

URBDP 520, QUANTITATIVE METHODS OF PLANNING ANALYSIS

Class Time and Location: Tuesday and Thursday, 10:30 a.m.-12:20 p.m. 114 Gould Hall, or 007 Gould Hall Computer Lab

Instructor: Branden Born
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Course Webpage: <https://catalysttools.washington.edu/workspace/bborn/1575>

Office hours (Born): Tuesday 12:30-1:30, Thursday if faculty meeting; in office, and by appt.

Office hours (Peng): TBD Monday/Wednesday/Friday 1:30-2:30 and by appt.

Lab/Discussion session (Peng): TBD Monday/Wednesday/Friday 2:30-4:30

Course objective: This course is designed to familiarize students with research design and collection and statistical analysis of data for planning and public policy purposes. The intent of the course is to provide opportunity for students to define, conceptualize, design, and implement basic research techniques and analysis on issues of current public interest. It will also make students aware of the ways statistics may be used to misrepresent data. The course covers methods and application, with emphasis on critical analysis in application. The methods covered include basic research design and statistical methods considered fundamental to most planning analysis as well as consideration of the communication of planning analyses.

Prerequisite: One course in statistics

Texts: Statistics, a tool for social research by Joseph F. Healey, Wadsworth Publishing, 8th edition 2009.

Readings on class website (infrequent)

Optional: Various titles in the Sage Quantitative Analysis for Social Science series (I've got several for your examination, they are also widely available in the library).

The Elements of Style. Strunk and White, any edition. (a little stilted and dated, but good basics.) Better: Style: Toward Clarity and Grace. Joseph M. Williams, Chicago Guides to Writing, Editing, and Publishing.

Edward Tufte's series on data presentation. Excellent on all counts.

Statistics for People Who (Think They) Hate Statistics. Neil J. Salkind.

Structure: The course is divided, loosely, into three sections: 1) research design and critical thinking with regard to applied problem solving, including presentation of quantitative information; 2) basic statistical methods including descriptive and inferential statistics, and 3) regression analysis, including simple or univariate and multivariate analysis. Individual problem sets, one exam, and one group project will be assigned and graded. These will concentrate on practical applications of the material. There will also be several short quizzes. Computers with

appropriate statistical software (SPSS) are available in for your use in the Gould Hall Digital Commons computer lab (Room 07).

Office hours are provided for both the professor and TA (TBD), and there is an optional discussion section scheduled weekly (TBD). If you are having trouble in the course, let us know—we're here to help. The earlier, the better! Seriously now, let me repeat that: the earlier, the better. This can be difficult material to master, and we are here to help you. Please come see us if you are having difficulties with the material of the class.

Requirements:

Percent of course grade:

| | |
|-----------------------------------|----|
| Problem sets (likely 4) | 20 |
| Exam | 25 |
| Quizzes (short, online, likely 6) | 20 |
| Group project | 30 |
| Class participation | 5 |

Grading and course work: I will assign homework several times during the quarter to emphasize the material and give students an opportunity to build their skills. Homework will generally be due one week from the assignment date. In fairness to your fellow students, and to the grader, no late work will be accepted. Homework must be submitted using the course online drop box and include any necessary calculations, figures, etc. Hint: learn how to use the math editor in your word processing software. Group projects are a critical part of this course, as they will also be a critical part of your professional work. You will grade, and be graded by, your fellow classmates and will present your work in class one or two times. These projects may be rather challenging and I encourage you to start early and ask questions. There will be one midterm exam covering research design, descriptive and inferential statistics, and simple regression. Quizzes will be short and designed to provide a quick check on your understanding of the current material.

If you have a disability (physical, learning, or psychological) that makes it difficult for you to carry out the coursework as outlined and/or requires accommodations, such as recruiting note-takers, readers, or extended time on assignments and exams, please contact Disabled Student Services within the first week of the quarter. DSS is available at 685-1511, or at http://www.washington.edu/students/gencat/front/Disabled_Student.html, and will be able to provide you with information and review appropriate arrangements for reasonable accommodation.

Finally, I expect students to uphold university policies on academic integrity. Work you submit as your own should indeed *be* your own. Failure to uphold academic integrity will be dealt with in accordance with university procedures, and cases will be referred to the dean's office.

Course Schedule

| Aprox. Date | Topic | Reading | Homework |
|--------------------------|---|-------------------------------------|--------------------------|
| 9/25, 9/30 | Introduction to class, intro to planning analysis | Healey Chapter 1 E-res: Leedy* | Online library tutorials |
| 10/2, 7 | Research design, quantitative and qualitative data, communication, fundamentals of statistics | | HW1 |
| 10/9 | Descriptive Statistics: central tendency, dispersion, normal curve | Healey Ch 2-5 Lab files (online) | |
| 10/ 14 | Census and American Community Survey (Lab) | Healey Ch 6-7 | HW2 |
| 10/16, 21 | Inferential statistics: estimation. | | |
| 10/23, 28, 11/4 | Inferential statistics: hypothesis testing. | Healey, Ch 8, 9, 11 | HW3 HW4 |
| 11/6, 11, | Simple linear regression and correlation | Healey Ch 12, 15 | |
| 11/13, 18 | Group Project Presentations Simple (and multiple?) regression | Healey Ch 16 (skim) | Group Project, HW5 |
| 11/20 | MIDTERM EXAM | | |
| 11/25, 12/2, 4, 11/27 | Multiple regression Thanksgiving—No class | Healey Ch 17 | |

Website: Course website. **Healey:** Statistics, a tool for social research.

Red date indicates approximate quiz date.