

**Syllabus – Spring 2018**  
**Public Policy 604: Statistical Analysis**  
Monday 4:30-7 pm, 438 Public Policy Building

Instructor: Jane Arnold Lincove ([jincove@umbc.edu](mailto:jincove@umbc.edu))  
410 Public Policy Building  
Office Hours: Monday 3-4:30 pm, after class, or by appointment

Teaching Assistant: Mandi Koch ([akoch2@umbc.edu](mailto:akoch2@umbc.edu))

### **Objective**

This course provides an introduction to statistical analysis in the social sciences, ranging from simple descriptive statistics to multiple regression analysis, with a focus on use in applied policy research. Students will learn to frame quantitative research questions, organize and analyze data, apply statistical analysis to policy questions, and coherently report and display results.

### **Texts and software**

Hanneman, Robert A., Kposowa, Augustine, J. and Riddle, Mark D. (2013). *Basic Statistics for Social Research*. San Francisco: Jossey-Bass.

Acock, Alan C. 2014. *A Gentle Introduction to Stata*. College Station, TX: Stata Press. 4<sup>th</sup> Edition.

#### *Stata Version 15*

Available in the public policy computer lab (440 Public Policy). Non-public policy students must see Sally Helms to activate your id's for building and lab access. You can purchase an individual Stata license (Stata IC or better): <http://www.stata.com/order/new/edu/gradplans/student-pricing/>

### **Requirements**

1. Complete all the Social/Behavioral Research Course (10 points)

Take the course at: <http://research.umbc.edu/human-subjects-use-training-2/>

1. Weekly problem sets (10 x 10 points each – lowest score will be deleted)

Problem sets are an opportunity to practice statistical concepts using real data. Problems sets and data are provided on blackboard. Problem sets are always due at the beginning of class. No late problem sets are accepted (ever).

2. Exam (100 points)

In-class midterm exam will test mastery of theory and execution of research design, statistical terms, foundational statistical tools and interpretation of results.

3. Take-home Final Project (100 points)

Independent statistical analysis project to demonstrate mastery of course concepts and ability to communicate results in writing.

**Pass/fail registration is not permitted in this course.**

## **Academic Integrity**

Students are strongly encouraged to work together on problems sets and the final project. However, you must turn in original work that is your own. You will not receive credit for problem sets or exams that are identical to another student's work. If you use outside sources for the final exam, you must cite them.

For more information on UMBC policies regarding academic integrity:

<http://oue.umbc.edu/home/home/academic-integrity/>

## **Student Disability Services (SDS)**

UMBC is committed to eliminating discriminatory obstacles that may disadvantage students based on disability. Services for students with disabilities are provided for all students qualified under the Americans with Disabilities Act of 1990, the ADAA of 2009, and Section 504 of the Rehabilitation Act who request and are eligible for accommodations. The Office of Student Disability Services (SDS) is the UMBC department designated to coordinate accommodations that would allow for students to have equal access and inclusion in their courses.

If you have a documented disability and need to request academic accommodations, please refer to the SDS website at <https://sds.umbc.edu/> for registration information or visit the SDS office in the Math/Psychology Building, Room 212. For questions or concerns, you may contact us at [disability@umbc.edu](mailto:disability@umbc.edu) or (410) 455-2459. If you require accommodations for this class, please make an appointment to meet with me to discuss your SDS-approved accommodations.

## Schedule – Spring 2018

Note that additional readings will be posted on Blackboard to supplement the textbook material. Please complete assigned readings *before each class*. Changes may be announced in class.

<b>Week#</b>	<b>Topic</b>	<b>Readings</b>	<b>Due</b>
Week #1 January 29	Using Statistics Introduction to Stata	H, K, & R: Chapter 1	
Week #2 February 5	Displaying One Distribution Introduction to Stata	H, K & R: Chapter 2 Acock: Chapter 1-4	<i><b>CITI training certificate for Social/Behavioral Research Course</b></i>
Week #3 February 12	Central Tendency, & Dispersion	H, K, & R: Chapter 3-4 Acock: Chapter 5	<i><b>Problem Set #1</b></i>
Week #4 February 19	Normal Distribution, Samples, Confidence Intervals	H, K, & R: Chapters 5-6 Acock: Chapter 5	<i><b>Problem Set #2</b></i>
Week #5 February 26	Statistical Inference and One- Sample T-Tests	H, K, & R: Chapters 7-8 Acock: Chapter 6 PPT on BB	<i><b>Problem Set #3</b></i>
Week #6 March 5	Two-Sample T-Tests	H, K, & R: Chapter 9 Acock: Chapter 6	<i><b>Problem Set #4</b></i>
Week #7 March 12	Midterm Exam		<i><b>Problem Set #5</b></i>
March 19	UMBC Spring Break		
Week #8 March 26	Contingency Tables and Tests for Group Differences	H, K, & R: Chapter 10 Acock: Chapter 7	
Week #9 April 2	Analysis of Variance (ANOVA)	H, K, & R: Chapter 11 Acock: Chapter 9 PPT on BB	<i><b>Problem Set #6</b></i>
Week #10 April 9	STATA REVIEW		<i><b>Problem Set #7</b></i>
Week #11 April 16	Measures of Association	H, K, & R: Chapter 12-13 Acock: Chapter 8 PPT on BB	
Week #12 April 23	Bivariate & Multiple Regression	H, K, & R: Chapter 14 Acock: Chapter 10 PPT on BB	<i><b>Problem Set #8</b></i>
Week #13 April 30	Regression in Theory & Practice	Readings from Hair et al. on BB PPT on BB	<i><b>Problem Set #9</b></i>
Week #14 May 7	Logistic Regression	H, K, & R: Chapter 15 Acock: Chapter 11 PPT on BB	<i><b>Problem Set #10</b></i>
Week #15 May 14	Workshop for Final Projects		