

PLAN 720: Planning Methods

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TAs: Mary Wolfe
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OH: Tuesday 1-2:30, NE 402

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OH: Monday 11-12:30, NE 402

Lecture: Tuesday & Thursday 11-12:15, New East, Room 102
Lab: Wednesday 11:15-12:05, Carolina Hall 322 OR
Wednesday 4:40-5:30, Carolina Hall 322
Recitation: Friday 11:15-12:05, New East Room 102

Course Description

PLAN 720 is an introductory course in planning methods featuring lectures, computer labs, and hands-on assignments. The course will help you to understand:

- Asking questions: How can you use data to answer a pressing policy question?
- Gathering data: What sources do planners use and how can you access them?
- Summarizing data: How can you present the data in a meaningful way?
- Analyzing data: How do you assess what your data means?

Course Objectives

By the end of this course you will be able to:

- Evaluate statistical research of others, including data analysis and research design
- Create charts, tables, and statistical functions in Excel
- Effectively communicate quantitative information
- Conduct basic statistical techniques including comparisons among groups

Course Requirements:

Daily/Weekly Assignments: At-home quizzes along with problem sets will be assigned to give you practice on techniques we cover in class.

Exams: There will be one exam focusing on descriptive and inferential statistics. There will be no make-up exams. If you miss the exam due to an excused absence (illness, family emergency, etc.), there will be no make-up. When the exam is missed for an excused absence,

the other course requirements will be re-weighted and the final exam will not be considered in your course grade. If you miss the final for an unexcused absence, you will receive a grade of 0 for the final exam.

Papers: An article critique and descriptive analyses are due during the first part of the semester. The assignments will contain full details. Any assignments turned in late will incur a penalty of a half-grade (letter graded assignments) or half the standard deviation (numeric graded assignments). For example if a paper is a day late, the grade would change from a B to a B-. If the paper were two days late, the grade would change from a B to a C+.

Project: Students, working in pairs or individually, will propose and evaluate a research question using existing survey data. All projects are due by 5pm on the due date. No late assignments will be accepted unless there is an illness or family emergency.

Participation: Participation in the class and effective collaboration with your teammates is essential in this course.

Grading

Assignments	Due	Points
1. Daily/Weekly Assignments	Ongoing, due by start of class	10
2. CITI Training	September 6, Must be completed to pass course	0
3. Article Critique	September 15	10
4. Descriptive Analysis	October 6	20
5. Research Proposals	October 18	0
6. Revised Research Proposal	October 27	5
7. Research Project	Report: Dec. 15, 5pm	25
8. Exam	December 1, in class	25
9. Participation	ongoing	5

Readings

The required textbook is:

1. Agresti & Franklin. Statistics: The art and science of learning from data. Prentice Hall. Any edition is fine (including the on-line version).

We will also use articles which will be provided electronically on Sakai or on e-reserves.

Several books are on reserve in the House Undergraduate Library.

1. General Accounting Office. 1992. *Quantitative Data Analysis: An Introduction* <http://www.gao.gov/special.pubs/pe10111.pdf> [e-reserves]
2. Gonick & Smith. 1993. *The Cartoon Guide to Statistics*.
3. Klass, G. 2012. *Just Plain Data Analysis: Finding, Presenting, and Interpreting Social Science Data*. New York: Rowman & Littlefield Publishers. [e-reserves]
4. Tufte, E. 2001. *The Visual Display of Quantitative Information*.
5. Miller, Jane. 2004. *The Chicago Guide to Writing About Numbers*. *Good reference for writing up your analysis*.
6. Morgan, S, et al. 2002. *From Numbers to Words: Reporting Statistical Results for the Social Sciences*. Boston: Allyn & Bacon
Useful for writing up statistical analyses, particularly for the final project.

7. Myers, Dowell. 1992. *Analysis with local census data*. New York: Academic Press.
Good reference for how to handle census data.
8. Dandekar, Hemalata (ed.). 2003. *The Planner's Use of Information*. Chicago: Planners Press.
Good memos on how to write and present data.
9. Meier, K. et al. 2006. *Applied Statistics for Public and Nonprofit Administration*.
Similar material as Agresti and Franklin, may be useful if you want a second perspective.
10. Schutt, R. 2006. *Investigating the Social World: The Process and Practice of Research*. Pine Forest Press.
Good overview of research design.
11. Duarte, Nancy. *Slide:ology: the art and science of creating great presentations*.

Required software/hardware

You must have a financial/scientific calculator (not simply on cell-phone/tablet) and Excel. For Mac owners, you must have the most recent version of Excel. Office is available for free or at a discount through UNC <http://software.sites.unc.edu/software/microsoft-products/>.

Honor Code

The UNC honor Code states: "It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and to support the enforcement of the honor code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University, student or academic personnel acting in an official capacity."

For this course, it is appropriate (and encouraged) to discuss and work together on problem sets. I expect that if you work together on problem sets, you write your assignments up separately and understand all responses.

Course Schedule

Class	Date	Topic	Assignments Due
1	8-23	Information in Planning	
2	8-25	Asking Research Questions	
3	8-30	Study Design	
4	9-1	Study Design & Research Ethics	
5	9-6	Study Approaches: Qualitative and Quantitative	CITI Training
6	9-8	Describing Data: Categorical	
7	9-13	Describing Data: Quantitative	
8	9-15	Describing Data: Change Over Time	Article Critique
9	9-20	Graphical Presentation of Data	
10	9-22	Use and Misuse of Descriptive Statistics & Forecasting	
11	9-27	Financial Metrics	
12	9-29	Catch-up & Probability	
13	10-4	Probability	
14	10-6	Sampling Distribution	Descriptive Analysis
	10-11	University Day, No class	
15	10-13	Sampling Distribution	
16	10-18	Peer Feedback on Project Proposals	Project Proposals
	10-20	Fall Break, No class	

17	10-25	Significance Tests	
18	10-27	Significance Tests & Confidence Interval	Revised Project Proposals
19	11-1	Confidence Intervals	
20	11-3	Comparing 2 Groups-Means	
21	11-8	Comparing 2 Groups-Proportions	
22	11-10	Dependent Samples & Type I/II Error	
23	11-15	Bivariate Regression	
24	11-17	Bivariate Regression	
25	11-22	Applied Problems & Catch-up	
	11-24	Thanksgiving, No class	
26	11-29	Exam Review	
27	12-1	Exam	
28	12-6	Course wrap-up	

Lab Schedule

Attendance is optional, but VERY strongly encouraged. I suggest you review the lab topics ahead of time to determine your level of expertise on the topic.

Recitations Friday 11:15-12:05, New East 102

Recitations will be used for review. These sessions are optional, but you are strongly encouraged to attend.

Readings

Information in Planning

Recommended:

Innes, Judith "Information in Communicative Planning" JAPA 64(1) 52-68

Kaufman, Sanda and Robert Simons. "Quantitative and Research Methods in Planning" JPER 15(1) 17-34.

Sandercock, L. 2004. Towards a planning imagination for the 21st century. JAPA 70:2: 133-141.

Asking Research Questions

**Schutt, R. 2006. *Investigating the Social World*, Chapter 2 (1st edition)

Forcese, Dennis and Stephen Richter. 1973. "Models, Hypotheses and Theory" *Social Research Methods*. Prentice Hall. Chapter 4.

Research Methods Knowledge Base (<http://www.socialresearchmethods.net/kb/intres.php>)

Study Design

**Schutt, R. 2006. *Investigating the Social World*, Chapter 2 (second edition) (Day 1)

**Klass. Ch. 3 (Day 2)

**Research Methods Knowledge Base - Design (Day 2)
<http://www.socialresearchmethods.net/kb/design.php>

Explore Research Methods Knowledge Base

(<http://www.socialresearchmethods.net/kb/intres.php>)

Schutt, R., Chapter 6

A&F Chapter 4 (Gathering Data)

Sampson, R. 2010. Gold Standard Myths: Observations on the Experimental Turn in Quantitative Criminology. *Journal of Quantitative Criminology* 26: 489-500.

Banerjee & Duflo. 2009. Experimental Approach to Development Economics. *Annual Review of Economics* 1:1.1-1.28.

Ravallion, M. 2009. Should the Randomistas Rule? *Economists' Voice*.

Florida, R. 2002. The Rise of the Creative Class. *Washington Monthly*.

<http://www.washingtonmonthly.com/features/2001/0205.florida.html>

Research Ethics

**Resnik, D. What is Ethics in Research & Why is It Important?

<http://www.niehs.nih.gov/research/resources/bioethics/whatis.cfm>

Oakes, M. Evaluator's Guide to the IRB.

<http://www.irb.umn.edu/download/EvaluatorsGuidetoIRB.pdf>

Census

Explore <http://www.census.gov/history/index.html>

**US Census Bureau. 2009. *A Compass for Understanding and Using American Community Survey Data: What Researchers Need to Know*. (Pages 1-10)

(<http://www.census.gov/acs/www/Downloads/ACSResearch.pdf>)

Myers, Chapter 3 & 4

Cortright, Joseph and Andrew Reamer. 1998. *Socioeconomic Data for Understanding Your Regional Economy: A User's Guide*. <http://www.econdata.net/pdf/uguide.pdf>.

Describing Data

**Klass, 5

**A&F Chapter 2, Exploring Data with Graphs and Numerical Summaries OR

Gonick, Ch. 2, Data Description
Klass, Ch. 1 [General overview]
GAO Quantitative Analysis, Chapters 1 -3, 5 [Describing quantitative variables]
Cowell, Chapter 1 & 2 [Analyzing inequality]

Graphical Presentation of Data

**Klass, Ch. 6
Tufte, Visual Display of Quantitative Information, Envisioning Information, Visual Explanations, Beautiful Evidence
Duarte, Slide:ology

Use and Misuse of Descriptive Statistics

**Klass, Ch. 6
Kolata, Gina. "The Myth, the Math, the Sex." *New York Times* August 12, 2007.
Leonhardt & Rampell. Grim Job Report Not Showing Full Picture. *New York Times*, December 5, 2008.
(http://www.nytimes.com/2008/12/06/business/economy/06idle.html?_r=1&scp=1&sq=&st=nyt)

Financial Metrics

Bureau of Labor Statistics, Location Quotient Calculator (<http://www.bls.gov/cew/cewlq.htm>)
Recommended:
Massey & Denton, The Dimensions of Residential Segregation. *Social Forces* 67:281-315.
DeNeufville, Judith. Chapter 9, Structuring the Data. *Social Indicators and Public Policy*.
Sawicki & Flynn. Neighborhood Indicators: A Review of the Literature and an Assessment of Conceptual and Methodological Issues. *JAPA*

Probability

A&F Chapter 5
Gonick Chapter 3

Probability Distributions

A&F Chapter 6 or GAO Quant Analysis Ch 5
Gonick Chapter 4, 5

Sampling Distribution

A&F Chapter 7 or GAO Quant Analysis Ch 5
Gonick Chapter 6

Significance Tests

A&F Chapter 9
Gonick Chapter 8

Confidence Intervals

A&F Chapter 8
Gonick Chapter 7

Comparing 2 Groups—Means

A&F Ch. 10, esp. 10.2
Gonick Chapter 9

Comparing 2 Groups—Proportions

A&F Ch. 10, esp. 10.1

Gonick Chapter 9

Dependent Samples and Type I/II error

A&F Ch. 9.4-9.6, 10.4

Regression

A&F Chapter 3.3, 11

Gonick Chapter 11

Course Wrap Up

Carey, B. 2011. You might already know this. *New York Times* January 10, 2011.

Lehrer, J. 2010. The truth wears off: Is there something wrong with the scientific method? *The New Yorker* December 13, 2010

http://www.newyorker.com/reporting/2010/12/13/101213fa_fact_lehrer

Flam. 2014. The Odds. *New York Times*. <http://www.nytimes.com/2014/09/30/science/the-odds-continually-updated.html?action=click&pgtype=Homepage&version=Most-Visible&module=inside-nyt-region®ion=inside-nyt-region&WT.nav=inside-nyt-region&r=0>