

## UP 316 Urban Informatics II

Department of Urban and Regional Planning  
University of Illinois at Urbana-Champaign  
Spring 2018

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<b>LECTURES:</b>	Monday and Wednesday, 2:00 – 2:50pm, Room 225 Temple Buell Hall
<b>LABS:</b>	Friday, 2:00– 2:50pm, Room 70B Wohlers Hall
<b>INSTRUCTOR:</b>	Bumsoo Lee, M206 Temple Buell Hall, <a href="mailto:bumsoo@illinois.edu">bumsoo@illinois.edu</a> Office hours: 1:00pm-1:50pm on Monday in TBH M206 and by appointment
<b>TEACHING ASSISTANT:</b>	Jacob Malmsten, <a href="mailto:jacobm3@illinois.edu">jacobm3@illinois.edu</a> Office hours: 1:00pm-1:50pm on Wednesday in TBH 227 and by appointment

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### COURSE OVERVIEW

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Any successful urban planning process requires *information* on the current and future conditions of the community and region. UP 316 is designed to teach formal planning methods that help planners collect and analyze critical information for various urban planning projects. The first half of the semester will focus on a primary data collection method, survey research. Students will learn how to design and administer an effective sample survey and how to analyze and interpret survey results. Students will also have a hands-on experience of conducting their own sample survey research as a group project. The second half of the course will focus on other quantitative analytical techniques that are widely used by planners to understand demographic and socio-economic conditions of a city and its future.

Among the topics to be covered are:

- Survey research – questionnaire design, administering survey, data analysis& report writing
- Review of statistical tools and their application to survey research
- Demographic analysis and population projection methods
- Economic analysis techniques: economic base model and shift-share analysis
- Cost-benefit analysis as a project evaluation method
- Using MS-Excel and SPSS for urban data analysis

Monday and Wednesday classes are in a lecture/discussion format. Students will learn and discuss fundamental concepts, theories, and tools of *urban informatics*. In Lab sessions on Friday, students will have opportunities to apply these tools using real world data and computer programs. The best way to learn planning methods is *learning by doing*. Thus, various exercises and assignments will be given throughout the semester.

Students should read required readings, be prepared for class, and actively participate in class discussions. All the lecture notes will be posted on the Compass course webpage (<https://compass2g.illinois.edu>) so that students can reduce the need for note taking and more actively participate in class discussion.

### PREREQUISITE

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UP 116 Urban Informatics I or an equivalent introductory statistics course.

## TEXTBOOKS

Rea, Louis M. and Richard A. Parker. 2014. *Designing and Conducting Survey Research: A Comprehensive Guide*, 4th edition. San Francisco, CA: Josey-Bass Inc. E-book available at UIUC Library [https://vufind.carli.illinois.edu/vf-uiu/Record/uiu\\_7611907](https://vufind.carli.illinois.edu/vf-uiu/Record/uiu_7611907).

Wang, Xinhao and Rainer vomHofe. 2007. *Research Methods in Urban and Regional Planning*. Berlin, Germany: Springer. E-book link: <http://www.springerlink.com/content/m50327/#section=301719&page=1>.

Additional reading assignments or the links to them will be posted on the Compass.

## REQUIREMENTS

Students will be required to complete one group project, one exam and a series of homework/lab assignments. Class participation grade will be based on both random attendance checks and class participation. Poor attendance will not result in automatic failure, but 10% participation/attendance grade can be significant in your final grade. Class participation grade will also be affected by class distracting behaviors such as tardiness and texting. Laptop computers should be used only for note taking, not for web surfing!

GRADES will be assigned as follows:

Group Project: Student Attitude Survey	20 %
Mid-term EXAM	25 %
Homework/Lab Assignments	45 %
Participation/Attendance	10 %

**ASSIGNMENTS and PROJECTS:** In general, assignments are due at 2pm (class time) on the due date. Late homework assignments will be graded down by 20% per day up to 50%. There may be in-class or in-lab homework assignments. So if you miss these classes/lab sessions, you will not receive any credit for those assignments without a valid excuse for your absence. Detailed guides for projects/assignments will be handed out later.

**RUBRIC:** The general grading rubric for assignments and projects is as follows:

A: Demonstrates original thought and synthesis of ideas and cogent analysis, and is clearly written and presented. Outstanding work.

B: Presents above average analysis with appropriate evidence to support ideas, and is clearly written or presented. Good work.

C: Shows a basic level of understanding, with analysis limited to obvious arguments. Writing is competent. Adequate work.

D: Misunderstands or misrepresents the material, or is so poorly written or presented as to obscure the analysis. Inadequate work.

Transformation of numerical grade to letter grade will be according to the schedule below:

A+	97-100		
A	93-96.9	C+	77-79.9
A-	90-92.9	C	73-76.9
B+	87-89.9	C-	70-72.9
B	83-86.9	D+	67-69.9
B-	80-82.9	D	60-66.9

## OTHER POLICIES

SPECIAL ACCOMMODATIONS	This course will accommodate students with documented disabilities. Please refer to <a href="http://www.disability.uiuc.edu/resourceguide">http://www.disability.uiuc.edu/resourceguide</a> for more information and provide the appropriate documentation at the beginning of the semester.
ACADEMIC INTEGRITY	This course follows the guidelines set forth by the University student code. See <a href="http://www.admin.uiuc.edu/policy/code/article_1/a1_1-401.html">http://www.admin.uiuc.edu/policy/code/article_1/a1_1-401.html</a> for specific guidelines, examples, and punishment associated with academic dishonesty.
CLASS CLIMATE	The Department of Urban and Regional Planning (DURP) is committed to creating an environment of inclusion and opportunity that is rooted in the very goals and responsibilities of practicing planners. Conduct that interferes with the rights of another or creates an atmosphere of intimidation or disrespect is inconsistent with the environment of learning and cooperation that the program requires. By enrolling in a course in the Department of Urban and Regional Planning, students agree to be responsible for maintaining a respectful environment in all DURP activities, including lectures, discussions, labs, projects, and extracurricular programs. We will be governed by the University Student Code. See Student Code Article 1—Student Rights and Responsibilities, Part 1. Student Rights: §1-102 In the Classroom.
EMERGENCY RESPONSE RECOMMENDATIONS	The Department of Homeland Security and the University of Illinois at Urbana-Champaign Office of Campus Emergency Planning recommend the following three responses to any emergency on campus: <b>RUN &gt; HIDE &gt; FIGHT</b>  For more information, <a href="http://police.illinois.edu/emergencyplanning/general/">http://police.illinois.edu/emergencyplanning/general/</a> More detailed recommendations for emergency response and TBH floor plans are posted on the Compass website of the course.
COUNSELING CENTER	The Counseling Center is committed to providing a range of services intended to help students develop improved coping skills in order to address emotional, interpersonal, and academic concerns. The Counseling Center provides individual, couples, and group counseling. All of these services are paid for through the health services fee. The Counseling Center offers primarily short term counseling, but they do also provide referrals to the community when students could benefit from longer term services. <a href="https://counselingcenter.illinois.edu/">https://counselingcenter.illinois.edu/</a>
FAA WRITING SERVICES	Susan Liepert, the FAA Writing Advisor, offers one-on-one writing assistance to undergraduates, graduate students, and faculty. Classroom workshops and presentations are also available. She is available to assist FAA students (and students in FAA unit classes) with classroom assignments; theses and dissertations; artist statements, short bios and program notes; grant applications; scholarly publications; resumés, portfolios, and cover letters; and many other kinds of documents. <a href="https://faa.illinois.edu/current-students/writing-services">https://faa.illinois.edu/current-students/writing-services</a>
	<b>Weekly drop-in hours are available:</b> Room 100G ARCH Monday to Thursday 2:30 to 4:30 p.m. Friday 11:30 a.m. to 1:30 p.m.

## COURSE SCHEDULE

### INTRODUCTION AND OVERVIEW

#### Week 1

Readings: 1/17 Introduction to UP316  
Rea and Parker, Chapter 1: *An Overview of the Sample Survey Process*

Lab: NO Lab in the first week

### DEVELOPING AND ADMINISTERING SURVEY

#### Week 2

Readings: 1/22 Rea and Parker, Chapter 1: *An Overview of the Sample Survey Process*

(Project 1 hand out) 1/24 Rea and Parker, Chapter 3: *Developing Survey Questions*

Lab: 1/26 **Must attend!** Survey project team building and group discussion on individually developed survey questions

**Assignment:** 1/25,26 Five survey questions due (Post a pdf file to the Compass on 26th AND bring a hard copy to the lab session)

#### Week 3

Readings: 1/29 Rea and Parker, Chapter 2: *Designing Effective Questionnaires: Basic Guidelines*

1/31 Administering efficient surveys (Rea and Parker, Chapters 1 - 3)

Lab: 2/2 Introduction to SPSS: Data Import & Export; Group work on survey design

### ANALYSING SURVEY RESULTS

#### Week 4

Readings: 2/5 Rea and Parker, Chapter 5: *Descriptive Statistics: Measures of Central tendency and Dispersion* and Chapter 6: *The Theoretical Basis of Sampling*

**Assignment:** 2/7 Rea and Parker, Chapter 7: *Confidence Intervals and Basic Hypothesis Testing*  
2/7 Group survey draft due

Lab: 2/9 Using SPSS: Descriptive statistics, confidence intervals

#### Week 5

Readings: 2/12 Rea and Parker, Chapter 10: *Analyzing Cross-Tabulated Data*  
Lecture by TA due to WRSA Conference

2/14 Chapter 11: *Testing the Difference Between Means*

Lab: 2/16 Data Analysis in SPSS: Cross-Tab, t-test, and ANOVA

**Assignment:** 2/16 Finalized survey & pre-test report due

#### Week 6

Readings: 2/19 Rea and Parker, Chapter 12: *Regression and Correlation*

2/21 Rea and Parker, Chapter 12: *Regression and Correlation, Continued*

Lab: 2/23 Data Entry (Coding) and Analysis of Survey Results with SPSS

**Assignment:** 2/23 Bring completed surveys to the lab session for data coding

**SURVEY SAMPLING****Week 7**

Readings: 2/26 Rea and Parker, Chapter 8: *Determining Sample Size*  
 2/28 Rea and Parker, Chapter 9: *Selecting a Representative Sample*

Lab: 3/2 Regression analysis and Analysis of Survey Results  
**Assignment:** 3/2 Complete data set due

**MID-TERM EXAM**

**Week 8** 3/5 **EXAM**

**CENSUS GEOGRAPHY AND CENSUS DATA**

Readings: 3/7 OMB (2000) Standards for defining metropolitan and micropolitan statistical areas: Notice. *Federal Register* 65 (249) <http://www.bls.gov/lau/frn249.pdf>  
 U.S. Census. 2013. 2010 Census Data Product Descriptions. Washington, DC: U.S. Census Bureau. Available at [http://www.census.gov/2010census/news/pdf/data\\_products\\_2010\\_census2.pdf](http://www.census.gov/2010census/news/pdf/data_products_2010_census2.pdf);

Lab 3/9 Downloading Census Data; Analysis of Survey Results (Group Work)

**DEMOGRAPHIC ANALYSIS AND POPULATION PROJECTION****Week 9**

Readings: 3/12 Wang and vomHofe, Chapter 3 Demographic Analysis (pp. 53-80); Hoch, Dalton, and So, 2000, *The Practice of Local Government Planning*, Chapter 4 Population Analysis.  
 3/14 Wang and vomHofe, Chapter 3 Demographic Analysis (pp. 65-109). And Chapter 3 Demographic Analysis, Trend Extrapolation Methods (pp. 81-109).

Lab 3/16 Population Pyramid  
**Assignment:** 3/16 Project 1: Group Survey Research Final Report Due

**Week 10** **SPRING BREAK****Week 11**

Readings: 3/26 Wang and vomHofe, Chapter 3 Demographic Analysis, Trend Extrapolation Methods (pp. 81-109).

3/28 Wang and vomHofe, Chapter 3 Demographic Analysis, Cohort-Component Method (pp. 110-127).

Lab: 3/30 Trend Extrapolation Exercise

**Week 12**

Readings: 4/2 Wang and vomHofe, Chapter 3 Demographic Analysis, Cohort-Component Method (pp. 110-127), *Continued*.

**REGIONAL ECONOMIC ANALYSIS**

	4/4	Wang and vomHofe, Chapter 4 Understanding Your Regional Economy (pp. 134-164).
Lab:	4/6	Cohort Component Method Exercise
<b>Week 13</b>		
Readings:	4/9	Wang and vomHofe, Chapter 4 Understanding Your Regional Economy (pp. 134-164 and pp. 196-201)
	4/11	Wang and vomHofe, Chapter 4 Understanding Your Regional Economy (pp. 165-194)
Lab:	4/13	Economic Base Analysis Exercise
Assignment:	4/13	Assignment 1 due: Population Analysis and Projection
<b>Week 14</b>		
Readings:	4/16	Wang and vomHofe, Chapter 4 Understanding Your Regional Economy (pp. 202-212)
	4/18	Richard Klosterman, Chapter 12 Constant-Share and Shift-Share Approaches
Lab:	4/20	Shift-Share Analysis Exercise

**PROJECT EVALUATION: COST BENEFIT ANALYSIS**

<b>Week 15</b>		
Readings:	4/23	Gupta, Dipak K. 2001. Chapter 14: Choosing the Best Alternative: Cost-Benefit Analysis from <i>Analyzing Public Policy: Concepts, Tools and Techniques</i> .
	4/25	<i>Cost-Benefit analysis</i> , Continued.
Lab:	4/27	Cost Benefit Analysis Exercise
Assignment:	4/27	Assignment 2 due: Regional Economic Analysis
<b>Week 16</b>		
Readings:	4/30	<i>Cost-Benefit analysis</i> , Continued.
	5/2	Gupta, Dipak K. 2001. Chapter 13: The Elements of Strategic Thinking: Decision Tree and Game Theory from <i>Analyzing Public Policy: Concepts, Tools and Techniques</i> .
Assignment:	5/7	Assignment 3 due: Cost Benefit Analysis due by <b>Noon</b> .