Scope of the course

This is the first course in urban and regional economics field sequence. The course has three main objectives.

- Equip you with the basic modeling techniques that most urban theories are based on.
- Develop skills to survey the literature and identify potential empirical research issues.
- Develop seminar presentation skills.

There are two parts to this course. In the first part, you will be trained in three different theoretical techniques. It is important to note that these techniques are not confined to urban economics but are very general techniques that are standard in almost all areas of economic research.

(a) Theory of location choice and land use: These theories are direct applications of static consumer theories and duality. You can view them as models of household decisions regarding location and land. Similar techniques are used to model other household choices (e.g. labor supply, consumption, family size, etc.).

(b) Continuous time dynamic programming: We shall start with Brownian motion and its various generalizations with the help of Ito’s Lemma. Then we move on to developing continuous time dynamic programming techniques. These are standard techniques used to study dynamics in virtually every area of economics and finance (examples range from asset pricing and theories of investment to environmental economics and network analysis). We shall adopt a learning-through-examples approach and see these techniques in action in a variety of economic problems (not necessarily urban problems). We finish this section by working through a couple of papers on urban issues that use these techniques (city size, house values, etc.).

(c) Dixit-Stiglitz model of monopolistic competition: This is the most widely used work-horse model of monopolistic competition. Trade theories, open economy macroeconomics, real business cycle models, and macro models in general, make extensive use of this framework.
After learning the basic Dixit-Stiglitz model we shall apply it in the context of spatial economics.

The second part of the course focuses on empirical works in urban economics. You will receive a list of topics each with a reading list. You need to pick a topic from this list and go through the readings (you are also encouraged to add additional papers if you feel they can be useful). Based on your readings you will have to prepare a presentation and a research proposal. 

(a) The research proposal: This consists of a short paper that has a literature review and a proposed research idea. This paper should not exceed 3000 words.

(b) The presentation: You will have to prepare a power-point presentation of your research proposal. This will be a full one hour presentation that includes 15 minutes for a question-and-answer session. The audience is required to participate in the discussion.

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### Course Evaluation

<table>
<thead>
<tr>
<th>Tests etc.</th>
<th>Points</th>
<th>Date and time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory examination</td>
<td>40</td>
<td>Thursday, October 30th</td>
</tr>
<tr>
<td>Class Presentation</td>
<td>30</td>
<td>To be scheduled during the last two weeks of the semester</td>
</tr>
<tr>
<td>Paper</td>
<td>30*</td>
<td>Due on December 5th</td>
</tr>
</tbody>
</table>

* Literature review = 15 points. Research idea = 15 points.

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### Core Texts


Part I: Theory

Topic I: Static Models of Location Choice and Land Use in the City
- Location choice of individual household. [Fujita, chapter 2]
- Equilibrium land use with representative household. [Fujita, chapter 3]
- Equilibrium land use of multiple household types. [Fujita, chapter 4]

Topic II: Continuous Time Dynamic Programming and Applications
- Stochastic Processes. [Dixit-Pindyck, chapter 3]
- Ito’s Lemma. [Dixit-Pindyck, chapter 3]
- Continuous time dynamic programming: Theory and economic applications. [Miranda-Fackler, chapter 10]

Topic III: Dixit-Stiglitz Model and its Application in Economic Geography
- Introduction to monopolistic competition and the Dixit-Stiglitz model.
- Dixit-Stiglitz model applied to spatial economics. [Fujita-Krugman-Venables, chapter 4]
- A simple Dixit-Stiglitz model of agglomeration. [Fujita-Krugman-Venables, chapter 9]
Part II: Empirics (Presentation and Paper)

Social Networks and Innovation

Housing: List Prices, Time on the Marker, and Option Value of Waiting


**Housing: Homeownership and Knowledge/Information**


Housing and Local Public Finance


Brueckner, J. and S. Rosenthal, “Gentrification and Neighborhood Housing Cycles”, Syracuse University mimeo


Classroom etiquette and academic integrity: Please visit http://academicintegrity.okstate.edu for details on what constitutes violations of academic integrity and pertaining sanctions.
\[ \sum_{m=3}^{n/2} \frac{1}{\ln m \ln(n-m)} \approx \frac{n}{2 \ln^2 n} \]

STOP BEING SO DIFFICULT