

Econ 3133 Microeconomic Theory II

Fall 2023 L1

Hong Kong University of Science and Technology
Department of Economics

Course Information

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.

Instructor: Yangguang (Sunny) HUANG

Email: huangyg@ust.hk

Lecture time: Monday Wednesday 12:00-13:20 at LSK1001

Office hours: Tuesday Thursday 10:30-11:30

- Face-to-face at LSK6075

- Zoom meeting (2067854429, <https://hkust.zoom.us/j/2067854429>)

Teaching assistant: Jeremy TO

Email: ecjeremy@ust.hk

Tutorial section: Wednesday 15:00-15:50 at 2304

Office hours: TBD

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:

- Participation, 5%

- Homework assignments, 15%

- Midterm exam, 35%

- Final exam, 45%

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

Bonus point may be given to students who actively participate in lectures or make important contribution to the course.

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>).

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)

- Cost minimization (Ch. 9 and Ch. 10)
 - Substitution between inputs
 - Cost-minimization problem
 - Cost function
- Profit maximization (Ch. 11)
 - Profit maximization of a price-taking firm
 - Profit maximization of a firm with market power
 - Marginal revenue and demand elasticity

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

- Partial Equilibrium (Ch. 12)
 - Market demand and supply
 - Competitive market equilibrium
 - Comparative statics of market equilibrium
 - Welfare analysis
 - International trade
- Monopoly (Ch. 14)
 - Monopoly behavior
 - Regulating monopoly
 - Price discrimination
 - Monopolistic competition
 - Long-run equilibrium

Special topic: Innovation

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

- Externalities and public goods (Ch. 19)
 - Externality
 - Public goods

Special topic: Digital economy

Final exam

School Intended Learning Outcomes (SILO)

<https://bmundergrad.hkust.edu.hk/academics/academic-programs/learning-outcomes>

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