

LING 6381: Statistics for Linguists
Fall 2017

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Office Hours: Tuesday 1-2PM or by appointment

Section Information: LING 6381 Section 001

Time and Place of Class Meetings: Tuesday and Thursday 11:00AM - 12:20PM, TH14

Description of Course Content: In this course, students will learn the fundamentals of quantitatively-oriented research in linguistics and language-related fields. Students will learn how to develop viable research hypotheses, how to collect (and manage) the data necessary to evaluate these hypotheses, and how to analyze these data using standard statistical tests (with R statistical computing software).

Student Learning Outcomes: Students who successfully complete this class should be able to do the following:

- 1) develop research hypotheses that can be evaluated using standard statistical tests;
- 2) organize quantitative data in readily analyzable data frames;
- 3) manipulate and navigate through complex data sets;
- 4) generate descriptive statistics and graphics for data exploration and presentation;
- 5) apply appropriate statistical tests to a range of language-related data types;
- 6) report these analyses in a publishable format.

Students will learn how to conduct all of these data analysis techniques using R -- powerful, free, open-source software for statistical computing.

Required Textbooks and Other Course Materials: All of the readings for this course (required and optional) will be provided on the course Blackboard site (<https://elearn.uta.edu/webapps/login/>). You are responsible for checking this Blackboard site regularly to access (among other things) class notes, updates, readings, and assignments.

It might also be useful for you to download R statistical computing software (and the R packages used in the Gries textbook noted below), RStudio, and a text editor (Notepad++ or TextWrangler) onto your personal computer. Detailed downloading instructions will be provided. If you do not have a computer, all R-related coursework can be done on computers in the Linguistics Lab (Trimble Hall 14).

Some helpful statistics texts:

- Gries, S. Th. (2013). *Statistics for linguistics with R: A practical introduction* (2nd Edition).
Baayen, R.H. (2008). *Analyzing linguistic data: A practical introduction to statistics using R*.
Brown, J.D. (1988). *Understanding research in second language learning*.
Johnson, K. (2008). *Quantitative methods in linguistics*.

Descriptions of Major Assignments and Examinations:

- 10 problem sets: see the schedule below for due dates
- Article Presentation: during Weeks 5-13, depending on the topic (submit 3 possible articles by 9/8)
- Paper Proposal Presentation: Week 7 (10/3 or 10/5)
- Paper Proposal: due 10/12
- Take-Home Exam: distributed 11/16; due 11/28
- Final Presentation: Week 15 (11/28 or 11/30)
- Final Paper: due 12/12

(See below for detailed descriptions of these assignments/exams.)

*** All written assignments should be submitted to the course Blackboard site. Late assignments will only be accepted if you contact me in advance of the deadline and let me know why you need an extension. ***

Grading: Your grade on each component of the class will be determined on the basis of the percentage of points earned to points possible: 100-90% = A, 89-80% = B, 79-70% = C, 69-60% = D, 59-0% = F. Your final grade will be determined in the same fashion but taking into account the weightings listed below:

Course Engagement	5%
Problem Sets	30%
Article Presentation	10%
Paper Proposal Presentation/Paper Proposal	10%
Take-Home Exam	20%
Final Paper Presentation	10%
Final Paper	15%

Course Engagement. Please attend all classes (and show up on time) and participate in class discussion/activities. You will lose participation points if you are late or absent from class.

Problem Sets. You will complete 10 problem sets for this class (see the schedule below for due dates). In these exercises, you will review analysis techniques that we have dealt with in class and/or practice new techniques in preparation for class discussion.

Article Presentation. For this presentation, you will report on a study that uses statistical analysis techniques. After briefly explaining the motivation for the study, you will detail the important points related to its analysis procedures. You should create PowerPoint slides and/or a handout to support your presentation. It should be 15 minutes long and will be followed by a short question-and-answer session. You will select three possible articles for this presentation by Friday 9/8. We will then decide which of the three would be best for your presentation.

Take-Home Exam. You will have a final take-home exam. This exam will essentially just be a longer problem set that covers the analysis techniques dealt with in class. This exam will be distributed on 11/16; it will be due on 11/28.

Final Paper. Your final paper will focus on the data analysis for a study that you have already started or that you would like to conduct. It should be no more than 10 pages and should consist of a short (~2 page) motivation for the study, a detailed description of the analysis techniques you used, and the results of these analyses. If you have not collected data for this study, this project will also involve creating hypothetical data sets for your analyses. This paper will be due on 12/12.

Additional steps in this project:

Paper Proposal Presentation. During Week 7 (10/3 or 10/5), you will have the opportunity to present your idea for this project to the class in order to get feedback in advance of your proposal

submission. This will be a short presentation: ~10 minutes, with ~5-10 minutes for discussion. You should create a short handout to support your presentation.

Paper Proposal. A proposal for your final paper (1-2 pages) will be due on 10/12.

Final Paper Presentation. You will give a presentation based on the analyses in your final paper during Week 15 (11/28 or 11/30). You should create PowerPoint slides and/or a handout to support this presentation. It should be 15 minutes long, with 5-10 minutes for discussion and questions.

Projected Course Schedule

		Topic	Readings / Assignments
Week 1	8/24	Intro / Syllabus	
Week 2a	8/29	Fundamentals of Quantitative Research	SFLWR Ch. 1
Week 2b	8/31	Fundamentals of Quantitative Research	SFLWR Ch. 1
Week 3a	9/5	EXCEL Tutorial	SFLWR Ch. 2
Week 3b	9/7	Fundamentals of R	SFLWR Ch. 2 problem set #1 due before class submit possible presentation articles by 9/8
Week 4a	9/12	Fundamentals of R	SFLWR Ch. 2
Week 4b	9/14	Fundamentals of R	SFLWR Ch. 2 problem set #2 due before class
Week 5a	9/19	Descriptive Statistics Univariate Statistics	SFLWR Ch. 3 pp. 102-135
Week 5b	9/21	Descriptive Statistics Univariate Statistics	SFLWR Ch. 3 pp. 102-135 problem set #3 due before class
Week 6a	9/26	Descriptive Statistics Bivariate Statistics	SFLWR Ch. 3 pp. 136-156
Week 6b	9/28	Descriptive Statistics Bivariate Statistics	SFLWR Ch. 3 pp. 136-156 problem set #4 due before class
Week 7a	10/3	Paper Proposal Presentations	
Week 7b	10/5	Paper Proposal Presentations	problem set #5 due before class
Week 8a	10/10	Analytical Statistics Distributions and Frequencies	SFLWR Ch. 4 pp. 157-197
Week 8b	10/12	Analytical Statistics Distributions and Frequencies	SFLWR Ch. 4 pp. 157-197 paper proposal due
Week 9a	10/17	Analytical Statistics Dispersions and Means	SFLWR Ch. 4 pp. 197-238
Week 9b	10/19	Analytical Statistics Dispersions and Means	SFLWR Ch. 4 pp. 197-238 problem set #6 due before class

Week 10a	10/24	Analytical Statistics Correlation and Regression	SFLWR Ch. 4 pp. 197-238
Week 10b	10/26	Analytical Statistics Correlation and Regression	SFLWR Ch. 4 pp. 197-238 <i>problem set #7 due before class</i>
Week 11a	10/31	Non-Repeated Measures ANOVAs	
Week 11b	11/2	Non-Repeated Measures ANOVAs	<i>problem set #8 due before class</i>
Week 12a	11/7	Repeated Measures ANOVAs	
Week 12b	11/9	Repeated Measures ANOVAs	<i>problem set #9 due before class</i>
Week 13a	11/14	Mixed ANOVA / ANCOVA	
Week 13b	11/16	Mixed ANOVA / ANCOVA	<i>problem set #10 due before class</i> <i>take-home exam distributed</i>
Week 14a	11/21	Exam Workshop	
Week 14b	11/23	NO CLASS / Turkey Day	
Week 15a	11/28	Final Presentations	<i>take-home exam due before class</i>
Week 15b	11/30	Final Presentations	
Week 16a	12/5	Final Exam Discussion / Final Paper Workshop	<i>final paper due 12/12 noon</i>

Other important dates: 9/11 – Census Day; 11/1 – last day to drop classes

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this class. –Jeffrey Witzel.

Attendance: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established the attendance policy described in the Grading section above. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for**

non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a **letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.*

Title IX Policy: The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and

are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: For semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

The English Writing Center (411LIBR): The Writing Center offers FREE tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at <https://uta.mywconline.com>. Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381.

Librarian to Contact: Jody Bailey (jbailey@uta.edu)