

Hong Kong University of Science and Technology

ECON5130: Microeconomic Analysis

Jiangtao Li

Syllabus

Instructor

Jiangtao Li

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Office Hours: See below.

Research webpage: <https://jiangtaoli.weebly.com/>.

Schedule and Venue

Section	Schedule	Venue
L2	Tue and Thu: 11am - 12:50 pm	Room 2, 31/F, Tower 1, Millennium
L3	Tue and Thu: 2pm - 3:50 pm	Room 2, 31/F, Tower 1, Millennium

For details, refer to the Appendix.

Office Hours: 1pm - 2pm at the Meeting room 1 on teaching days.

Teaching Assistants, Office Hours, and Tutorials

Zhaowei Li (L2)	Yuhan Fang (L3)
Email: zliif@connect.ust.hk	Email: yfangap@connect.ust.hk
Office Hours: By appointment	Office Hours: By appointment

Regardless of your registered section, you are welcome to approach either teaching assistant. Tutorial schedules will be announced at least two weeks in advance. During tutorial weeks, two sessions covering the same material will generally be offered, and you may attend the session that best fits your schedule.

Description & Course Objectives

This course covers theories of modern microeconomics. It intends to introduce the main theories and methodologies of neoclassical microeconomics, game theory, and information economics.

Students are required to understand the theories and concepts intuitively, to master the modeling techniques and derivations, and to solve simple versions of the problems.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. Explain fundamental microeconomic concepts, including consumer theory, producer theory, market equilibrium, and simple game theory.
2. Construct and interpret simple economic models to explain real-world phenomena.
3. Apply microeconomic principles and simple game theory to analyze economic policies and evaluate their potential impacts.

AASCSB Assurance of Learning (AOL) - MSc

This course will serve to assess learning goals 1 and 3 set out by the program.

Learning Goal 1

Graduates will be able to master the core of scientific knowledge for their discipline.

Learning Objectives:

- Objective 1.1: Summarize the strengths and limitations of the knowledge core.
- Objective 1.2: Synthesize the knowledge core to evaluate business ideas.

AOL Assessment Rubrics:

Learning Objectives	Emerging	Developing	Mastering
1.1 Summarize the strengths and limitations of the knowledge core.	Demonstrates insufficient understanding of the strengths and limitations of the knowledge core.	Demonstrates moderate understanding of the strengths and limitations of the knowledge core.	Demonstrates comprehensive understanding of the strengths and limitations of the knowledge core.
1.2 Synthesize the knowledge core to evaluate business ideas.	Demonstrates insufficient ability to synthesize and evaluate business ideas.	Demonstrates average ability to synthesize and evaluate business ideas.	Demonstrates excellent ability to synthesize and evaluate business ideas.

Assessment Vehicle used to measure the Learning Goal 1: Mid-term and final exams

Learning Goal 3

Graduates will be able to integrate their knowledge and skills in business applications.

Learning Objectives:

- Objective 3.1: Combine suitable knowledge and skills to analyze and propose solutions to business problems.
- Objective 3.2: Formulate sound, practical recommendations and communicate them to a business audience.

AOL Assessment Rubrics:

Learning Objectives	Emerging	Developing	Mastering
3.1 Combine suitable knowledge and skills to analyze and propose solutions to business problems.	Insufficiently proficient in combining suitable knowledge and skills to analyze and propose applicable solutions to business problems.	Moderately proficient in combining suitable knowledge and skills to analyze and propose applicable solutions to business problems.	Highly proficient in combining suitable knowledge and skills to analyze and propose applicable solutions to business problems.
3.2 Formulate sound, practical recommendations and communicate them to a business audience.	Insufficiently proficient in formulating sound, practical recommendations and communicate them to a business audience.	Moderately proficient in formulating sound, practical recommendations and communicate them to a business audience.	Highly proficient in formulating sound, practical recommendations and communicate them to a business audience.

Assessment Vehicle used to measure the Learning Goal 3: Final exams

This AACSB AOL assessment exercise does not affect students' learning experience and course grades.

Course Content

The first part of the course focuses on the foundational frameworks of consumer behavior, producer theory, and competitive markets, including general equilibrium and welfare analysis. The second part shifts to the analysis of market power, examining monopoly pricing, price discrimination, and oligopoly competition. Finally, the latter portion of the course introduces advanced topics in strategic interactions and information economics, covering signaling, game theory, auction theory, and contract theory.

Course Outline (Tentative Topics)

Part 1: Neoclassical Microeconomics

- Consumer Theory: Preference, Utility Function, Budget Constraints, Utility Maximization, Expenditure Minimization, Slutsky Equation, and Revealed Preference

- Producer Theory: Technology and Its Representation, Profit Maximization, and Cost Minimization
- Competitive Market and General Equilibrium
- Welfare Analysis of Competitive Equilibrium
- Externality

Part 2: Market Power and Competition

- Monopoly Pricing and Price Discrimination
- Oligopoly and Endogenous Product Differentiation
- Bundling

Part 3: Strategic Interactions and Information Economics

- Signaling
- Cartels
- Game Theory (NE, SPNE, BNE)
- Auction Theory
- Contract Theory

Resources

Course Website: Slides, reading materials, and problem sets are there. All the slides shown in class are downloadable from this website.

Optional Textbook: Hal Varian, *Microeconomic Analysis*, Third Edition.

Other Supplementary Readings:

- Wang, S. (2016). *Microeconomic Theory*. 3rd ed., PDF copy, free.
- Jehle, G.A.; Reny, P.J. (2011). *Advanced Microeconomic Theory*, 3rd ed.
- Mas-Colell, et al. (1995). *Microeconomic Theory*. Oxford University Press.
- Laffont, J.J. (1995). *The Economics of Uncertainty and Information*. MIT.

Assessment and Grading

Problem Sets: There are a number of problem sets. No need to hand in your solutions

Exam and grading:

- **A1:** class attendance and participation (15%).
- **A2:** one midterm exam (25%).
- **A3:** one final exam (60%). The final exam will be arranged by ARO.

Overall Grading Plan for the Course:

- Marks for individual assessed tasks will be released within two weeks of the due date.
- The alignment of the course ILOs and Assessment is shown in the following table.

Learning outcome	Assessment
1. ILO1	A1, A2, A3
2. ILO2	A1, A2, A3
3. ILO3	A1, A2, A3

Attendance Policy

Students fail to attend more than 7 classes, with or without legitimate justifications, will automatically fail the course. Please study Appendix carefully to understand the attendance policy.

Rubrics for Final Grade

Grades	Short Description	Elaboration on subject grading description
A+, A, A-	Excellent Performance	Demonstrates a comprehensive grasp of microeconomic theories and tools covered in the course. Exhibit exceptional skills in utilizing the taught techniques to analyze real-life economic issues. Excels in the exams.
B+, B, B-	Good Performance	Shows a solid grasp of the microeconomic theories and tools covered in the course. Demonstrates good skills in utilizing the taught techniques to analyze real-life economic issues. Performs well in the exams.
C+, C, C-	Satisfactory Performance	Possesses adequate knowledge of microeconomic theories and tools covered in the course. Occasionally demonstrating a decent skill in utilizing the taught techniques to analyze real-life economic issues. Acceptable performance in the exams.
D+, D	Marginal Pass	Has threshold knowledge of microeconomic theories and tools covered in the course. Show limited skills in utilizing them. Below-average performance in the exams.
F	Fail	Demonstrates insufficient understanding of microeconomic theories and tools covered in the course. Lack skills in utilizing them. Unsuccessful in the exams.

Course Policies

Course AI Policy: You can use GTP or other generative AI freely to help your study in this course, including the preparation for the exams, subject to change based on the university's general policies. However, no AI tools are allowed in the exams.

Academic Integrity: Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity — HKUST - Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

Classroom Etiquette: You are expected to be punctual for lectures and I will start and end the lecture on time. You are welcome to bring your laptop or other devices to lectures for learning purposes. Respect the others in the class and do not disturb others with side conversations, internet surfing, email-checking or instant-messaging during class time.

Appendix: Course Calendar (subject to changes)

L2 - Tuesdays and Thursdays

Time: 11am - 12:50pm

Venue: Room 2, 31/F, Tower 1, Millennity

#	Date	Day	Remarks
#1	25 Aug	Tue	
#2	27 Aug	Thu	
#3	1 Sep	Tue	
#4	3 Sep	Thu	
#5	8 Sep	Tue	
#6	10 Sep	Thu	
#7	15 Sep	Tue	
#8	17 Sep	Thu	
#9	22 Sep	Mon	
#10	24 Sep	Tue	
#11	29 Sep	Thu	
#12	1 Oct	Tue	Public holiday, no class
#13	6 Oct	Tue	
#14	8 Oct	Thu	
#15	13 Oct	Tue	
#16	15 Oct	Thu	Mid-term exam, 7:30pm - 9:30pm, Lecture Theater A, no class
#17	20 Oct	Tue	Break week, no class
#18	22 Oct	Thu	Break week, no class
#19	27 Oct	Tue	
#20	29 Oct	Thu	
#21	3 Nov	Tue	
#22	5 Nov	Thu	
#23	10 Nov	Tue	
#24	12 Nov	Thu	
#25	17 Nov	Tue	
#26	19 Nov	Thu	
#27	24 Nov	Tue	
#28	26 Nov	Thu	
#29	1 Dec	Tue	
#30	3 Dec	Thu	

L3 - Tuesdays and Thursdays

Time: 2pm - 3:50pm

Venue: Room 2, 31/F, Tower 1, Millennity

#	Date	Day	Remarks
#1	25 Aug	Tue	
#2	27 Aug	Thu	
#3	1 Sep	Tue	
#4	3 Sep	Thu	
#5	8 Sep	Tue	
#6	10 Sep	Thu	
#7	15 Sep	Tue	
#8	17 Sep	Thu	
#9	22 Sep	Mon	
#10	24 Sep	Tue	
#11	29 Sep	Thu	
#12	1 Oct	Tue	Public holiday, no class
#13	6 Oct	Tue	
#14	8 Oct	Thu	
#15	13 Oct	Tue	
#16	15 Oct	Thu	Mid-term exam, 7:30pm - 9:30pm, Lecture Theater A, no class
#17	20 Oct	Tue	
#18	22 Oct	Thu	
#19	27 Oct	Tue	Break week, no class
#20	29 Oct	Thu	
#21	3 Nov	Tue	
#22	5 Nov	Thu	
#23	10 Nov	Tue	
#24	12 Nov	Thu	
#25	17 Nov	Tue	
#26	19 Nov	Thu	
#27	24 Nov	Tue	
#28	26 Nov	Thu	
#29	1 Dec	Tue	
#30	3 Dec	Thu	

Mid-term exam

- L2 and L3 combined
- Date: 15 Oct 2026
- Time: 7:30pm - 9:30pm
- Venue: Lecture Theater A

Attendance policy

Our course is a 4-credit course. According to 4-credit courses,

- 1st – 7th absences are permitted only with valid proof of legitimate reason.
- If a student is absent for any reason for more than 7 sessions, she/he will be required to withdraw from the course, and a "W" (representing withdrawal from class) will be shown on the transcript.
- If the withdrawal request is unsuccessful, she/he will fail the course, and an "F" will be shown on the transcript.
- Students who are late for more than 30 mins will be considered as Absent from Class.

1. Absence approval Absences may be approved upon submission of valid supporting documents for legitimate reasons. However, approved absences will still be counted as absences for attendance record purposes and toward the maximum number of absences permitted under the course attendance policy.

2. Attendance taking For courses held in MSc Learning Hub (LH): Make use of the attendance record collected by the attendance-taking machines in the Learning Hub.

For courses held in Clear Water Bay Campus (CWB): The Program Office or TA will attend the first 30 minutes of each section to take attendance using attendance-taking machines.

For courses held in Business School Central (BSC): Attendance sheets will be prepared by the Program Office and brought to the venue by the course instructor or TA. Completed attendance sheets should be returned to the Program Office for record keeping and follow-up actions. Attendance will only be recognized based on the attendance-taking machine records/ official attendance sheet.

3. Warning Issuance and Penalties If any attendance irregularities are identified (e.g., excessive absences), the Program Office will issue a warning to the student. Once the attendance limit is exceeded, the student will be required to submit a course withdrawal request.