

Econ 3133 Microeconomic Theory II

Hong Kong University of Science and Technology
Department of Economics

Course Information

Instructor: Yangguang (Sunny) HUANG

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Lecture time: Tue Thu 10:30-11:50 at room 1410

Please pay attention to the latest information about mode of teaching from <https://covid19info.ust.hk/>, Canvas, and Emails from the University. Zoom meeting information will be posted on canvas. Recordings of all lectures will be provided.

Office hours: Mon Wed 9:30-11:00

- By Zoom chat (add me by email)
- Zoom meeting (ID 2067854429, password 144000)
- Face-to-face at LSK6075.

Teaching assistant:

Email:

Tutorial section: Tue 18:00-18:50 at LSK1033

Office hours and Zoom information will be posted on Canvas.

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, 10%
- Homework assignments, 15%
- Midterm exam, 30%
- Final exam, 45%

Detailed exam instruction will be send out later. Absence in an exam without a prior notification and a reasonable and verifiable justification will result in zero point.

All students who are physically in Hong Kong must attend exams in person on HKUST campus. Students must receive exemption from the University for not taking exams in person.

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

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

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).

Outline and Schedule

Course Introduction and Math Review

- 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, date to be determined)

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