

## SOC 714: Intermediate Social Statistics

Spring 2018, Tu & Th 12:30-1:50pm

Maxwell 303

---

Dr. Jennifer Karas Montez

Office: Lyman Hall, Room 314H, 315-443-9064

Email: [jmontez@maxwell.syr.edu](mailto:jmontez@maxwell.syr.edu)

Office hours: Changes weekly so sign up here: [https://www.maxwell.syr.edu/soc/Karas\\_Montez,\\_Jennifer/](https://www.maxwell.syr.edu/soc/Karas_Montez,_Jennifer/)

---

### Course Objectives and Learning Outcomes

This is a second-level statistics course for graduate students in the social sciences. It is designed to teach the theory and application of statistical analyses commonly used in social science, with an emphasis on application. The course focuses on two types of regression models—ordinary least squares (OLS) and logistic. These models are the workhorse of social science research and provide the foundation for specialized statistics courses. Students will learn how to:

- Estimate and interpret results from least squares and logistic regression models
- Conduct diagnostic analyses to evaluate model fit
- Conduct and interpret mediation and moderation analyses
- Critique published sociological research using least squares and regression models
- Proficiently use Stata software to conduct statistical analysis
- Conduct a quantitative research project using secondary data and report the findings

### Required Materials

- Readings will be posted on Blackboard
- Stata software. You can purchase a copy or use a computer lab on campus that has Stata.

### Recommended Materials

- Jose. 2013. *Doing Statistical Mediation and Moderation* (\*on reserve at Bird\*)
- Alan Acock. 2014. *A Gentle Introduction to Stata*, 4<sup>th</sup> Edition
- The UCLA website is also a great resource for learning Stata (<http://www.ats.ucla.edu/stat/stata/>)

### Course Requirements and Grading

Six assignments	50%
Midterm exam	20%
Paper critiques	5%
Final paper	25%

### Class Participation

You are expected to constructively participate in class. Please be courteous to other students: be punctual, refrain from eating food and chewing gum, and use laptops only for designated class activities.

### Assignments

Assignments must be submitted as a hard copy at the beginning of class on the due date. Instructions will be posted on Blackboard 1-2 weeks prior to due date. All assignments must be completed independently.

Late assignments will be docked one letter grade for every calendar day they are late. Assignments received more than 3 calendar days late will not be accepted.

### **Midterm Exam**

The exam will be posted on Blackboard at the end of the class in which we have the midterm review. It will be due as a hard copy at the beginning of the class in which it is due.

*The exam must be completed independently. Any evidence of any collaboration or consultation with another person will automatically result in a score of 0 for the exam.*

### **Paper Critiques**

The required readings contain several articles that use OLS or logistic regression. For every article, each student must email 1 question and 1 critique to me (jmontez@maxwell.syr.edu) before 12:01am on the day the article will be discussed in class. The questions should be thoughtful and pertain to the statistical analysis. I will use these questions in the class discussions of the readings.

### **Final Project**

The final project consists of an empirical paper. Students can choose the subject matter and dataset for the paper, but it must use methods learned in the course.

The paper should be 5 pages (double spaced) and structured as a journal article. The paper is intentionally small—just 5 pages!—to teach you how to communicate your ideas clearly, succinctly, and with every word serving a purpose. Writing short papers is harder than writing long papers.

Late projects will be docked one letter grade for every calendar day they are late. Projects received more than 3 calendar days late will not be accepted.

*Any evidence of plagiarism will, at a minimum, automatically result in an F for the course. Additional actions may be taken by the University (see Academic Integrity policy section below).*

### **Communication with Instructor**

Email is only for administrative or confidential matters. All other communications should occur in class or office hours. My office hours change weekly so you must reserve one of the available time slots on a given week using my online calendar ([https://www.maxwell.syr.edu/soc/Karas\\_Montez\\_Jennifer](https://www.maxwell.syr.edu/soc/Karas_Montez_Jennifer)) before 12:01am on the day of office hours. This ensures that I will be in my office and available to meet at that specific time.

### **Academic Integrity**

Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice.

For more information about the policy, see <http://academicintegrity.syr.edu>.

The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level.

## Accommodations for Students with Disabilities

If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS) located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are welcome to contact me privately to discuss your academic needs, although I cannot arrange for disability accommodations.

For more information, see <http://disabilityservices.syr.edu/services-accommodations/>

## SU Religious Observances Policy

Syracuse University recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the SU policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors **before the end of the second week of classes**. An online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class. If you will be observing a religious holiday, please complete the online notification process and send a notification email to me. I will contact students who complete the online notification to make arrangements for completing classwork that is missed due to a religious observance.

For more information, see [http://supolicies.syr.edu/emp\\_ben/religious\\_observance.htm](http://supolicies.syr.edu/emp_ben/religious_observance.htm)

## -----COURSE READINGS-----

### Required Readings

- Aiken, Leona S. and Stephen G. West. 1991. *Multiple Regression: Testing and Interpreting Interactions*. SAGE publications.
- DeMaris, Alfred. 1995. "A tutorial in logistic regression." *Journal of Marriage and the Family* 57(4):956-968.
- Menard. 2002. *Applied Logistic Regression Analysis*. 2<sup>nd</sup> Edition. Sage Publications.
- Mirowsky, John. 2012. "Analyzing associations between mental health and social circumstances." Pp. 142-165 in *Handbook of the Sociology of Mental Health*, edited by Aneshensel, Phelan, and Bierman. Springer Publishers.
- Ross, Catherine E. and John Mirowsky. 2006. "Sex differences in the effect of education on depression: resource multiplication or resource substitution?" *Social Science & Medicine* 63:1400-1413.

### Readings for In-Class Critiques on OLS Regression

- Gorman and Read. 2006. "Gender Disparities in Adult Health: An Examination of Three Measures of Morbidity." *Journal of Health and Social Behavior* 47(2):95-110.
- Ross and Mirowsky. 2002. "Family Relationships, Social Support and Subjective Life Expectancy." *Journal of Health and Social Behavior* 43(4):469-489.

### Readings for In-Class Critiques on Logistic Regression

- Lukachko, Hatzenbuehler, and Keyes. 2014. "Structural Racism and Myocardial Infarction in the United States." *Social Science & Medicine*. 103:67-75.
- Pridemore. 2014. "The Mortality Penalty of Incarceration: Evidence from a Population-Based Case-control Study of Working-Age Males." *Journal of Health and Social Behavior* 55(2):215-233.

### Recommended Readings

- Jose, Paul E. 2013. *Doing Statistical Mediation and Moderation*. Guilford Press. (\*on reserve at Bird\*)
- Mood, Carina. 2010. "Logistic regression: why we cannot do what we think we can do and what to do about it." *European Sociological Review* 26(1):67-82.

## COURSE SCHEDULE

Week	Day	Topic	Readings	Homework
1	Jan 16	<b>Introduction</b>		
	Jan 18	<b>Bivariate Regression Fundamentals</b>	Menard 2002, pp.1-5.	
2	Jan 23	-----		
	Jan 25	<b>***Stata Lab 1. Meet in the Computer Lab***</b>	Ross & Mirowsky 2006, intro	
3	Jan 30	-----		1
	Feb 1	<b>Multivariate Regression</b>	Ross & Mirowsky 2006, methods	
4	Feb 6	-----		
	Feb 8	<b>***Stata Lab 2. Meet in the Computer Lab***</b>		
5	Feb 13	Model Building		2
	Feb 15	Model Diagnostics		
6	Feb 20	Mediation	Jose chapters 1 & 2	3
	Feb 22	<b>***Stata Lab 3. Meet in the Computer Lab***</b>	Mirowsky 2012, p 143-151	
7	Feb 27	-----	Jose chapter 3	
	Mar 1	Moderation	Mirowsky 2012, p 151-157	
8	Mar 6	-----	Jose chapter 5	4
	Mar 8	-----	Aiken & West 1991, p 1-17	
9	Mar 13	No class (Spring Break)		
	Mar 15	No class (Spring Break)		
10	Mar 20	<b>***Stata Lab 4. Meet in the Computer Lab***</b>	Ross & Mirowsky 2006, results	
	Mar 22	Paper critiques	OLS articles from reading list	5
11	Mar 27	Midterm review. Exam given at end of class.		Topic, RQ, causal diagram
	Mar 29	No class. Work on the midterm exam		
12	Apr 3	<b>*Midterm due at beginning of class*</b> Demo of GSS data; discuss final paper		
	Apr 5	<b>Linear Probability and Logistic Regression</b> ---module 1, part 1	DeMaris 1995	

13	Apr 10	---module 1, part 2	Menard 2002, p 5-17	Data source
	Apr 12	---module 2	Menard 2002, p 17-24	
14	Apr 17	How to write an abstract, methods & results section; and create publishable tables	Bring laptop; you will write your topic sentences in class	
	Apr 19	---module 3		
15	Apr 24	*** <i>Stata Lab 5. Meet in the Computer Lab</i> ***		
	Apr 26	***PAA conference***		6
16	May 1	Paper critiques	Logistic articles from reading list	
17	May 10	*** <b>PAPERS DUE BY 5PM</b> ***		

\*I will make every effort to stick to this schedule, but may adjust it to accommodate unforeseen issues.