ECON 4464 HKUST

Yatang Lin Spring 2026

Syllabus: Urban and Environmental Economics

Time:
WeFr 01:30PM - 02:50PM

Location:
Rm 1033, LSK Bldg (51)

Instructor: Yatang Lin

6052 LSK Building

linyt@ust.hk

Office Hours: by appointment

Tutorial time and location: TBA

TAs: Jeremy To (ecjeremy@ust.hk)

Course Summary

The course is designed to introduce students to key contemporary concepts in urban and environmental economics, and to equip them with the approaches in economics that are generally applied to analyze urban/environmental problems and policies. The course will be divided into two parts. Part I will cover topics on the economics of cities, including rent and wage determination, the location decisions of households and firms, agglomeration economics, housing, transportation and land use. Part II will focus on environmental economics, covering topics on externalities, Pigouvian policies and environmental valuation.

Prerequisites

You should have completed Calculus and at least introductory microeconomics courses (better with intermediate microeconomics) (MATH 1012/1013/1020/1023 and ECON 2103) before taking this class.

Requirements

The following are required for successful completion of the course: (1) 3 problem sets that involve problem solving; (2) mid-term and final exams; (3) individual project; (4) class participation.

Course Website

Throughout this class, we will use the Canvas online discussion board. We encourage you to ask questions on the Canvas forum for clarifications, questions about concepts, or about your projects. Using Canvas for Q&A would allow students to see and learn from other students' questions. Both the TA and the instructor will regularly check the board and answer questions posted, although everyone else is also encouraged to contribute to the discussion. A student's respectful and constructive participation on the forum will count toward his/her class participation grade.

Grading

Grades will be determined based on the following allocation:

> Three problem sets: 15%; Individual project: 15%; Mid-term exam: 30%, final exam: 35%. Class Participation: 5%. The instructor reserves the right to make small adjustments to the final total grade score.

Problem Sets

We will have 3 problem sets. The purpose of these problem sets is to help cement the theoretical economic foundations underlying the models we will discuss in class. You are welcome to work on problem sets with your classmates, but I expect everyone to write up their own set of solutions to each assignment. Writing up your own solution set will help ensure that you understand the concepts. If you work with classmates on assignments, please make a note of who you worked with at the top of your assignment.

Individual Project

Students will complete an individual project in the form of an empirical research proposal.
Your goal is to develop a project that can ultimately generate convincing empirical evidence on an interesting, policy-relevant question, potentially serving as a foundation for a thesis.

Your goal is to come up with a project that will ultimately produce convincing empirical evidence on an interesting, policy-relevant question, which might be developed into your thesis. Typical research subjects include evaluation of a policy using data, or the hedonic analysis of urban amenities you find interesting. You might also want to identify an existing empirical article in the economics literature for which you can obtain similar data. The proposal should include detailed descriptions of where you can find the data needed, and the econometric strategy you plan to use to test your hypotheses.

The final product will be a paper of approximately 10 pages, including references (12-point font, double-spaced).

Deadline of submission: May 15th, 2026 (midnight). Late submissions will not be accepted.

Tutorials:

There will be weekly tutorials for this course starting from week 4. Problem sets and other questions will be discussed in the tutorials. We will discuss and provide feedbacks on the individual projects at tutorials as well.

Electronics

No phones, you can use your laptop to take notes during lectures.

AI-use Policy

Generative AI tools (e.g., ChatGPT) may be used to generate ideas, brainstorm, and support your literature search, but AI outputs can be inaccurate, incomplete, or otherwise unreliable and may also crowd out independent critical and creative thinking if overused. You may not submit AI-generated work as your own; any AI-assisted text, code, or other material included in your submission must be clearly disclosed and cited like any other source. You are responsible for verifying and validating anything produced with AI assistance, and points may be deducted for nonfactual claims, fabricated/unsupported citations.

Exam Policy

Students who miss the test and/or exam on the scheduled dates would be marked zero. Alternative arrangements would only be granted to students with critical medical conditions, supported by sick leave certificates issued by medical doctors for the date of the exam. There will be NO make-up exams under any circumstances. A student who is excused from the test on medical grounds will have his/her final examination covering the weight of the missed test.

Communication:

Please send all emails about logistic enquiries to linyt@ust.hk or ecjeremy@ust.hk. I prefer to answer all questions on course materials in person (during my office hour or after class) or on the Canvas discussion board (Please refer to the "Course Website" session).

Readings

Textbook: Arthur O'Sullivan, Urban Economics (8th edition). McGraw-Hill 2011. ISBN 978-0073511474.

Jan K. Brueckner, Lectures on Urban Economics. MIT Press 2011. ISBN 978- 0262016360.

Additional References (Not Required): Edward Glaeser, Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier. Penguin Books 2012. ISBN 978-0143120544

Moretti, Enrico. The New Geography of Jobs. Houghton Mifflin Harcourt, 2012. ISBN 978-0547750118

Course Outline (*Tentative, instructor reserves the right to modify the content*)

Week 1: Feb 4 6

Introduction to Urban Economics

Microeconomics and econometrics review

Week 2: Feb 11 13

Why do cities exist

Week 3 Feb 20 (PS1 assigned, LNY holiday)

Why do firms cluster

Week 4 Feb 25 27

City sizes

Urban growth (and decline)

Week 5: Mar 4, 6

Urban land rent

Land use

Week 6 Mar 11, 13 (PS1 due, PS2 assigned)

Neighborhood choices

Midterm review

Week 7 Mar 18, 20

Midterm

Intro to environmental economics

Week 8 Mar 25, 27 Externality, cap and trade

Week 9 Apr 1, 10 (Apr 3-8 Mid-Term Break)

Environmental valuation 1

Environmental valuation 2

Week 10 Apr 15 17 (PS2 due, PS3 assigned)

Housing

Week 11 Apr 22, 24

Housing **2**

Week 12: Apr 29, May 1

Transportation

Week 13: May 6, 8 (PS3 Due)

Climate change and cities

Final exam review