



**FACULTY OF LIBERAL ARTS & PROFESSIONAL STUDIES
DEPARTMENT OF ECONOMICS**

**INTRODUCTION TO GAME THEORY AND STRATEGIC THINKING
ECON 3310**

Fall 2025

(SUBJECT TO CHANGE)

Thursdays, 11:30 AM – 2:20 PM (ACW 305)¹

Instructor: Selçuk Özyurt

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(Virtual) Office Hours : Upon request

Teaching Assistant: TBA

e-mail : TBA
Virtual Office Hours : TBA

Prerequisites: ECON 1000.

Course Description and Objective:

This is an introductory course on game theory and strategic thinking. It introduces cooperative and non-cooperative game-theoretic concepts that are essential in real-life applications such as designing contracts, developing investment strategies, or conducting negotiations. These concepts serve as a foundation for more advanced game theory courses. Students will gain hands-on experience by participating in simulations and games against their peers.

This course will introduce concepts such as common knowledge, asymmetric information, incomplete information, core, stability, dominant strategy, rationalizable strategies, best response, never-a-best response, Nash equilibrium, backward induction, expected utility theory, and incentive constraints. The

¹ Accolade Building West

course will also develop basic analytical methods to determine the best strategies for players and to find the equilibrium outcomes of games.

As part of their learning experience, students will participate in online and in-class games and simulations. These activities will help them practice strategic decision-making and develop strategic thinking skills.

At the end of the course, students should be able to

- Learn the key concepts of game theory.
- Identify real-world situations where game theory is applicable and model the situation using game theory.
- Learn and execute basic cooperative and non-cooperative solution concepts.
- Develop analytical and problem-solving skills to analyze games.
- Effectively play games: putting theory (and intuition) into practice.

This course is also a good preparation for students who are interested in pursuing graduate work in economics and finance.

Course Textbooks:

I will not strictly adhere to a course textbook. If needed, some lecture notes will be provided, and certain chapters from the following book may be referenced for additional reading.

“Strategy: An introduction to Game Theory” by Joel Watson (Referred as **JW**).

Additional (suggested) textbooks:

“An Introduction to Game Theory” by Martin Osborne

“Game Theory for Applied Economists” by Robert Gibbons

Course Regulations:

The list of weekly topics (the outline) is provided at the end of this syllabus and is also available on e-Class. I will upload lecture notes, additional pre-recorded lecture videos, and sample questions on e-Class for your review. It is your responsibility to review these supplementary materials. We will cover each topic from the outline during in-person lectures, and active class participation is expected. Therefore, students should come to class prepared. I do not set fixed dates or times for office hours; instead, you should email me in advance to schedule a virtual meeting over Zoom.

I kindly request that you avoid causing any disruptions during ongoing discussions if you choose to enter or exit the classroom, which you are free to do at any time. The use of mobile phones is strictly prohibited during lectures to maintain a constructive learning environment. Violators of these rules will be penalized by the deduction of experiment points. The use of tablets or laptops is permitted only for taking notes or playing in-class games.

The final course grade will be determined according to the following breakdown:

Games (participation)	5%
Games (outcomes)	40%
Short reflection papers	10%
Midterm exam	20%
Final exam:	25%

The midterm exam will be held in class (see below for the dates), and the final exam will take place during the official final exam period and include the material covered during the entire course. ***Extra credit and additional work will not be offered once the semester ends, and grades are non-negotiable.***

If you miss the midterm exam, you must provide an acceptable reason within 72 hours. If your excuse is accepted, the weight of the midterm exam will be transferred to the final exam. A deferral for the Final Exam will be granted only for medical reasons. In such cases, students should submit a deferred exam application through the following website ([CLICK HERE](#)). The form must be completed **within 48 hours of the exam time.**

100 – 90	A+
90 – 80	A
80 - 75	B+
75 - 70	B
70 – 65	C+
65 – 60	C
60 – 55	D+
55 – 50	D
50 – 40	E
40 – 0	F

Important Dates:

Thursday, Sept. 4 – First meeting (we will start Topic 1 right after a brief introduction)

Tuesday, Sept. 16 – Last day of ADD without permission.

Tuesday, Sept. 23 – Last day of ADD with permission (e-mail Diane Lorraine Mar: danielm@yorku.ca)

Fall reading week, October 11-17

Thursday, Oct. 23 – Midterm exam

Wednesday, Nov. 4 – Last day of DROP

Thursday, Nov. 27 – Last lecture

Tuesday, Dec. 2 – Fall 2025 semester ends.

TBA – FINAL EXAM

Important Course Information for Students

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents): <http://secretariat-policies.info.yorku.ca/>

- [Student Rights & Responsibilities](#)
- [Academic Accommodation for Students with Disabilities](#)

In this course, we strive to maintain **academic integrity** to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's [Academic Integrity module](#) at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities, and can be punishable according to the [Senate Policy on Academic Honesty](#).

Private Third-Party Tutoring Companies, Academic Honesty, and Support Resources

Many private, third-party tutoring companies advertise their services to YorkU students. One way you can help eliminate these advertisements is by changing your eClass profile settings to private (see instructions below). Some of these private companies claim to be affiliated with, or recognized and supported by, York University. Some also claim to help you by providing you with quiz and test answers, suggesting that this practice is safe and permitted by York. These claims are **not** true. York University has not officially recognized or endorsed any third-party tutoring service. When you are provided with quiz, test and exam answers, you run the risk of violating the [university's academic honesty policy](#). Students have been caught using these services to cheat and gain unfair advantage over honest students. The cheating students and "tutors" have received academic dishonesty punishments ranging from failing courses, to being expelled, to losing their YorkU degrees. Officially supported resources to help students learn course material will be provided by YorkU officials, such as your professors and your department. These services are offered at no cost to you as a student. Your professor will likely provide weekly office help hours to meet with students and if you are a first- or second-year student and would like help with course material, make sure you join one of our weekly [Peer Assisted Study Sessions \(PASS\)](#). If you require help with any of your numeracy-related courses that involve math, statistics or Excel, drop in online to meet with one of our peer tutors at the [Student Numeracy Assistance Centre at Keele \(SNACK\)](#). If you are ever unsure of whether a resource is allowable or endorsed by YorkU, please feel free to email the Department of Economics at lapsecon@yorku.ca and they would be happy let you know.

To hide your email address in eClass: Step 1: Click your name on the top-right of the eClass website, then click "Profile" on the drop-down menu; Step 2: Under "User details" click "Edit profile"; Step 3: From the "Email display" drop-down menu choose "Hide my email address from non-privileged users"; Step 4: Scroll to the bottom of the page and click on the "Update profile" button.

Course Outline

TOPIC 1: AUCTIONS

Week 1 - 3 (September 4th, 11th, and 18th)

TOPIC 2: DECISION UNDER UNCERTAINTY

Week 4 (September 25th)

1. Risk aversion and risk preferences
2. Expected utility theory
3. Consumer Surplus: Compensating and Equivalence Variations

TOPIC 3: BASIC SOLUTION CONCEPTS

Week 5 and 6 (October 2nd and 9th):

1. Optimal strategy
2. Dominant and dominated strategies
3. Weakly dominant and dominated strategies
4. Best-response strategies
5. Never-a-best-response strategies
6. Rationalizable strategies
7. Nash equilibrium

Week 7 (October 23rd):

MIDTERM EXAM (in class – covers weeks 1-6)

TOPIC 4: BARGAINING

Week 8 (October 30th)

1. Nash demand game
2. Ultimatum bargaining
3. Alternating offer bargaining games
4. Backward induction
5. Cooperative bargaining games

TOPICS: COOPERATIVE GAMES

Week 9 (November 6th)

1. Stability
2. Core
3. Feasibility
4. Pareto efficiency

TOPICS: SCREENING

Week 10 (November 13th)

TOPICS: CONTRACTING; PRINCIPAL-AGENT MODELS

Week 11 (November 20th)

TOPICS: TBA

Week 12 (November 27th)