

Econ 3133 Microeconomic Theory II

Hong Kong University of Science and Technology
Department of Economics

Course Information

The course will be conducted in the form of interactive online course at the beginning of the semester. The Zoom meeting information is on canvas. Recordings of all lectures will be provided. There is a separate note about how to have good learning experiences from online courses.

*Based on the situation of COVID-19, we might switch to mixed-mode teaching, which gives the option to students coming back to the classroom. Please pay attention to Emails from the University.

Instructor: Yangguang (Sunny) HUANG

Email: huangyg@ust.hk

Interactive online lecture time: Tue Thur 12:00-13:20

Lecture Zoom meeting ID: 93735550442 (with password 144000)

Office hours: Wed Fri 14:00-16:00 by Zoom (meeting ID 2067854429 with password 144000), Signal, or face-to-face (LSK6075).

Teaching assistant: Dominic PEGLER

Email: ecdipegler@ust.hk

Interactive online tutorial section: Wed 15:00 - 15:50

Tutorial section Zoom meeting ID: 92262259442

Office hours: Tue 16:00-18:00 by Zoom (meeting ID 5150089299), Signal, or face-to-face (LSK6066).

Textbook:

Microeconomic Theory: Basic Principles and Extensions, by Nicholson and Snyder (Required).

Intermediate Microeconomics with Calculus: A Modern Approach, by Hal R. Varian (Supplemental).

Grading:

- Attendance and participation, 20%
- Homework assignments, 20%
- Midterm exam, 25%
- Final exam, 35%

To cope with the need of online teaching, we encourage students to finish homework in a group of two. Students can change partner for different homework. Students can also finish homework by himself or herself.

Absence in an exam without a prior notification and a reasonable and verifiable justification will result in zero point for that part.

Learning Goal

This is a sequel to the Microeconomic Theory I (Econ 3113). This two-part sequence is designed to provide a detailed study of basic topics in Microeconomics with a special emphasis on using a rigorous

analytical approach. In Econ 3133, we study firms' behavior and market/strategic equilibrium in detail. Topics include firms' production and cost, competitive equilibrium and welfare, monopoly, game theory and its application in Microeconomics. Emphases are placed on a rigorous analytical and mathematical approach, and multivariate calculus will be used extensively.

Per Program Intended Learning Objective (PILO) for [BSc in Economics and Finance](#), after completing this course, students will

1. Understand the logic, scientific basis, and critical thinking of economic analyses (PILO 1);
2. Have a sophisticated knowledge of economics, apply it to explain economic and social phenomena, and make sound economic decisions (PILO 4);
3. Develop ability to qualitatively analyze basic economic and social problems. Conduct basic economic analysis and research of the economy and society (PILO 4);
4. Collaborating effectively with your team members to answer questions in homework (PILO 5, 7);
5. Have informed ethical thinking based on rigorous economic and social analyses (PILO 8);
6. Be a lifelong user of economic analysis (PILO 9).

Other Information

General information about COVID-19 and online learning (<https://covid19info.ust.hk/>)

Student conduct and academic integrity (<http://acadreg.ust.hk/generalreg.html>)

The final course grade will be given by the University guideline (<http://qa.ust.hk/aos/distribution.html>)

Counseling and wellness center (<https://counsel.ust.hk/>)

Center for Language Education (cle.ust.hk/)

Math support center (www.math.ust.hk/~support/)

Outline and Schedule

Course Introduction and Math Review (1 lecture)

- One economic agent
 - Endogenous variable
 - Exogenous variable
 - Comparative statics
- Multiple economic agents
 - Strategic interaction
 - Equilibrium

Module 1. One Economic Agent: Profit-maximizing Firm (6 lectures)

- Production functions (Ch. 9)
 - Basic concepts
 - Labor versus capital: technical substitution and more
 - Discussion: machine replacing human and inequality

- Cost functions (Ch. 10)
 - Cost-minimization problem
 - Property of cost functions
 - Discussion: make or buy? the boundary of firm
- Profit maximization (Ch. 11)
 - Profit maximization of a price-taking firm
 - Profit maximization of a firm with market power
 - Marginal revenue and demand elasticity
 - Discussion: productivity

Module 2. Many Economic Agents: Competitive Market and Partial Equilibrium (6 lectures)

- Partial Equilibrium (Ch. 12)
 - Market demand and supply
 - Short-run market equilibrium
 - Comparative statics of market equilibrium
 - Long-run market equilibrium
 - Welfare analysis
 - International trade
 - Discussion: the invisible hand and the visible hand
- Monopoly (Ch. 14)
 - Monopoly behavior
 - Regulating monopoly
 - Price discrimination
 - Discussion: paradox in regulating monopoly

Midterm exam (1 lecture, the tentative date is Oct 17th)

Module 3. Multiple Strategic Economic Agents (12 lectures)

- Introduction to game theory (Ch. 8)
 - Simultaneous move game
 - Nash equilibrium
 - Mixed-strategy Nash equilibrium
 - Sequential game
 - Repeated game
- Imperfect competition (Ch. 15)
 - Cournot quantity competition model
 - Bertrand price competition model
 - Hotelling model
 - Stackelberg leader-follower model
 - Merger and collusion
 - Discussion: antitrust and competition policy

- Externalities and public goods (Ch. 19)
 - Externality
 - Public goods
 - Discussion: social welfare and public choice

Final exam