.

E-Proctoring

E-proctoring will not be used for evaluations in this course.

Plagiarism, Resources and Mental Health, Academic Accommodations

You are responsible for reading and knowing the information about plagiarism, Carleton University resources, and academic accommodations found [HERE](#).