



HEC - University of Lausanne
Competitive Advantage & Strategic
Interactions **Monday, 8:45PM – 12:00PM**
Spring 2022

Instructor: Annamaria Conti

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Office hours: By appointment

Course Material:

- (1) Austan Goolsbee, Steven Levitt, Chad Syverson, *Microeconomics*, Worth Publishers, Second Edition, 2016
- (2) Notes provided by the instructor
- (3) Newspaper and academic articles: references provided in the syllabus
- (4) *The Art of Strategy*, Avinash Dixit and Barry Nalebuff, Norton
- (5) *Great Negotiations: Agreements that Changed the Modern World*, Fredrik Stanton, Westholme
- (6) *Strategy: An Introduction to Game Theory*, Joel Watson, Norton
- (7) Case studies: references provided in the syllabus ([link to case studies: https://hbsp.harvard.edu/import/907832](https://hbsp.harvard.edu/import/907832))

TABLE OF CONTENTS:

COURSE DESCRIPTION AND OBJECTIVES	2
TEACHING & LEARNING METHODS	3
EXPECTATIONS ABOUT ATTENDANCE & PARTICIPATION	3
EXPECTATIONS ABOUT PROFESSIONAL BEHAVIOR.....	4
COURSE REQUIREMENTS & GRADING.....	4
EXAMINATION COVERAGE, POLICIES AND PROCEDURES.....	5
COMPLETE COURSE SCHEDULE IN DETAIL.....	6

COURSE DESCRIPTION AND OBJECTIVES

During this course, we will cover three broad topics. The first is firm behavior and competitive advantage in oligopoly market configurations. The second is competitive advantage and price discrimination. The third is market failures.

I will start this course with a quick refresher of perfect competition, monopoly, and monopolistic competition. While these industry structures are characterized by the fact that producers do not interact with each other, *oligopolistic competition*, which is the next concept I will cover, is characterized by the fact that firms strategically interact with each other. Thus, under oligopoly, firms' optimal choices regarding entry, price, quantities, and product positioning have to take into account the reactions of the other market players. To fully understand oligopoly, I will introduce the principles of game theory. In fact, game theory is a branch of mathematics that studies interactions among players, including firms. I will cover simultaneous games to introduce oligopoly models such as Cournot's and Bertrand's models. I will then discuss sequential games, introducing the famous Stackelberg's oligopoly model and several other entry games. Furthermore, I will cover games that are repeated a finite and an infinite number of times to explain the notions of punishment and reputation, which are fundamental concepts regulating the behavior of oligopolistic market players. Finally, I will cover the topic of negotiation showing how firms gain and maintain a competitive advantage in the market.

In the second part of the course, I will introduce the notion of *market failures*. I will discuss market failures stemming from asymmetric information. This is a very hot topic: most of the Nobel Prize winners in the past decade have researched in this field. Within this topic, I will briefly cover concepts such as markets for lemons, signals, and moral hazard.

The goal of this course is to introduce you to a wide variety of problems managers face in their every-day life. I expect you to develop an economic intuition for these problems and apply this intuition to concrete situations you will face at work. To achieve this objective, we will complement the study of the economic models mentioned above with applications of these models to concrete examples, extracted from newspaper articles and case studies.

NB: In addition to master's students, this course is also open to PhD students. The course requirements for PhD students change slightly from those reported below. Instead of a 2-page summary of their presentation, PhD students are required to write a 10-page research proposal. In their proposal, the students will: 1) provide a clear and concise summary of their research idea; 2) describe how it relates to the course; 3) provide an assessment of how it contributes to the literature and of its empirical feasibility.

TEACHING & LEARNING METHODS

Success in this course requires your active participation. You cannot succeed in this course if you just sit back and "coast." The most important learning will take place during the face-to-face discussions and activities that we hold in class. So, if you do not actively participate in class, or if you show up unprepared, you not only deprive yourself of learning, but you also deprive your classmates of a learning opportunity, since they will not have a chance to hear your ideas, insights, and viewpoints.

EXPECTATIONS ABOUT ATTENDANCE & PARTICIPATION

Because of the emphasis in this course on active learning, I set high expectations regarding attendance and preparation. Your attendance is expected at every class. Please arrive on time so that we may start promptly. If for some reason you must be absent, please let me know in advance so that your absence will not be unexplained.

It is essential to the success of this course that you are both physically and mentally present in class, and that you are fully prepared to discuss the material. You are expected to read the newspaper articles and the case studies assigned, before coming to class. Also, in every class I will set a time dedicated to the solution of a list of exercises that are provided in the Exercise Book. These exercises will allow you to prepare for the exams. We will correct them in class. I expect that you actively participate in their correction.

The day before class I will send you the slides with the topics that I will cover in class. You should print the slides and bring them during class.

Contributions that I evaluate positively:

- Insightful analysis supported by appropriate logic and evidence.
- Comments demonstrating that you have done a thorough job of preparation.
- Relating class material to first-hand personal experience or other concrete (second-hand) examples.
- Share your experience.

Contributions that I evaluate negatively:

- Simply reiterating case facts, without analysis or insight.
- Comments that are off-the-point or indicate inadequate preparation.
- Superficial comments.
- Interrupting someone who is speaking.
- Personal attacks or comments that are disrespectful, insulting, or unprofessional.

- Distracting behavior (e.g., grunts or unrelated side conversations).
- Unfounded comments unsupported by logic or evidence.
- Monopolizing discussion without contributing to classmates' learning.

In order to help me (and your fellow students) learn your name I ask that you take the following steps:

- 1) Display a name card at every class meeting, showing your name in large, clearly legible letters.
- 2) Sit in the same seat throughout the entire semester (or, at a minimum, in the same general location).

I intend to solicit widespread participation in class discussions and to ensure that everyone gets an opportunity to participate. However, my methods may be imperfect. If you believe that you are being consistently and disproportionately overlooked, then please alert me privately, and I will try to ensure that you get an opportunity to participate.

EXPECTATIONS ABOUT PROFESSIONAL BEHAVIOR

It is my responsibility as instructor to foster a mutually respectful learning environment in the classroom. Accordingly, I set high expectations regarding professional behavior in class. The following unprofessional behaviors are disruptive to everyone and therefore should be avoided during our class meetings and for the final exam session:

- Arriving late.
- Holding side conversations. (If you have a question about the class material, please raise your hand and ask it, rather than whispering it to your neighbor. If you have to discuss something unrelated, please wait until after class.)
- Inattention (e.g., reading unrelated materials or studying for other classes).
- Personal attacks or comments of a disrespectful or insulting nature.

COURSE REQUIREMENTS & GRADING

- In-class exam – May 30, 2022 – 60% of final grade
- In-class individual presentation + Report– 30% of final grade*
- Participation:
 - to discussion regarding individual presentations - 7% of final grade
 - Class participation – 3% of final grade

Make up exams are to be discussed. Grades are based upon performance and are not based on effort, the need to maintain financial or academic eligibility, interest, work or academic schedules or other factors.

Final grades may be reduced pursuant to the attendance policy set above. Extra or additional credit assignments will not be accepted for grading in this course.

***Students should identify a relevant problem from a game-theory stand point and develop a plan to address this problem using the knowledge they acquired in class. Students are then**

required to: 1) produce a 2-page summary of the problem and solutions they have identified and 2) present the results of their investigation. Further details regarding the presentation will be provided in class.

EXAMINATION COVERAGE, POLICIES AND PROCEDURES

Coverage

The examination will cover material imparted in class, class lectures, discussions, and all assigned readings.

Policies and Procedures

Completing the in-class examinations is independent work rather than a collaborative activity. Group work and other collaboration are not permitted. The examinations are individual assignments that must reflect each student's individual work product. The submission of the examination answers to the instructor is certification by the student that the answers are his or her original and sole work product.

In your answers, be concise and precise. Include only those arguments that are **relevant** for answering the exam questions.

Students who are unable to submit their examination answers on a timely basis due to serious illness or injury, death or illness in the family, jury duty, military obligation, obligation to attend an Institute-sponsored event or a religious holiday must contact the instructor before the deadline, or as soon as reasonably possible, to make alternate arrangements. Students seeking postponement must provide evidence of the underlying reason at the time they submit their examination answers.

All re-grade requests must be made in writing within one week of the day the exams are returned. In case, clearly state why a question should be re-graded. If you submit a question to be re-graded, your entire exam will be re-graded.

Any student failing to abide by these policies will receive a zero for the examination in question.

COMPLETE COURSE SCHEDULE IN DETAIL

The following schedule provides the order in which we will cover various topics and the book chapters in which the topics can be found. The schedule I provide is only tentative.

I will refer to “Austan Goolsbee, Steven Levitt, Chad Syverson, *Microeconomics*, Worth Publishers, Second Edition, 2016” as **GLS**.

I will refer to “The Art of Strategy,” by Avinash Dixit and Barry Nalebuff, Norton as **AN**.

I will refer to “Great Negotiations: Agreements that Changed the Modern World,” by Fredrik Stanton as **FS**.

If will refer to “Strategy: An Introduction to Game Theory, Joel Watson,” as **JW**

February 21, 2022

Game Theory: Introduction

Newspaper articles:

- “Game Theory: Prison breakthrough,” The Economist, August 20th, 2016

February 28, 2022

Game Theory: Simultaneous Games

Book Chapters: GLS: Ch. 12; Notes by the instructor

Newspaper articles:

- “Your Questions About Trump’s Trade War, Answered,” Bloomberg, February 5th, 2019
- “American farmers grapple with falling prices and sinking incomes,” The Economist, November 8th, 2018
- “Auto Overcapacity Gives Leaders Another Issue to Ponder,” The New York Times, March 7th, 2012

March 7, 2022

Game Theory: Mixed Strategies

Book Chapters: GLS: Ch. 12; JW Ch 11; AN Ch. 5 (Distributed by the professor)

Newspaper articles:

- “Game Theory: Prison breakthrough,” The Economist, August 20th, 2016
- “Your Questions About Trump’s Trade War, Answered,” Bloomberg, February 5th, 2019
- “American farmers grapple with falling prices and sinking incomes,” The Economist, November 8th, 2018

- “Auto Overcapacity Gives Leaders Another Issue to Ponder,” The New York Times, March 7th, 2012

March 14, 2022

Simultaneous Games & Oligopoly

Book Chapters: GLS: Ch. 11; Notes by the instructor

Newspaper articles:

- “Pumped Up,” The New Yorker, June 12th, 2006
- “Cartels Whiter than white?” The Economist, Dec 11th, 2011

March 14, 2022

Sequential Games

Book Chapters: GLS: Ch. 12; **FS: Ch. 7: (Distributed by the professor)**; Notes by the instructor

Newspaper articles:

- “How Microsoft Warded Off Rival,” The New York Times, May 15th, 2003
- “Italian Ban On Paying Kidnappers Stirs Anger,” The New York Times, February 1st, 1998

Case Study: Bitter Competition: The Holland Sweetener Company vs. NutraSweet (A) by Adam Brandenburger et al., November 2000

March 21, 2022

Sequential Games & Oligopoly

Book Chapters: GLS: Ch. 11; Notes by the instructor

Case Study: The Right Game: Use Game Theory to Shape Strategy by Adam Brandenburger & Barry Nalebluff, July 1995

March 28, 2022

Games repeated a finite and infinite number of times

Book Chapters: GLS: Ch. 12; JW: Ch 22

April 4, 2022

Bargaining

Book Chapters: JW: Ch. 18

Newspaper article:

- “Managing by Zooming Around,” *The Economist*, Dec 5th, 2020

Academic Article:

- “A Non-Technical Introduction to Bargaining Theory,” *Abhinay Muthoo*, *World Economics*.

April 11, 2022

Market Failures: Adverse Selection, Signaling, and Screening

Book Chapters: GLS: Ch. 16

Newspaper articles:

- “Ivy League grade inflation,” *The Economist*, September 6th, 2014

April 25, 2022

Moral Hazard

Book Chapters: GLS: Ch. 16

May 2, 2022

Preparation to exam

May 9-16-23, 2022

In-class presentations

May 30, 2022

Midterm Exam