

ECON 4464

Yatang Lin

HKUST

Spring 2025

Syllabus: Urban and Environmental Economics

Time:

WeFr 01:30PM - 02:50PM

Location:

Rm 2406, Lift 17-18 (76)

Instructor: Yatang Lin

6052 LSK Building

liny@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:

Four problem sets: 20%; Mid-term exam: 35%, final exam: 40%. Class Participation: 5%. The instructor reserves the right to make small adjustments to final total grade score.

Problem Sets

We will have 4 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.

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.

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.

Email Policies:

Please send all emails about logistic enquiries to liny@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 5 7

Introduction to Urban Economics

Microeconomics and econometrics review

Week 2: Feb 12 14

Why do cities exist

Week 3 Feb 19 21 (PS1 assigned)

Why do firms cluster

Week 4 Feb 26, 28

City sizes

Urban growth (and decline)

Week 5: Mar 5, 7 (PS1 due , PS2 assigned)

Urban land rent

Land use

Week 6 Mar 12, 14

Neighborhood choices

Midterm review

Week 7 Mar 19, 21 (PS2 due, PS3 assigned)

Midterm

Intro to environmental economics

Week 8 Mar 26, 28

Externality, cap and trade

Week 9 Apr 9, 11 (Apr 1-4 Mid-Term Break)

Environmental valuation 1

Environmental valuation 2

Week 10 Apr 16 (Apr 18, Good Friday Holiday) (PS3 due, PS4 assigned)

Housing

Week 11 Apr 23, 25

Housing 2

Week 12: Apr 30, May 2

Transportation

Week 13: May 7, 9 (PS4 Due)

Climate change and cities

Final exam review