

Spring 2020
DUKE UNIVERSITY
Department of Economics

Economics 345/554: URBAN ECONOMICS

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| Teaching Assistant: | Stella McMullen | Email: | stella.mcmullen@duke.edu |
| | | Office Hours: | Wednesdays, 4:25 – 5:25 p.m. |
| Embedded Writers: | Alexa Putka alexandra.putka@duke.edu | Andrew Witte | andrew.witte@duke.edu |

Class: Monday-Wednesday 1:25 – 2:40 PM Social Sciences 113 Jan 8 – April 22

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. And you'll get an intro to spatial modeling and likely become acquainted with ArcGIS.
2. **Prerequisites:** Econ 201. Introductory econometrics (Econ 208) will be extremely useful. Working knowledge of differential and integral calculus, econometrics, and Excel is necessary. Working knowledge of statistical analysis software and programming (e.g. Stata, R, Python) is useful but not required.
3. **Text:** There is one required text. 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.
 - John F. McDonald and Daniel P. McMillen. 2010. *Urban Economics & Real Estate*. Ed. 2. Malden, MA: Blackwell. (required)

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

- John F. McDonald. 2014. *Postwar Urban America: Demography, Economics, and Social Policies*. Routledge
- Rothstein, Richard. *The color of law: A forgotten history of how our government segregated America*. Liveright Publishing, 2017.

Worth downloading (and there are many others)

<https://modu.ssri.duke.edu/module/introduction-causal-inference>
<https://modu.ssri.duke.edu/module/troublesome-issues-causal-inference>
<https://modu.ssri.duke.edu/module/natural-experiments>
<https://modu.ssri.duke.edu/module/studying-school-quality-and-house-prices>

- <http://www.brookings.edu/about/programs/metro/research> lots of interesting papers from Brookings' Metropolitan Policy Program
- <https://evictionlab.org/map/#/2016?geography=states&type=er> Eviction Lab website (with data)

4. **Duke Embedded Writer Project:** Econ 345/554 will be participating in the embedded writer project this spring. It should be useful, both from the standpoint of improved writing and improved content. Two students, Andrew Witte and Alexa Putka, who have training from the writing studio will be attached to the course.
5. **Fellow student interaction:** One of the best ways to learn is from each other. You will be expected to post on Sakai (1) your Durham paper; (2) a draft of your term paper – ultimately replaced by the final version, and (3) comments on two others' term paper drafts.
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.

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; left and right hand justification for main text (it turns out that you get a few more words per page if you do this). 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.

Citation practices must follow MLA or University of Chicago rules in the References section. In the text, for a single-authored paper, refer to the paper by (Authurname, year). For two authors: (Authurname1 and Authurname2, year). For 3+ authors: (Authurname1 *et al.*, year). Examples:

Hardy, Bradley L. "Childhood income volatility and adult outcomes." *Demography* 51.5 (2014): 1641-1665. → (Hardy, 2014)

Casey, Marcus D., and Bradley L. Hardy. "The Evolution of Black Neighborhoods since Kerner." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 4.6 (2018): 185-205. → (Casey and Hardy, 2018)

Brown, Jeffrey R., Marcus D. Casey, and Olivia S. Mitchell. "Who values the Social Security annuity? New evidence on the annuity puzzle." *NBER Working Paper* W13800 (2008). → (Brown *et al.*, 2008)

7. **Grading and assignments.** The grades will be determined as weighted averages of quizzes, papers and class participation:

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| Durham overview/tour | 10% | January 19 |
| Durham paper | 25% | February 23 |
| Term paper first draft (submitted to embedded writers as well) | 5% | March 22 |
| Comments on others' papers and class participation | 7.5% | |
| Quizzes (may be replaced by final exam) | 15% | Feb 5, Mar 4, Mar 30 |
| Final presentations | 7.5% | May 1 (2:00-5:00) |
| Research project/term paper | 30% | April 22 |

The **term paper** is expected to be 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, we strongly encourage all students to undertake original empirical work, regardless of whether or not it makes use of sophisticated statistical techniques. It is also worth noting that many papers from this course have been published in the *Duke Journal of Economics*, and other students have built on their term paper to write a senior thesis.

6. **Focus: Durham – initial assignment.** 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; we also want to remove the abstractness of the course topic. To tie it in, your first assignment will focus on Durham.

Your first assignment is simple, but time consuming: we 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 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. We encourage you to add or attach photographs. We also expect you to traverse the entire area.

For your lengthier report, you might also do the following:

- a) Explore actual analysis of values in each respective neighborhood, by square foot. This could be achieved by noting down a few addresses in the site area, and searching for its tax value, plus one recent sale in the near vicinity of the property (via Zillow or Trulia). This will help you understand the differing value in the market of each respective area. Plus, price per square foot is one of the most important metrics in really judging the value which buyers place on a particular location.
- b) Search the web or talk with someone who might have historical perspective on the neighborhoods. There is much that's not obvious by simply walking around.

This assignment should only be a total of 3-6 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 Street. You should choose 11 of the 36 sites listed below, but be aware that credit will be given for diversity of selection. The locations are:

1. S. Alston Ave, from Riddle to Lawson + E. Lawson from Roxboro to Briggs
2. E. Pettigrew, from Roxboro to Ellis
3. Junction Rd., from Holloway to Geer
4. The neighborhood bordered by Roxboro, Geer, Elizabeth, and Holloway
5. Maple from E Main to Liberty; then Spruce from Liberty to Juniper
6. Woodcroft Parkway, from Hope Valley to Carpenter Fletcher
7. Beverly Drive, connecting via bike ramp and continuing on to Fargo St.
8. Guess Rd. from Sedgefield to Duke Homestead Rd. to Carver
9. Old State Highway 10 from route 70/Hillsborough Rd to Murphy School Road; then Murphy School to Cornwallis then Cornwallis to Kerley
10. Geer St., from Morris to Cheek
11. Cole Mill Rd. and Stoneybrook
12. St. Theresa's: Enterprise, Hillside Ave., Chestnut, and South streets (north of Erie) – they're all short.
13. Fayetteville and NC 54 (three blocks in all directions)
14. Hayti area (you define your route)
15. Roxboro, from I-85 to Old Oxford Rd.
16. Stoneybrook Drive, from Cole Mill Rd. to Carver
17. Old NC 10/Old Hillsboro Rd. from route 70 to Mount Hermon Church Rd.
18. Cheek Rd., from Geer to Falls Lake
19. Dowd St., continuing on to Broadway St.
20. Geer St., from Club to Redwood
21. E. Main, from Roxboro to Guthrie
22. Cleveland-Holloway neighborhood (you define your route)

23. NC Central University and surrounding area
24. Weaver St., from Cornwallis to Theresa
25. American Tobacco Trail (not campus: you need to go up and down the trail)
26. Bahama Rd.
27. S. Miami, from East End to Cornwallis
28. Rte. 751 from I-40 to Fayetteville
29. Parkwood neighborhood
30. Old North Durham neighborhood
31. Rolling Hills/Southside neighborhood
32. Curtis, Elmira, Medina, and Canal Street neighborhood
33. Pickett Rd., from Perry to Erwin
34. Mt. Pisgah Church Rd.
35. two blocks in every direction from the intersection of Otis and Weaver
36. *interesting neighborhood of your choice* (different from the others)

Notes:

- You should be able to do this in half a day.
- We recommend going in daylight.
- We recommend going with one or two other people and discussing what you see.
- 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.
- We can tell if you do this via Google maps.
- Photos are useful: We don't want dozens from each site, but one or two used to illustrate key points would be fine. Please post your own pictures and not those of others in your group.
- Be prepared to discuss (and post best pictures).

The quizzes also will focus on some of the communities listed above. The quizzes may 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 and NC small cities paper.** This is a moderate length paper of 7 to 10 pages (plus tables and references) in which you are to address a spatial feature or policy issue related to Durham, or to specified cities in the Carolinas; details to follow. Note that all topics are subject to prior instructor approval.
8. **Visiting speakers and class conduct.** In addition to learning about Durham and the Triangle region, we will have a few 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, we expect to lecture on formal models or when rapidly surveying a literature.**
9. **Course outline:** As we come to each topic, we will give an updated a 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 the notes. If that material is technical, we 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, we will expect you to read one or more of the optional readings, and be prepared to discuss it in class.

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| Wednesday Jan 8 | Introductory Lecture: Why do cities exist? |
| Monday Jan 13 | Stylized facts and patterns II: central place theory |
| Wednesday Jan 15 | Urban economic growth & the development of Durham (Kielhurn) |
| Sunday Jan 19 | Assignment 1 (Durham overview) due¹ |
| Wednesday Jan 22 | spatial mapping, spatial autocorrelation, diff-in-diff estimation, <i>et c.</i> (McMullen) |
| Sunday Jan 26 | If participating in Reader Project: Last day to connect with your reader |
| Monday Jan 27 | Land rent and urban structure; monocentric city model |
| Wednesday Jan 29 | Land use in the monocentric and modern cities |
| Monday Feb 3 | Agglomeration economies |
| Wednesday Feb 5 | Hedonic value estimation (<i>Postwar Urban America Quiz 1</i>) |
| Monday Feb 10 | Land use controls and the Tiebout model |
| Wednesday Feb 12 | Household sorting, search costs, and segregation |
| Wednesday Feb 12 | Reader Project: Last day to submit draft of assignment 2 to reader |
| Monday Feb 17 | Land rent and urban structure: hedonics and crime |
| Wednesday Feb 19 | Sub-prime mortgages and other financial issues (Kielhurn) |
| Thursday Feb 20 | Reader Project: Last day to discuss assignment 2 |
| Sunday Feb 23 | Assignment 2 (Durham research paper or policy analysis) due |
| Monday Feb 24 | Housing booms, busts, and bubbles (Kielhurn) |
| Wednesday Feb 26 | Racial discrimination, location and housing |
| Monday March 2 | Manufactured housing |
| Wednesday March 4 | Mortgage access & discrimination (<i>Color of Law Quiz 2</i>) |
| Monday March 9 | spring break |
| Wednesday March 11 | spring break |
| Monday March 16 | Real estate asset valuation, development, and investment (Kielhurn) |
| Wednesday March 18 | City and business location: economic development strategies; place-based policies |
| Friday March 19 | Reader Project: Last day to discuss draft of term paper |
| Sunday March 22 | Term paper first draft due |
| Monday March 23 | Eviction and Rent Control |
| Wednesday March 25 | Gentrification |
| Monday March 30 | Autos, highways, and congestion; Mass Transit (<i>Postwar Urban America Quiz 3</i>) |
| Wednesday April 1 | Labor markets and migration in developing countries |
| Monday April 6 | Property rights in developing countries and other local government issues |
| Wednesday April 8 | International real estate topics I |
| Sunday April 9 | Reader Project: Submit final version of term paper to reader |
| Monday April 13 | International real estate topics II |
| Sunday April 14 | Reader Project: Last day to discuss final version of draft paper |
| Wednesday April 15 | International real estate topics III |
| Monday April 20 | final presentations |
| Wednesday April 22 | Term paper final version due |
| Wednesday April 22 | final presentations |
| Friday May 1 | Final Presentations or final exam 2:00 – 5:00 PM (additional dates added as needed) |

Likely visitors: Brittany Kielhurn², John Burness, Kevin Davis, Adam Dickinson, Mitchel Gorecki, Greg Hills

¹ All assignments are due at 11:59 pm.

² Brittany Kielhurn has co-taught this course twice and I am hoping she will help out on several occasions, including organizing a possible trip to Rocky Mount (to get a sense of what Durham was like at the start of its transition).