

The University of Texas at Arlington
College of Education
Department of Educational Leadership and Policy Studies
EDAD 6310 | Statistical Methods | Summer 2017
Trimble Hall 111 | Thursday 5:30 – 8:20 pm

Instructor Information:

Instructor: Yi Leaf Zhang (*j-AH-ng*), Ph.D. Phone: 817-272-9221
Office: 103 D Trimble Hall Email: lyzhang@uta.edu
Office Hours: by appointment

Textbooks:

Required:

- Gravetter, F. J., & Wallnau, L. B. (2013). *Statistics for the behavioral sciences* (9th ed.). Belmont, CA: Wadsworth, Cengage Learning.
- Supplemental readings are provided by the instructor via Blackboard

Suggested:

- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th Edition). Washington, D.C.: American Psychological Association.
- Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barrett, K. C. (2013). *IBM SPSS for introductory statistics: Use and interpretation* (5th Edition). New York: Taylor & Francis.

Course Description:

The course examines introductory statistical methods and their implications for educational research and evaluation. Appropriate computer applications will be integrated into the course.

Learning Objectives:

By the end of the course, students will be able to:

- Define, and use correctly, introductory statistical terms and concepts.
- Create, edit data files, and conduct introductory statistical analyses.
- Correctly create and interpret various graphical representations of data.
- Correctly compute and interpret summary descriptive statistics, including measures of central tendency, variability, use of percentiles and other standard scores.
- Correctly apply sampling methods to select appropriate samples for various purposes.
- Correctly compute and interpret confidence intervals.
- Select, compute, and interpret the appropriate parametric or nonparametric statistical tests of hypotheses concerning a single mean, or two means from independent or related samples.
- Select, compute, and interpret the appropriate correlation coefficient for a set of data, including tests of assumptions, as needed.
- Select, compute, and interpret the appropriate statistical tests for regression analysis, including tests of assumptions, as needed.

Attendance and Class Participation:

Attendance and punctuality are basic requirements for an effective class and learning community. You are expected to be in class on time except when you have a documented emergency. Students' attendance and class participation will count for about 17% of the final grade. If you do miss a class, you are responsible for:

- All content covered
- Completing all work assigned
- Contacting my office and letting me know prior to the class meeting
- Arranging to turn any work in that day
- Class participation points will be deducted

Blackboard:

The classroom management system, Blackboard, will be an important medium used to structure and facilitate learning in this course. Blackboard serves as a common space where class information, learning materials, and assignments can be shared between the instructor and students. For most class assignments, students will be asked to post their work to Blackboard in a format that is accessible to their classmates, as peer-to-peer learning will be an important aspect of this graduate course. If you have any technical difficulties or questions regarding Blackboard, help is available 24/7 by contacting cdsupport@uta.edu.

Written Communication and Assignment Submission:

All written assignments must conform to the style and reference formats specified in the *Publications Manual of the APA* and must be word processed or typed. Assignments will be graded on content as well as on the technical quality of the writing and presentation. All written assignments should be carefully proofread for spelling, grammar, and syntax. Assignments containing multiple errors may be returned, ungraded, for revision and resubmission at a lower grade. It is expected that all written work will conform to accepted graduate level standards.

All written assignments need to be presented as attachments through the Blackboard system and NOT as attachments through an email. When submitted, they need to be saved in a MS Word document format (either .doc or .docx).

All of the assignments are graduate papers. Please follow APA style (6th edition) for formatting, citing, and reference guidelines.

Late Assignments:

Late work will not be accepted without prior approval from the instructor. Late assignments will be graded 20% lower. No points will be awarded for work not completed.

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/>).

Americans with Disabilities Act:

The University of Texas at 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)*. 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 that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

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 www.uta.edu/resources.

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 as they see fit in their courses, including (but not limited to) 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.

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>. Please allow a 48 hour response time to e-mail. Do not wait until one day or several hours before an assignment is due to e-mail the instructor with a question about the assignment and expect an immediate response.

Student Feedback Survey:

At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be 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 enters the SFS database anonymously and is aggregated with

that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week:

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.

Title IX:

The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Emergency Exit Procedures:

Should we experience an emergency event that requires us to evacuate the building, students should exit the room and move toward the nearest exit, which is located at the end of the hall way. 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 handicapped individuals.

Grading:

Grade	Ranges	Quality of Work
A	90-100%	Exemplary; clearly exceeds course standards
B	80-89%	Good; adequately meets the course standards
C	70-79%	Fair; barely meets the course standards
F	78% or lower	Failing; does not meet any course standards

Course Assignments and Requirements (Total 600 points + 20 bonus points):

1. Participation (10 points each class; 10 classes; Total: 100 points)

As a graduate level class, this course is designed to be highly interactive and dependent upon your level of preparation. Most class meetings will consist of discussions, instructor and student presentations, and individual and group SPSS exercises related to individual session objectives. It is expected that you be prepared, having read all course materials in advance of our class meetings, and that you participate regularly in class discussions. Each class has been designed to maximize the use of your time together, while blending a variety of learning activities that appeal to multiple learning styles. This is also intended to make the course interactive, purposeful and practical.

2. Quizzes (open book and multiple attempts) (20 points each quiz; 5 quizzes; Total: 100 points)

The quizzes are developed for the topics of the class. Each quiz may consist of multiple choice, true/false, and open-ended questions. Students can take the quiz as many times as they need to by the deadline. The highest score will be recorded and used for the final grade.

3. Class Presentation (Total: 50 points)

Students will choose one of the book chapters that are listed in the class schedule (page 6) and provide an overview of the chapter and briefly present what they learned from the chapter. The presentation should be 15-20 minutes. The student should be prepared for questions during or after his/her presentation. Students will be graded by the instructor and their classmates.

4. Group Project (50 points each group project; 3 projects; Total: 150 points)

Students will be divided into small groups (2-3 students each group) and they should work with a new group for each project. Each group will work together to answer a series of questions that are relevant to class topics. Data will be provided to the students.

5. Final Examination (open book; 200 points + 20 bonus points)

The final examination consists of three sections: 1) defining basic concepts and terms; 2) interpreting SPSS results; and 3) conducting appropriate statistical analysis and interpreting the results.

Students will be provided with a dataset. Students will be given a week to work on the final examination. Students are expected to answer the questions by using appropriate statistical methods, presenting the results, and interpreting the results.

Students who answer the last question correctly will receive an additional 20 points.

The final examination is due Aug 10, by the end of the class.

Tentative Schedule of Class Activities, Readings and Assignments

Module	Week/Date		Topics & Activities	Reading	Assignment Due (by 5:30pm)
Introduction	1	06/08	Introduction to statistics; Quantitative data and research sources; Introduction to SPSS; Organizing data <i>SPSS Exercise</i>	Ch. 1	
Descriptive Statistics	2	06/15	Descriptive analysis; Frequency distribution; Central tendencies and variability <i>SPSS Exercise</i>	Ch. 2, 3 & 4	Quiz 1
	3	06/22	<i>SPSS & ELS: 2002</i> <i>Group Project 1</i>		
Foundation of inferential Statistics	4	06/29	Inferential statistics; z-scores; Probability; Sampling distribution; Normal distribution; Confidence intervals; Introduction to hypothesis testing <i>SPSS Exercise</i>	Ch. 5, 6, 7 & 8	Quiz 2 <i>Group Project 1</i>
Compare means	5	07/06	<i>Independent samples t-test; ANOVA</i> <i>SPSS Exercise</i>	Ch. 9, 10 & 12	Quiz 3
	6	07/13	<i>SPSS & ELS: 2002</i> <i>Group Project 2</i>		
Correlations	7	07/20	Correlation & Measures of association; Introduction to regression <i>SPSS Exercise</i>	Ch. 15 & 16	Quiz 4 <i>Group Project 2</i>
	8	07/27	<i>SPSS & ELS: 2002</i> <i>Group Project 3</i>		
Chi-square	9	08/03	Chi-Square goodness of fit; Chi-Square test of independence; Review	Ch. 17 & 19	Quiz 5 <i>Group Project 3</i>
	10	08/10	Final Exam		

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 course. –Yi Leaf Zhang.

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.