

The University of Wisconsin- Milwaukee

URBPLAN 740: Data Analysis Methods

Spring 2020

Wednesdays, 1:30-4:10pm, AUP 158

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Office Hours: Tuesdays, 3:00-4:00 pm, and by appointment

For Course materials, announcements, and other documents, regularly check D2L

Course Objectives:

- The course introduces basic statistical techniques and the statistical reasoning useful for planning and policy analysis.
- The emphases of this course are:
 - *Statistical reasoning*: to develop skills in statistical reasoning and to learn the strength and limitations of basic statistical techniques.
 - *Application*: to recognize the appropriateness of basic statistical techniques for solving problems, to set up and solve simple “real-world” problems, and to interpret the results to the general public.
 - *Preparation*: to prepare for other planning courses and professional practice that require statistical reasoning and methodology.

Texts and Reading:

Meier, K. J., and J. L. Brudney, J. Bohte (2014) *“Applied Statistics for Public & Nonprofit Administration.”* (9th edition), Cengage Learning

All other required readings will be available on the course website

Course requirements:

This is a challenging course. Each student is responsible for his/her own learning. Students should read weekly assignments and be prepared for class. If a section of the textbook and/or assignments is puzzling, it is the student’s responsibility to make an appointment to see the instructor or the teaching assistant as soon as possible. Students are encouraged to ask questions during lectures and office hours.

In addition to class participation, course requirements include assignments, midterm exam, and final exam, which are all graded. Late assignments will be marked down. I will not allow makeup exams unless students have documentary evidence clearly demonstrating compassionate or compelling circumstances. On average, students should spend 48 hours per credit per semester on in-class activities and activities outside of the classroom (i.e., approx. 144 hours for a 3-credit course).

Grading:

The course grade will be calculated as follows:

Eight Assignments:	8*5%=40%
Midterm exam:	25%
Final exam:	25%
Class participation:	10%

Classroom Conduct

- Please turn off and put away all cell phones and audible devices during class.
- Please do not hold personal conversations during class. It is distracting to both the instructor and the other students in the class.

Computer Requirement

- Knowledge of a statistical package, such as Excel, is an indispensable part of modern statistics. The class presentations, some assignments, and exams are computer-based.
- The analysis ToolPak of Excel is used in this class for exploring statistical concepts and demonstrating statistical analysis of actual data used for business decisions. No previous knowledge of this ToolPak is assumed. If you need additional help, you may also ask the teaching assistants or the instructor to show you how to use the package.

Special Accommodation

Students with limitations due to disability, including learning disability, may request for any reasonable accommodations. Students will be allowed to complete examinations or other requirements that are missed because of a religious observance. In case of special accommodations are needed in order to meet any of the requirements of this course, please contact the instructor as soon as possible.

Academic Conduct

The University, as an instrument of learning, is predicated on the existence of an environment of integrity. The faculty has the primary responsibility for establishing and maintaining an atmosphere and attitude of academic integrity such that the enterprise may flourish in an open and honest way. Students share this responsibility for maintaining standards of academic performance and classroom behavior conducive to the learning process. Please review Chapter UWS 14 and Faculty Document No. 1686 at the following webpage for both UWM's and the expectations of appropriate student academic conduct:

<https://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/>

Original Work and Plagiarism

All work in this course should be your own. In written work, cite your sources for quotes, facts, and opinions, both in the body of your work and in the bibliography. Do not copy word for word unless you place the words in quotation marks. Any plagiarism will be dealt with as a serious ethical breach. If you have questions about whether you are crossing an ethical line, ASK ME. Here is a link to some good information on plagiarism from the Harvard Guide to Using sources:

<https://usingsources.fas.harvard.edu/avoiding-plagiarism>

Other Course Policies

This course adheres to campus policies regarding students with disabilities, religious observances, active military service, incompletes, discriminatory conduct, academic misconduct, complaints about the course, grade appeals, and firearms. For details about these policies, see

http://www4.uwm.edu/secu/news_events/upload/Syllabus-Links.pdf

Course Schedule

Week 1 Readings	1/22	Introduction, Measurement and Research Design Meier, et al, Chapter 1-3
Week 2 Readings	1/29	Frequency Distribution, Central Tendency, and Dispersion Meier, et al, Chapter 4-6 Poverty and Inequality in Britain 2005, P9-13
Week 3 <i>Assignment 1 due</i> Readings	2/5	Probability Meier, et al (8th edition), Chapter 7
Week 4 <i>Assignment 2 due</i> Readings	2/12	Probability Distribution Meier, et al, Chapter 7-9
Week 5 <i>Assignment 3 Due</i> Readings	2/19	Inference Meier, et al, Chapter 10 Which Polls Fared Best (and Worst) in the 2012 Presidential Race?
Week 6 Readings	2/26	Hypothesis Testing Meier, et al, Chapter 11-12
Week 7 <i>Assignment 4 Due</i>	3/4	Differences between Two Groups

		Meier, et al, Chapter 13 Cyclists and Pedestrians Can End Up Spending More Each Month Than Drivers
Week 8 Readings	3/11	Midterm exam (2 hours, in class) Bring calculators. Calculators on cell phones or computers are not allowed.
Week 9 Readings	3/25	Analysis of Nominal and Ordinal Data Meier, et al, Chapter 14-15
Week 10 <u>Assignment 5 Due</u> Readings	4/1	Correlation Interpretation of the Correlation Coefficient: A Basic Review Ilvento and Pašif, Correlation and Covariance
Week 11 <u>Assignment 6 Due</u> Readings	4/8	Regression Meier, et al, Chapter 17-18
Week 12 <u>Assignment 7 Due</u> Readings	4/15	Time Series Regression Meier, et al, Chapter 19
Week 13 Readings	4/22	Multivariate Analysis Meier, et al, Chapter 20 Better Transportation Options=Healthier Lives
Week 14 <u>Assignment 8 Due</u> Readings	4/29	Spatial Analysis Anselin, 2004 How Maps Helped Republicans Keep an Edge in the House
Week 15	5/6	Course Summary
Week 16	5/13	Final Exam