
LIN 484: Data Analysis for Linguists Fall 2019

Instructor

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Meetings

by Regular Off. hours:
Mon/Wed, 2:10 - 3:30pm
(or) by appointment

Class Schedule / Location

Monday/Wednesday	12:40 - 2:00pm	Wells Hall B125
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Note 1: It's best to email me a day or two BEFORE you meet with me so that I can let you know if I am free at the time you plan to come.

Course Goals

This course is intended to introduce students to the basic concepts, principles and methods of Statistics and data analysis. The student will gain an understanding of how to both work with and analyze data in a fashion that best suits your analytical goals. In this course, the student will learn to apply the principles of statistics and data analysis on linguistic data through the statistical software R. While focusing on linguistic research, the course will attempt to minimize the mathematical aspects and maximize the high-level understanding that is perhaps more crucial in interpreting modern scientific literature. By the end of the course, the student will be able to understand basic statistical analyses, and they will be able to analyze their own data in a meaningful way.

Outline of major topics: (a) Data Munging and Management; (b) Research Design; (c) Probability; (d) Descriptive Statistics; (e) T-tests, Correlation, Regression, ANOVAs; (f) Labs

Recommended Text

- Field, A. P., Miles, J., & Field, Z. (2012). [Discovering Statistics Using R](#). London: Sage. (clickable link to the recommend textbook.)
- Materials may be
 - (a) distributed in class.
 - (b) posted on the course website (D2L).
 - (c) placed on reserve in the library.

Note 2: You are responsible for all material in the assigned chapters and supplemental readings, even if we do not discuss it in class (unless you are given information to the contrary). You are also responsible for all material covered that is not in the book (unless you are given information to the contrary).

Course Requirements

Attendance

It is important to attend all classes since materials that are not covered in the textbook maybe be presented. Please be sure to get the notes from any class you may miss. Some materials maybe be sent via email, but you should also check with me or a classmate regarding material you may have missed.

Readings

Students are expected do all the assigned readings. It is most helpful to do the readings for a given topic BEFORE the first class dealing with that topic. This will make the lectures easier to follow, and you will be in a better position to ask questions about things that might not be clear to you.

Homework (assignments to be sent by e-mail or posted on D2L)

If you are not able to turn in your homework on time, you must contact me IN ADVANCE; if you do not do this, you will automatically receive 0% for the assignment.

Exams and Quizzes

There will be 2 Tests and 6 quizzes. NO MAKE-UPS WILL BE GIVEN, except in the case of an excuse officially recognized by the Dean's office.

Grading Weight		Grading Scale	
Test 1	20%	4.0	93% or higher
Test 2	20%	3.5	85% - 92.9%
Quizzes	50%	3.0	77% - 84.9%
Homework	10%	2.5	69% - 76.9%
Total	100%	2.0	61% - 68.9%
		1.5	53% - 60.9%
		1.0	45% - 52.9%
		0.0	44.9% or lower

Note 3: If you can't come to a scheduled test/quiz, you must discuss this with me at least ONE CLASS BEFORE the test. If there is an emergency, send me an e-mail, when you have a chance, explaining the nature of the emergency and how you can be contacted.

Spartan Code of Honor Academic Pledge

As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.

Course Schedule

This schedule is subject to slight variation, so if you miss a class, be sure to check with me or a classmate.

Week	Date	Lecture Topic
1	August 28	No Class
1	August 28	Course organization; Installing R and R Studio
2	September 2	No Classes; Labor Day
2	September 4	Basic R
3	September 9	Basics of probability; Binomial Theorem
3	September 11	The Monty-Hall problem; Basic insights and descriptive statistics. R practice Quiz 1
4	September 16	More descriptive statistics; plotting
4	September 18	Correlation and Covariance
5	September 23	Samples, Populations, The Law of Large Numbers, The Central Limit Theorem
5	September 25	Standard Error, Z Scores Quiz 2
6	September 30	Inferential Statistics Begin Estimating Standard Errors & Getting p-values
6	October 2	T-test: One-sample
7	October 7	T-test: One-sample, Part II
7	October 9	T-test: One-sample, two-tailed Quiz 3
8	October 14	Test 1
8	October 16	Review after Test 1
9	October 21	T-test: Assumptions; Power; Type 1-2 errors
9	October 23	T-test: Two-samples
10	October 28	T-test: Two-samples, Assumptions.

10	October 30	T-test: Two-samples, Assumptions Part II.
11	November 4	Regression: Basics Quiz 4
11	November 6	Regression: Interpretation and assumptions
12	November 11	Regression: R Practice
12	November 13	Anova: Basics Quiz 5
13	November 18	Anova: Calculation and practice
13	November 20	Anova: Assumptions and practice
14	November 25	Anova: Within-subjects designs and practice Quiz 6
14	November 27	Lab: R practice
15	December 2	TBD (possibly: Chi-squared test)
15	December 4	Problems with interpretation
Finals Week	December 10 (Tuesday)	Test 2 12:45 - 2:45pm; in your regular classroom