

(Note: this syllabus is preliminary and subject to change)

PPD 499: Exploring Urban Communities Using GIS (4 credits), Section 51119

Term: Spring 2017

Time: Monday/Wednesday, 4 – 5:50pm

Location: Mondays – VKC 257 (lecture),
Wednesdays – WPH B46 (lab)

Instructor: Xize Wang, xizewang@usc.edu

Office hours: TBD

Course Overview:

Whether you are going to become a real estate investor, urban planner, urban designer, city administrator, or social worker, the spatial aspects of cities will be a large part of your job. If you pursue a career related to climate change, affordable housing, transportation and mobility, or poverty alleviation, or a host of other goals, you will need to analyze the spatial structure of cities on a daily basis. This course will introduce you to the urban geography of cities. Urban geography studies the spatial patterns, structures and organization of cities and the complex processes that underlie spatial structure. With the help of up-to-date geographic information systems (GIS), exploring the spatial aspects of urban communities has never been so efficient, effective and easy. GIS can help us gain a hands-on learning experiences with the core concepts of urban geography, such as defining the metropolis, understanding internal urban structure, systems of cities, neighborhoods, residential mobility, industrial location and environmental problems.

This course combines the theory and practice of urban geography from a global perspective. Students will learn core theories in urban geography and their policy applications in both US and international contexts, practice GIS skills in analyzing urban communities and acquire professional skills such as problem solving. By the end of the course, the students will be able to:

- Understand the core **concepts of urban geography** through course readings
- Comprehend and critique **major policy debates** on urban and regional development from a social and spatial perspective through discussions sessions
- Develop **analytical and data visualization skills** using GIS through lab exercises
- Develop **professional skills** through working on the course project

Course Format:

This course will run as both a discussion seminar and a workshop. For each week's meeting, the first half will be a discussion session led by the instructor on the course readings;

the second half will be a lab session with hands-on exercises using the ArcGIS software. Each week, both the discussion session and the lab workshop will focus on the same topic in urban geography assigned for the week. The students are required to read all assigned materials before the beginning of the class and to prepare to be actively engaged in class discussions. Each student is required to finish 10 lab assignments and a final project.

There is no prerequisite of this course. If you have basic knowledge of ArcGIS (not required), this course will extend your ArcGIS skills in analyzing urban communities.

Texts:

The following textbook is *required* and can be obtained in the USC Bookstore or other online sources such as Amazon:

Greene and Pick. 2012. *Exploring the Urban Community: A GIS Approach*, (2nd edition. Prentice Hall). (Greene and Pick hereafter)

All other reading materials will be uploaded to Blackboard.

The students are required to finish all the reading materials before the class and engage actively in course discussions. The optional readings are not required but will be helpful in getting a wider and/or deeper understanding of the topic.

Assignment and Grades:

Below is the breakdown of the final grading:

Lab exercises:	50% (5% each, 10 exercises)
Course project:	40%
One-page proposal:	5%
Mid-term presentation:	10%
Final presentation:	10%
Final report:	15%
Participation:	10%
Extra Credit:	10%

Lab exercises: we will have 10 lab sessions using ArcGIS to explore urban communities. The lab manuals will be from the textbook or distributed as hard copies in the lab sessions. Students are required to submit a deliverable to show the completion of the exercises by the beginning of the next week's session.

Course project: each student is required to complete one course project individually. Students can choose the topics on their own, as long as the topic: (1) is related to the spatial concepts of the cities; (2) requires GIS work and (3) includes mapping and data visualization. There are four deliverables of the final project throughout the semester:

First, students are required to submit a one-page proposal to identify the topic, scope and data sources of the project on 02/06/2017. The instructor will respond to the proposal by either approving it or providing recommendations.

Second, students are required to present the progress of the project at the week of 03/06/2017. In the presentation, the student should report the progress of the project by showing (1) descriptive statistics for the data, (2) at least one map and (3) a future work plan.

Third, students are required to have a 10-minute presentation of the final project at the week of 04/24/2017. Both the quality of work and the quality of the presentation will be evaluated.

Fourth, students are required to submit a five-page, double-spaced final report with at least three maps (maps do not count towards the total pages).

Here are some examples of potential final project topics: (1) analyzing the racial segregation of Los Angeles County using data from 1980 Census, 1990 Census and 2010 Census; (2) measuring the gentrification of central cities using data from Minneapolis, MN, Seattle, WA and Cleveland, OH; (3) mapping the starting points of all taxi trips after a New York Jets football game.

Participation: Students should attend the class and actively participate in the lecture sections by joining discussions, answering questions in person or in pop quizzes.

Extra credit: The instructor will post reading response questions for each week's optional readings. Students can answer these questions in essay format in one or two pages double-spaced and will bring hard copies to the first meeting of each week. Each reading response counts for 1% of the total score, for a total of up to 10%.

Late Assignments:

All the deliverables are required to be submitted to the Blackboard system by 11:59pm on the due date. Without **PRIOR** approval of the instructor, late assignments will **NOT** be accepted.

ArcGIS Software Availability:

The ArcGIS software packages are installed on desktops and on-loan laptops in computing labs managed by USC Information Technology Services (ITS). For locations and hours, see: <https://itservices.usc.edu/spaces/computingcenters/>.

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards and appropriate sanctions (<https://policy.usc.edu/scampus-part-b/>). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct (<http://policy.usc.edu/scientific-misconduct/>).

USC does not tolerate discrimination, sexual assault, and harassment. You are encouraged to report any incidents to the Office of Equity and Diversity (<http://equity.usc.edu/>) or to the Department of Public Safety (<https://dps.usc.edu/contact/>). This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Relationship and Sexual Violence Prevention and Services (<https://engemannshc.usc.edu/rsvp/>) provides confidential support, and the Sexual Assault Resource Center webpage (<http://sarc.usc.edu>) describes reporting options and other resources.

Support Systems:

A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute (<http://ali.usc.edu/>), which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs (<http://dsp.usc.edu/>) provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information (<http://emergency.usc.edu>) will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Schedule of topics and reading list:

Date	Note	Topic	Reading
Monday, 01/09/2017	lecture	<p>Course introduction.</p> <p>Introduction to urban geography I: Urban geography as a discipline, Chicago School, L.A. School</p>	<ul style="list-style-type: none"> ○ (Optional) Knox, Paul L., and Linda McCarthy. “Urbanization and Urban Geography”, Chapter 1 in <i>Urbanization: An introduction to urban geography</i>. Boston: Pearson, 2012

Wednesday, 01/11/2017	lab	Introduction to urban geography II: data and spatial analysis, introductory GIS.	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 1. ○ (Optional) Dear, M. “The Los Angeles School of Urbanism: An Intellectual History” in LeGates, Richard T., and Frederic Stout, eds. <i>The city reader</i>. Routledge, 2011. pp. 170-175.
Monday, 01/16/2017	no class (MLK day)	Lab 1: Metropolitan growth and decline patterns, 2000-2008 (Greene and Pick, pp 36-40).	
Wednesday, 01/18/2017	lab		
Monday, 01/23/2017	lecture	Defining the metropolis: Different definitions of metropolis: Metropolitan Statistical Area, Urbanized Area, built-up areas, census and American Community Survey.	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 2. ○ (Optional) U.S. Census Bureau. (2009). A Compass for Understanding and Using American Community Survey Data: What Researchers Need to Know. Washington, D.C.
Wednesday, 01/25/2017	lab Lab 1 due	Lab 2: Different urban definitions for Tokyo and Springfield, MO. (Greene and Pick, pp 67-72)	
Monday, 01/30/2017	lecture	The internal structure of cities: Concentric zone model, sector model, multiple nuclei model, density gradients.	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 3. ○ (Optional) Burgess, E. “The Growth of the City: An Introduction to a Research Project” in LeGates, Richard T., and Frederic Stout, eds. <i>The city reader</i>. Routledge, 2011. pp. 170-175.
Wednesday, 02/01/2017	lab Lab 2 due	Lab 3: Density gradients of Mexico City (Greene and Pick, pp 102-105)	
Monday, 02/06/2017	lecture Final Project Proposal due	System of cities: Central-place theory, rank-size rule, American urban system, global cities.	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 4. ○ (Optional) Beaverstock, Jonathan V., Richard G. Smith, and Peter J. Taylor. "World-City Network: A New Metageography?." <i>Annals of the association of American geographers</i> 90, no. 1 (2000): 123-134.
Wednesday, 02/08/2017	lab Lab 3 due	Lab 4: Rank changes for China’s urban agglomerations: 1985-2005 (Greene and Pick, pp.134-138)	
Monday, 02/13/2017	lecture	Neighborhoods: Definition of neighborhoods, gated communities, racial segregation, gentrification, measuring neighborhood change	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 5. ○ (Optional) Mumford, Lewis. 1954. “The Neighborhood and the Neighborhood Unit.” <i>Town Planning Review</i> 24(4): 256-270.
Wednesday, 02/15/2017	lab Lab 4 due	Lab 5: Measuring neighborhood change in St. Louis: 1990-2000 (Greene and Pick, pp.166-170)	

Monday, 02/20/2017	no class (President's day)	<i>Each student schedules a 20-minute individual meeting with the instructor to discuss their final project.</i>	<ul style="list-style-type: none"> ○ (Optional) Curtis, J. W., Shiau, E., Lowery, B., Sloane, D., Hennigan, K., & Curtis, A. (2014). The prospects and problems of integrating sketch maps with geographic information systems to understand environmental perception: A case study of mapping youth fear in Los Angeles gang neighborhoods. <i>Environment and Planning B: Planning and Design</i>, 41(2), 251-271. ○ (Optional) Banerjee, T., Uhm, J., & Bahl, D. (2014). Walking to school the experience of children in inner city Los Angeles and implications for policy. <i>Journal of Planning Education and Research</i>, 34(2): 123-140
Wednesday, 02/22/2017	lab Lab 5 due	Lab: Project workshop	
Monday, 02/27/2017	lecture	<p>Migration and residential mobility: Factors impacting migration, measuring migration, migration patterns in the US and China</p> <p>Lab 6: Evaluating accessibility for four sites in Los Angeles County, CA (Greene and Pick, pp.200-203)</p>	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 6. ○ (Optional) Singer, A. (2003). <i>The rise of new immigrant gateways: Center on Urban and Metropolitan Policy</i>, the Brookings Institution.
Wednesday, 03/01/2017	lab		
Monday, 03/06/2017	presentation	Mid-term presentations	None
Wednesday, 03/08/2017	presentation		
Monday, 03/13/2017	No class (spring break)		
Wednesday, 03/15/2017			
Monday, 03/20/2017	lecture	<p>Race, ethnicity, gender and poverty: Ethnic enclaves, measuring ethnical diversity, racial segregation, gender,</p>	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 7 ○ (Optional) Davis, M. "Fortress L.A." in LeGates, Richard T., and Frederic Stout, eds. <i>The city</i>

Wednesday, 03/22/2017	lab Lab 6 due	poverty Lab 7: Spatial dispersion of minorities in Dallas, TX (Greene and Pick, pp.235-237)	<i>reader</i> . Routledge, 2011. pp. 195-201
Monday, 03/27/2017	lecture	Industrial location and cities: SIC vs NACIS, economic base theory, location quotient, economic geography	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 8 ○ (Optional) Storper, M., Kemeny, T., Makarem, N., & Osman, T. (2015). <i>The Motor of Divergence: High-wage or Low-wage Specialization</i>. Chapter 3 in <i>The Rise and Fall of Urban Economies: Lessons from San Francisco and Los Angeles</i>. Stanford University Press. pp 29-50
Wednesday, 03/29/2017	lab Lab 7 due	Lab 8: Clustering of industrial activity for the city of Chicago, IL. (Greene and Pick, pp. 268-272)	
Monday, 04/03/2017	lecture	Urban core vs. edge city: Central cities, urban sprawl, transportation and urban sprawl, edge cities, smart growth	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 9 ○ (Optional) Muller, P. O. (2004). <i>Transportation and Urban Form - Stages in the Spatial Evolution of the American Cities</i>. in S. Hanson & G. Giuliano (Eds.), <i>The geography of urban transportation</i> (3rd ed., pp. 59-85). New York: The Guilford Press.
Wednesday, 04/05/2017	lab Lab 8 due	Lab 9: Chicago's ever changing urban fringe: 1960-2000 (Greene and Pick, pp. 297-306)	
Monday, 04/10/2017	lecture	City and environment: Urban environment, climate change, urban land use and environment, water resources, urban flooding, solid wastes, air pollution, environment justice	<ul style="list-style-type: none"> ○ Greene and Pick, Chap 10 ○ (Optional) Glaeser, Edward. (2011). <i>Is There Anything Greener than Blacktop?</i> Chapter 8 in <i>Triumph of the City</i>. New York: the Penguin Press. pp 199-222.
Wednesday, 04/12/2017	lab Lab 9 due	Lab 10: Air pollution and child asthma in Chicago, IL. (Greene and Pick, pp. 343-349)	
Monday, 04/17/2017	lecture	Wrap up and review	<ul style="list-style-type: none"> ○ (Optional) Kim, Annette M. (2015). <i>Mapping the Unmapped</i>. Chapter 4 in <i>Sidewalk City: Remapping the Public Space in Ho Chi Minh City</i>. Chicago: The University of Chicago Press. Pp 82-149
Wednesday, 04/19/2017	lab Lab 10 due	Lab: Final project workshop.	
Monday, 04/24/2017	presentation	Final presentations	None

<p>Wednesday, 04/26/2017</p>	<p>presentation</p>		
<p>Wednesday, 05/03/2017</p>	<p>Final report due at 11:59pm via Blackboard.</p>		