1. **Course description.** This course will analyze issues of spatial economics, including why cities are formed, patterns of residential and business location, models of housing market segregation, business location, and urban population "explosions" in developing countries. The course begins with an overview of the monocentric city model, explaining patterns of population density, commuting, and housing values. This course will emphasize **real estate and financial aspects of the housing market.** A second major theme of this course will be the **economy of Durham,** and the underlying residential and commercial patterns. My current research interests center on the **economics of trailer parks** and **real estate and suburbanization in transition economies,** so you’ll learn more about those topics than in a conventional course.

2. **Prerequisites:** Econ 201. Introductory econometrics (Econ 208) will be extremely useful. Working knowledge of differential and integral calculus, econometrics, and Excel is necessary.

3. **Texts.** There is one required text. My (voluminous) class notes will be posted on Sakai. These are intended to be supplemental, and are neither a perfect substitute for class nor the readings.


   I also expect you to buy and read on your own:


   Worth downloading:


4. **Duke Reader Project**: This year, Econ 345/554 will be participating in the Duke Reader Project [http://dukereaderproject.org/courses/urban-economics/](http://dukereaderproject.org/courses/urban-economics/). It is not mandatory, but should be useful, both from the standpoint of improved writing and improved content. Briefly, those who participate will be paired with an external alumnus/a professional who will read critically the content of papers and blog postings, which requires:

5. **Course home page and blog**: One of the best ways to learn is from each other, which can be stimulated by setting up an open home page [http://sites.duke.edu/urbaneconomics/](http://sites.duke.edu/urbaneconomics/) on which you can quasi blog by submitting edited assignments. Duke Readers can respond (thereby helping larger numbers of students, as many will have similar issues); so can classmates and – gasp! – members of the community. You will be expected to post (1) a brief comment from your overview; (2) at least one of the literature survey or technical presentation, and (3) at least one of the Durham paper or term paper. The fact that some of your work will be public means that you need to think very carefully about the content: I don’t want to scare you, but rather see this as a mechanism to help improve the caliber of your work. However, there will be an editorial process: all postings will be reviewed by the Blog Tsarina after they are submitted and prior to being posted live for the entire world to review.

6. **Honor code and course policies**. Failure to acknowledge assistance on an assignment, or to cite a source of information used in an assignment, or to represent the work of others as your own, violates the University’s honor code. Any violations may result in failure of the assignment or the course, or expulsion from the University. Any exam missed for a non-legitimate reason will be accorded the grade of 0. Any exam missed for a legitimate reason will be made up with an oral exam as soon as EcoTeach can schedule it.

**Late work** will be penalized by 1/3 grade point per day late (excluding Sundays).

**Assignments must be submitted via Sakai**. An electronic and a hard copy of the term paper must be submitted to the instructor.

**Standard formatting** for regular text material shall be as follows: 1-inch margins top/bottom/left/right; 1.5 line spacing; extra space between paragraphs; Garamond 12 font; right hand justification for main text. References and footnotes should be single space (with space between individual citations) and Garamond 11 font. Assignments and term papers that have not gone through a basic spell and grammar check will not be accepted. Files attached with viruses will be deleted and not regarded as submitted; if for some reason the virus gets through and infects one of my computers, you will receive a grade of 0 for the assignment.

7. **Grading and assignments**. The grades will be determined as weighted averages of exam and homework performances:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durham overview</td>
<td>5%</td>
<td>January 21</td>
</tr>
<tr>
<td>Literature survey and technical presentation (10% each)</td>
<td>20% February 4</td>
<td></td>
</tr>
<tr>
<td>Durham paper</td>
<td>20%</td>
<td>March 25</td>
</tr>
<tr>
<td>Research project/term paper</td>
<td>35%</td>
<td>April 22</td>
</tr>
<tr>
<td>Final examination¹</td>
<td>10%</td>
<td>May 4</td>
</tr>
</tbody>
</table>

¹ I reserve the right to cancel the final, or to give those with GPAs above an as yet unspecified level the right not to take the final, in which case the final presentation will count for 10% of the total grade.
The **essays/presentations** include (1) an untrained overview of Durham, (2) a brief literature survey on a policy topic of interest, with dissemination via Blackboard to the entire class and the course site, (3) a technical presentation (disseminated as above): short but detailed presentation of a formal (i.e., mathematical or statistical) spatial economic model, or pertinent statistical technique, and (4) an analysis of an urban policy issue relevant to Durham. Topics must receive the instructor’s approval.

The **term paper** is expected to be 15-20 pages in length plus tables, on a topic of the student’s choice, but subject to instructor approval. The paper is expected to involve [a] original empirical or theoretical research (required of students in Econ 554), or [b] a comprehensive survey a topic, and provide policy analysis in light of recent data and research. However, I will push strongly for all students to undertake original empirical work, regardless of whether or not it makes use of sophisticated statistical techniques.

The **final examination** will be comprehensive, but will have a Durham focus.

6. **Focus: Durham – initial assignment and final exam.** One of the purposes of this course is to give you a much deeper understanding of the community in which you are at least temporarily living; I also want to remove the abstractness of the course topic. To tie it in, your first and last assignments (the last being the final exam) will focus on Durham.

In the first, I simply want you to visit 11 sites in Durham and observe. For each one, write up notes (a paragraph on each except for one, which should be a bit more in depth – say 2-3 paragraphs) on what strikes you about the street, neighborhood or commercial area (one block in all directions of the point identified). When you observe, do so as an economist – think about how well lawns are maintained, the value of vehicles relative to structures, the density of the area, the degree of homogeneity ... and what these might imply.

This assignment should only be a total of 3-5 pages, but it will be time consuming, because you have to travel all over Durham. How you do it is part of the assignment. If you don’t have a car or bicycle, you can rent a bike over at Durham Cycles on 9th St. You should choose 11 of the 29 sites listed below, but be aware that credit will be given for diversity of selection.

The locations are:
- S. Alston Ave, from Riddle to Lawson + E. Lawson from Roxboro to Briggs
- E. Pettigrew, from Roxboro to Ellis
- Junction Rd., from Holloway to Geer
- Cornwallis Road, from start (Mt. Hermon Church) to Fayetteville
- Geer St., from Morris to Cheek
- Kent St., from Chapel Hill to University Drive
- Cole Mill Rd. and Stoneybrook
- Northgate Mall
- Downtown loop
- Alston Drive, from Cecil to Geer
- Fayetteville and NC 54 (three blocks in all directions)
- South St. from Apex to University Dr.
- Roxboro, from Pettigrew to Old Oxford Rd.
Notes:

- You should be able to do this in half a day.
- I recommend going in daylight.
- I recommend going with one other person and discussing what you see. Take lots of pictures but don’t overwhelm me (see below).
- If driving, do not park in a bad neighborhood and take notes. This makes you look like an inexperienced undercover police officer.
- International students must pair with an American student.
- The TA and web tsarina are international students: some of you should volunteer to take them.
- I can tell if you do this via Google maps.
- Photos are useful: I don’t want dozens from each site, but one or two used to illustrate key points would be fine.

The final exam also will focus on some of the communities listed above. But, this time I will prepare some specific questions in advance, and allow you to come to the final with a notebook on these locations. The exam will ask you to apply specific theoretical models to explain the patterns you observe, and also will have you compare these patterns to empirical findings from other cities.

7. **Focus: Durham – paper.** This is a short paper of 6 to 8 pages (plus tables and references) in which you are to address a spatial feature or policy issue related to Durham, subject to my approval. Ideally, the paper will involve data analysis and address an issue of policy interest; it will also include a discussion of past patterns or policy decisions. Recent topics range from analyses of the determinants of commercial property prices/rental rates to determinants of housing values in Durham and Orange Counties to analysis of trends in racial segregation to analysis of patterns of new housing starts and residential density to an analysis of the impact of the Durham jail’s site for downtown expansion.

8. **Visiting speakers and class conduct.** In addition to learning about Durham and the Triangle region, we will have many visiting speakers. On days with visitors, you will be responsible for getting material not covered in class from my on-line lecture notes. **In general, I will plan to lecture on formal models**
or when rapidly surveying a literature, but otherwise will be leading discussions. This means that you need to be prepared to contribute.

9. **Course outline:** As we come to each topic, I will give an updated list of required and optional readings. The McDonald and McMillen text is the core, and you should read it. You are also responsible for everything covered in my notes. If that material is technical, I will cover it in class, and not expect you to cover much else. If it is not terribly technical from the standpoint of theoretical difficulty, I will expect you to read one or more of the optional readings, and be prepared to discuss it in class. I will expect your papers, blog contributions, and classroom remarks to reflect the readings (including *The Big Short*).
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday January 9</td>
<td>Introductory Lecture: Why do cities exist?</td>
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<tr>
<td>Monday January 14</td>
<td>Stylized facts and patterns II: central place theory</td>
<td>Visiting speaker: Mitchel Gorecki (spatial autocorrelation in online advertising campaigns)</td>
</tr>
<tr>
<td>Monday January 21</td>
<td>[no class, but assignment still due]</td>
<td>Assignment 1 (Durham overview) due</td>
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<tr>
<td>Monday January 28</td>
<td>Land rent and urban structure</td>
<td>Land use in the monocentric and modern cities</td>
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<tr>
<td>Monday February 4</td>
<td>Agglomeration and other economies</td>
<td>Land use controls, zoning, and the Tiebout model</td>
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<td>Visiting speaker: Bob Ashley, Editor, <em>Durham Herald-Sun</em></td>
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<tr>
<td>Thursday February 7</td>
<td>Assignment 2 (literature survey) due</td>
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<tr>
<td>Monday February 11</td>
<td>Household sorting, search costs, and segregation</td>
<td>More models</td>
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<tr>
<td>Monday February 18</td>
<td>Real Estate Law, Institutions, and Markets (demand and supply)</td>
<td>Mobile homes</td>
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<td></td>
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<td>Durham paper topic and outline due</td>
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<tr>
<td>Monday February 25</td>
<td>Real estate asset valuation, development, and investment</td>
<td>Assignment 3 (technical article presentation) due</td>
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<tr>
<td>Monday March 4</td>
<td>Sub-prime mortgages and other financial issues</td>
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<tr>
<td>Monday March 18</td>
<td>Sub-prime mortgage crisis II: macro effects and consequences</td>
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<tr>
<td>Monday March 25</td>
<td>Housing booms and busts</td>
<td>Local governments, property rights, and local economic development</td>
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<td></td>
<td>Assignment 4 (Durham research paper or policy analysis) due</td>
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<tr>
<td>Monday April 1</td>
<td><em>International</em> real estate topics</td>
<td>Property rights in developing countries and other local government issues</td>
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<td>Term paper topic, outline, and dataset due</td>
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<tr>
<td>Monday April 8</td>
<td>Autos, highways, and congestion</td>
<td>Mass Transit</td>
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<td>Visiting speaker: Joshua Mendelsohn, central place theory and networks</td>
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<tr>
<td>Monday April 15</td>
<td>Business location and the core model of spatial economics</td>
<td>City and business location II: economic development strategies</td>
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<tr>
<td>Monday April 22</td>
<td>Urban growth in BRICS and developing countries</td>
<td>Labor markets and migration in developing countries</td>
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<tr>
<td></td>
<td></td>
<td>Assignment 5 (term paper final version) due</td>
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<tr>
<td>Saturday May 4</td>
<td><strong>Final Exam</strong> 7:00 – 10:00 PM</td>
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</tbody>
</table>
Spring 2013
DUKE UNIVERSITY
Department of Economics

Economics 345/554: URBAN ECONOMICS

Course outline and lots of literature

As we come to each topic, I will give an updated list of required and optional readings. You should regard the following more of a starting bibliography than a reading list. The most important papers are starred (*) and highlighted. Others are optional and good choices for your technical review.

You should also see this list as a guide, rather than something you are expected to master. The McDonald and McMillen text is the core, and you should read it. You are also responsible for everything covered in my notes. If that material is technical, I will cover it in class, and not expect you to cover much else. If it is not terribly technical from the standpoint of theoretical difficulty, I will expect you to read one or more of the optional readings, and be prepared to discuss it in class. Finally, I should note that many of the topic delineations (and hence reading assignments) are rather arbitrary. Don’t worry about it: as the semester progresses, earlier pieces will fit into the topics we are discussing. The structure as presently designed is one that bounces back and forth, gradually building technical models during the course of the semester, rather than providing half a semester of grueling models, followed by policy and implications. I think you’ll enjoy this mixed approach more.

Overview: thinking of cities from an economic perspective

Introductory Lecture: Why do cities exist?
- McDonald & McMillen, Chs. 1-3. *

Stylized facts and patterns I: big and small cities
Stylized facts and patterns II: central place theory

- McDonald & McMillen, Ch. 4 and 5 *

Stylized facts and patterns III: urban economic growth

- McDonald & McMillen, Chs. 22. *

Economic Models of Cities

Land rent and urban structure

- McDonald & McMillen, Ch. 6 *

Land use in the monocentric and modern cities

- McDonald & McMillen, Chs. 7-8 *

Agglomeration and other economies
• McDonald & McMillen, Chs. 22-23. *

Land use controls, zoning, and the Tiebout model
• McDonald & McMillen, Ch. 14.*
• Patacchini, Eleonora and Yves Zenou, 2009, “Urban sprawl in Europe,” Brookings-Wharton Papers on
US Racial Housing Segregation and housing demand

Household sorting, search costs, and segregation

- McDonald & McMillen, Chs. 9-10. 17-21. *

More models

Real Estate
Real Estate Law, Institutions, and Markets (demand and supply)
• McDonald & McMillen, Chs. 11-13. *


Mobile homes


Real estate asset valuation, development, and investment


• David M. Brasington and Diane Hite, 2008, “A mixed index approach to identifying hedonic price


**Sub-prime mortgages and other financial issues**

• Amromin, Gene, Jennifer Huang, Clemens Sialm, and Edward Zhong, 2011, “Complex mortgages,” *NBER working paper 17315*.


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**Housing booms and busts**


Local governments, property rights, and local economic development

- Jan Rouwendal and J. Willemijn van der Straaten, 2008, “The costs and benefits of providing open space in cities,” Amsterdam: Tinbergen Institute *discussion paper TI 2008-001/3*.

International real estate topics

- Sherry Z. Zhou and Helen X.H. Bao, “Modeling price dynamics in the Hong Kong property market,” Kowloon, HK: City University of Hong Kong, unpublished ms.
- Yizhen Gu, 2008, “The impacts of rail transit on property values: Empirical study in Beijing,” Beijing: Beijing Municipal Institute of City Planning & Design, Department of Planning Research,
unpublished ms.


**Property rights in developing countries and other local government issues**


**Urban Transportation**

**Autos, highways, and congestion**

- McDonald & McMillen, Ch. 15-26.

**Mass Transit**

- Claudio Agostini and Gaston Palmucci, 2008, “Anticipated capitalization of the Santiago metro system on housing prices,” Santiago, Chile: Universidad Alberto Hurtado, Department of Economics,


**Business Location Theory & Economic Geography**

**Business location and the core model of spatial economics**

- McDonald & McMillen, Ch. 22-24.

**City and business location II: economic development strategies**

Bonn: IZA discussion paper no, 3619.


**Population Explosions and Productivity Growth Centers: Cities in Developing Countries**

**Urban growth in developing countries**


**Labor markets and migration in developing countries**


• Sylvie Démurger, Marc Gurgand, Li Shi, and Yue Ximing, 2008, “Migrants as second-class workers in China? A decomposition analysis,” Écully, France: Centre National de la Recherche Scientifique *GATE working paper w.p. 08-08*. 