



### EC309 Introduction to Urban Economics

<b>Instructor Information</b>	Yao Yao Home Institution: Curtin University & Shanghai Lixin University of Accounting and Finance Email: ethan.yao@curtin.edu.au Office Hours: To be determined		
<b>Term</b>	December 13, 2021 - January 7, 2022	<b>Credits</b>	4 units
<b>Class Hours</b>	Monday through Friday, 120 mins per teaching day		
<b>Discussion Sessions</b>	2.5 hours each week, conducted by teaching assistant(s)		
<b>Total Contact Hours</b>	66 contact hours (1 contact hour = 45 mins, 3000 mins in total)		
<b>Required Texts (with ISBN)</b>	<b>Urban Economics 8<sup>th</sup> Edition</b> Arthur O'Sullivan ISBN 978-0-07-351147-4 <b>Principles of Econometrics, 5<sup>th</sup> Edition</b> R. Carter Hill, William E. Griffiths, Guay C. Lim ISBN: 978-1-119-32094-4		
<b>Prerequisite</b>	Introductory level Microeconomics Fundamental Statistics		



## Course Overview

Economic analysis of the forces determining an urban area's income, employment, land use, industrial structure, and public sector. Applications to issues such as housing, central city-suburban relationships, transportation, and neighborhood economic development. Students will be trained to estimate the relationship between urban density/city size and a set of economic indicators e.g. GDP per capita and labor productivity, and crime rate.

## Course Goals

Upon successful completion of this course, students will be able to:

1. Use microeconomic theory to explain the location and structure of cities.
2. Assess the impact of city ordinances (such as zoning or growth controls) on urban economic development.
3. Explain the economic underpinnings of selected urban issues (such as poverty, transportation, education, employment and crime).
4. Estimate the relationship between urban density/city size with a set of economic indicators.

## Exams

The final exam is not carried out to assess learning outcomes of this unit. Instead, students are expected to conduct research using real world dataset and write a formal report with at least 3000 words in length. This exercise is group oriented. Students are encouraged to form several groups, each of with 4-6 individuals. The final marks are based on the quality of both group report and class presentation.

The following topics are encouraged but not limited to them. Other topics from students are upon approval from instructor:

1. A curse or blessing? The role of urban density in Hong Kong.
2. Housing market in Hong Kong: the role of land supply.
3. The driving forces of housing price in first-tier cities in Mainland China.
4. College graduates and housing price in the first-tier cities in Mainland China.
5. Capitalizing the environmental quality in Chinese cities: Estimating the willingness-to-pay.

## Personal Strategic Plan

1. Explain the economic theory using real world context.
2. Avoid too much mathematical derivations.
3. Focus on real world implications and applications.
4. Apply the theory into practice with dataset.
5. Formal research training



### Grading Policy

Attendance	10%
Participation	10%
Homework	10%
Group report	40%
Group presentaion	30%

### Grading Scale

Number grade	Letter grade	GPA
90-100	A	4.0
85-89	A-	3.7
80-84	B+	3.3
75-79	B	3.0
70-74	B-	2.7
67-69	C+	2.3
65-66	C	2.0
62-64	C-	1.7
60-61	D	1.0
≤59	F (Failure)	0



**Class Schedule**

Date	Lecture	Readings
Day 1	<p><b>Introduction and Axioms of Urban Economics</b></p> <ul style="list-style-type: none"> <li>● What Is urban economics and why do cities exist?</li> <li>● The Five Axioms of Urban Economics</li> </ul>	Chapter 1 of O’Sullivan
Day 2	<p><b>Why Do Cities Exist?</b></p> <ul style="list-style-type: none"> <li>● A Region without Cities—Backyard Production               <ul style="list-style-type: none"> <li>Comparative Advantage and Trade</li> <li>Scale Economies in Exchange                   <ul style="list-style-type: none"> <li>● A Factory City</li> </ul> </li> <li>Determining Wages and Prices</li> <li>The Market Area of a Factory City</li> </ul> </li> <li>● The Industrial Revolution and Factory Cities               <ul style="list-style-type: none"> <li>● A System of Factory Cities</li> <li>● Innovation Cities</li> </ul> </li> </ul>	Chapter 2 of O’Sullivan & Reading List A
Day 3	<p><b>Why Do Firms Cluster?</b></p> <ul style="list-style-type: none"> <li>● Sharing Intermediate Inputs</li> <li>● Self-Reinforcing Effects Cause Industry Clusters               <ul style="list-style-type: none"> <li>● Sharing a Labor Pool</li> <li>● Labor Matching</li> <li>● Knowledge Spillovers</li> <li>● Urbanization Economies</li> </ul> </li> <li>● Other Benefits of Urban Size</li> </ul>	Chapter 3 of O’Sullivan & Reading List B
Day 4	<p><b>City Size</b></p> <ul style="list-style-type: none"> <li>● Utility and City Size</li> <li>● A System of Cities</li> <li>● Specialized and Diverse Cities</li> <li>● Differences in City Size</li> <li>● The Size Distribution of Cities</li> <li>● Check the size of world first-tier cities</li> </ul>	Chapter 4 of O’Sullivan
Day 5	<p><b>Urban Economic Growth</b></p> <ul style="list-style-type: none"> <li>● Economic Growth: Increase in Per-Capita Income               <ul style="list-style-type: none"> <li>● Human Capital and Economic Growth                   <ul style="list-style-type: none"> <li>● The Urban Labor Market</li> </ul> </li> </ul> </li> <li>● Employment Growth and Decline of the U.S. Manufacturing Belt               <ul style="list-style-type: none"> <li>The case of USA and the case of China</li> </ul> </li> <li>● Public Policy and Equilibrium Employment</li> <li>● Projecting Changes in Total Employment</li> <li>● Who Benefits from Increased Employment?</li> </ul>	Chapter 5 of O’Sullivan & Reading List C



Day 6	<p><b>Urban Land Rent</b></p> <ul style="list-style-type: none"> <li>● Introduction to Land Rent</li> <li>● Bid-Rent Curves for the Manufacturing Sector</li> <li>● Bid-Rent Curves for the Information Sector</li> <li>● Office Bid-Rent Curves with Factor Substitution <ul style="list-style-type: none"> <li>● Housing Prices</li> <li>● The Residential Bid-Rent Curve</li> </ul> </li> <li>● Relaxing the Assumptions: Time Costs, Public Services, Taxes, Amenities</li> </ul>	Chapter 6 of O'Sullivan & Reading List D
Day 7	<p><b>Land-Use Patterns</b></p> <ul style="list-style-type: none"> <li>● The Spatial Distribution of Employment</li> <li>● The Spatial Distribution of Population <ul style="list-style-type: none"> <li>● The Rise of the Monocentric City</li> <li>● The Demise of the Monocentric City <ul style="list-style-type: none"> <li>● Urban Sprawl</li> <li>● Are Skyscrapers Too Tall?</li> </ul> </li> </ul> </li> </ul>	Chapter 7 of O'Sullivan & Reading List E
Day 8	<p><b>Neighborhood Choice</b></p> <ul style="list-style-type: none"> <li>● Diversity versus Segregation</li> <li>● Sorting for Local Public Goods</li> <li>● Neighborhood Externalities <ul style="list-style-type: none"> <li>● Neighborhood Choice</li> </ul> </li> <li>● Neighborhood Choices: The Roles of Education and Crime <ul style="list-style-type: none"> <li>● Racial Segregation</li> <li>● The Consequences of Segregation</li> </ul> </li> </ul>	Chapter 8 of O'Sullivan
Day 9	<p><b>Zoning and Growth Controls</b></p> <ul style="list-style-type: none"> <li>● Land-Use Zoning <ul style="list-style-type: none"> <li>● The Legal Environment of Zoning <ul style="list-style-type: none"> <li>● A City without Zoning?</li> </ul> </li> </ul> </li> <li>● Growth Control: Urban Growth Boundaries <ul style="list-style-type: none"> <li>● Other Growth-Control Policies</li> <li>● Housing Regulations and Housing Prices</li> </ul> </li> </ul>	Chapter 9 of O'Sullivan & Reading List F
Day 10	<p><b>Research training: preparing for the group report &amp; presentation.</b></p> <ul style="list-style-type: none"> <li>● Topic selection</li> <li>● Data collection</li> <li>● Literature review and online resources</li> </ul>	Prepared by myself <i>Principles of Econometrics 5<sup>th</sup> edition</i> By Lim, Hill and Griffiths
Day 11	<p><b>Research training: preparing for the group report &amp; presentation.</b></p> <ul style="list-style-type: none"> <li>● References</li> <li>● Statistical tools (e.g. regression analysis) <ul style="list-style-type: none"> <li>● Structure of scientific reports</li> <li>● Some writing tips</li> </ul> </li> </ul>	Prepared by myself <i>Principles of Econometrics 5<sup>th</sup> edition</i> By Lim, Hill and Griffiths
Day 12	<p><b>Research training: preparing for the group report &amp; presentation.</b></p> <ul style="list-style-type: none"> <li>● Regression analysis <ul style="list-style-type: none"> <li>● Cross-sectional or panel data estimation <ul style="list-style-type: none"> <li>● Estimation using STATA</li> </ul> </li> <li>● Explaining the regression output</li> </ul> </li> </ul>	Prepared by myself <i>Principles of Econometrics 5<sup>th</sup> edition</i> By Lim, Hill and Griffiths



Day 13	<p><b>Autos and Highways</b></p> <ul style="list-style-type: none"> <li>● Congestion Externalities</li> <li>● The Congestion Tax</li> <li>● Practicalities of the Congestion Tax</li> <li>● Alternatives to a Congestion Tax</li> <li>● The Road Capacity Decision</li> <li>● Autos and Air Pollution</li> <li>● Motor Vehicle Accidents</li> <li>● Automobiles and Poverty</li> </ul>	Chapter 10 of O'Sullivan
Day 14	<p><b>Urban Transit</b></p> <ul style="list-style-type: none"> <li>● Commuting and Transit Ridership</li> <li>● The Cost of Travel and Modal Choice</li> <li>● The Efficient Volume of Ridership</li> <li>● Designing a Transit System</li> <li>● Deregulation: Contracting and Paratransit</li> <li>● Transit and Land-use Patterns</li> </ul>	Chapter 11 of O'Sullivan
Day 15	<p><b>Education</b></p> <ul style="list-style-type: none"> <li>● Spending and Educational Achievement</li> <li>● School Inputs: The Importance of Teachers</li> <li>● Innovation: Charter Schools</li> <li>● Spending Inequalities and Public Policy</li> <li>● Education in Central Cities</li> </ul> <p>The Context of Shanghai</p>	Chapter 12 of O'Sullivan
Day 16	<p><b>Crime</b></p> <ul style="list-style-type: none"> <li>● Crime Facts</li> <li>● The Rational Criminal</li> <li>● The Equilibrium Quantity of Crime</li> <li>● Legal Opportunities and Education</li> <li>● Applications: Big-City Crime and the Crime Drop <ul style="list-style-type: none"> <li>● How Much Crime?</li> <li>● The Role of Prisons</li> </ul> </li> </ul>	Chapter 13 of O'Sullivan
Day 17	<p><b>Why Is Housing Different?</b></p> <ul style="list-style-type: none"> <li>● Heterogeneity and Hedonics</li> <li>● Durability, Deterioration, and Maintenance</li> <li>● Moving Costs and Consumer Disequilibrium</li> <li>● The Filtering Model of the Housing Market <ul style="list-style-type: none"> <li>● Housing Policy</li> </ul> </li> </ul> <p>The Migrant Workers in China and Housing price</p>	Chapter 14 of O'Sullivan
Day 18	<p><b>Group Presentation 3</b> Q&amp;A</p>	
Day 19	<p><b>Group Presentation 4</b> Q&amp;A</p>	
Day 20	<p><b>Group Presentation 5</b> Q&amp;A</p>	



## Reading List:

### A:

Zheng, S., Kahn, M. E., & Liu, H. (2010). Towards a system of open cities in China: Home prices, FDI flows and air quality in 35 major cities. *Regional Science and Urban Economics*, 40(1), 1-10. doi:<http://dx.doi.org/10.1016/j.regsciurbeco.2009.10.003>

### B:

Zheng, S., Kahn, M. E., Sun, W., & Luo, D. (2014). Incentives for China's urban mayors to mitigate pollution externalities: The role of the central government and public environmentalism. *Regional Science and Urban Economics*, 47, 61-71. doi:<https://doi.org/10.1016/j.regsciurbeco.2013.09.003>

### C

Zheng, S., Sun, W., Wu, J., & Kahn, M. E. (2017). The birth of edge cities in China: Measuring the effects of industrial parks policy. *Journal of Urban Economics*, 100, 80-103. doi:<http://dx.doi.org/10.1016/j.jue.2017.05.002>

### D

Zheng, S., Zhang, X., Sun, W., & Lin, C. (2019). Air pollution and elite college graduates' job location choice: evidence from China. *The Annals of Regional Science*, 63(2), 295-316. doi:10.1007/s00168-019-00939-6

### E

Zheng, S., Zhang, X., Sun, W., & Wang, J. (2019). The effect of a new subway line on local air quality: A case study in Changsha. *Transportation Research Part D: Transport and Environment*, 68, 26-38. doi:<https://doi.org/10.1016/j.trd.2017.10.004>

\* Fee-paying (non-exchange) program held by School of Continuing Education, SJTU.

\* 此课程由上海交通大学继续教育学院开设，所提供课程不包括在上海交通大学与海外高校校级合作的学分互认范畴之内。