EDP 380C 2-FUNDAMENTAL STATISTICS
Spring, 2017 -Unique Number: 10850   T & TH: 9:30 – 11:00   SZB 330

Instructor
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Required Course Material

- *Statistics for the Behavioral Sciences, 9th Edition* by F. J. Gravetter and L. B. Wallnau.

- Class notes available on our Canvas website. Class notes will be posted prior to the day on which the notes are discussed in class and may be retrieved on Canvas: http://canvas.utexas.edu/.

- *Calculator:* Students are required to bring to class a scientific calculator that can be used to sum, multiply, take the square root and square of numbers. Calculators are recommended for use with class assignments and tests as well as during class time. During in-class exams, you must use a calculator that does not have the capacity to connect to email (use of cell phones is completely **forbidden** during exams).

Course Description:

     This course is designed to help students learn the introductory descriptive and inferential statistical procedures that are used in behavioral and social science research studies. Students will learn the assumptions underlying, the hypotheses being tested by, and the inferences that can be made with the use of the procedures. These skills will provide the student with a basis to conduct their own such analyses and to evaluate critically others' uses of statistics.

Pre-requisites

     Mathematical skills: While this course is not completely mathematical, it is founded upon the use of mathematical tools. Thus some fundamental mathematical skills are essential for successful mastery of the material. Students are expected to have basic algebra skills including the ability to solve single variable equations. Students should have a basic understanding of exponents and square roots, as well as the order of operations, proportions, fractions, decimals, percentage, and negative numbers. Pages in Appendix A of the textbook contain a review of the basic math skills needed for this course.

Assignments - *UNGRADED*
Homework

   Reading about statistics does not ensure mastery. As with many other skills, the best way to master statistics is through practice. There will be homework problems associated with each class topic (see the List of Topics). Once a topic has been covered in class, the homework should be completed.

   The majority of the homework assignments are even-numbered problems from the textbook. The homework problems from the book are scanned and are available in the *Homework Assignments* folder on Canvas. Because answers to odd-numbered problems are available at the back of the text, students are also encouraged to try odd-numbered problems on their own. The answers to each homework assignment will be made available in the *Homework Answers* folder on Canvas. It is the student's responsibility to check their work and ensure their mastery of the relevant material. Do come to office hours with the TA and the instructor if you have any questions.

Assignments - *GRADED*
Exams

   There will be three exams. The exams will focus on the material covered during the most recent class segment. These exams provide students with an incentive to synthesize the material being covered and an opportunity to practice the skills being learned. More detail will be provided about the material assessed by each exam closer in time to the actual exams. It should be noted that most of the statistical skills acquired during this class are constantly building upon earlier learning. This means that even though each exam will focus on the preceding section of the course, students might need to recall skills learned in earlier sections!

   Format: Exams will consist of true-false, multiple-choice and short-answer questions including both conceptual and computational problems. Students will be given one class period to complete the exam.

   Materials: Students will be given a formula sheet and necessary tables for each exam. Students should bring a calculator.

   Proportion of final grade: Exams are weighted equally and worth a total of ***100%***.

Grading system
Grades are assigned based on the percentage of accumulated points:

Overall Course Percent	Grade
93% - 100%	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
below 70%	F

Makeups

Only in exceptional circumstances (which does **_NOT_** include family vacations/ weddings, routine doctor's appointments, job interviews, etc.) and only with **prior** permission from the instructor, or with a verifiable medical excuse, will students be able to take a makeup exam. The student must provide medical proof of illness. The student is responsible for notifying the instructor by the day of the exam that they cannot attend the exam.

Attendance policy

Attendance is not part of your grade.

Students are responsible for all material presented in lectures. It is expected that students will attend lectures although attendance will not be taken. The class is designed this way because it is felt that the practice obtained during class time provides one of the best opportunities for learning.

Exams are held during class time and can only be re-scheduled for individual students under exceptional circumstances (see Makeups for details).

Students are expected to remain in the classroom for the duration of the lecture. Students needing to leave prior to the end of the scheduled meeting time should inform the professor before the lecture begins.

Cell phones **_must_** have the sound turned off when in the classroom and are not allowed to be visible during exams.

Religious holy days sometimes conflict with class and examination schedules. It is the policy of The University of Texas at Austin that you must notify each of your instructors prior to the classes scheduled on dates you will be absent to observe a religious holy day. If you have to miss an exam due to a religious holy day, it is your responsibility to re-schedule with the professor another time to take the exam.

Accommodations For Persons With Disabilities

Students with disabilities who require special accommodations need to get an accommodation letter that documents the disability from the Services for Students with Disabilities (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). This letter should be presented to the instructor in each course at the beginning of the semester and accommodations needed should be discussed at that time. Five business days before an exam, the student should remind the instructor of any testing accommodations that will be needed. See the following website for more information: http://ddce.utexas.edu/disability/.

Tentative Schedule of Topics

Date:	Topic	Reading	Homework
Tue 1/17	Syllabus, course requirements, course content, etc. *Introduction:* ▪ Vocabulary	Chapter 1	
Thu 1/19	*Introduction (continued)* ▪ 4 scales of measurement ▪ Statistical notation	Chapter 1	Chapter 1 10, 12, 20, 22
Tue 1/24	*Frequency distributions of scores:* ▪ Tables ▪ Graphs ▪ Shape ▪ Percentiles	Chapter 2	Chapter 2 6, 10
Thu 1/26	*Measures of central tendency* ▪ Mean ▪ Median ▪ Mode ▪ Characteristics of Mean	Chapter 3	Chapter 3 4, 10, 22, 24
Tue 1/31	*Measures of variability:* ▪ Range ▪ IQ & SIQ Range ▪ Variance & standard deviation	Chapter 4	Chapter 4 2, 7, 8, 22
Thu 2/2	*Z-scores:* ▪ Raw scores⇒Z-scores ▪ Z-scores⇒Raw scores ▪ Transforming scales	Chapter 5	Chapter 5 1, 6, 22
Tue 2/7	*Z-scores (continued):* ▪ Normal distribution	Chapter 6: p.163-184, p.189-on	Chapter 6 6, 10, 18, 19

Date:	Topic	Reading	Homework
Thu 2/9	*Sampling distributions of sample means:* ▪ Shape ▪ Mean ▪ Variability	Chapter 7	Chapter 7 4, 8, 10, 16, 20, 22
Tue 2/14	Review		REVIEW
Thu 2/16	***EXAM 1***		
Tue 2/21	*One-sample Hypothesis Testing* ▪ Assumptions ▪ The Four Steps and the "logic" of Hypothesis testing	Chapter 8	Chapter 8 4, 6, 15, 20, 21
Thu 2/23	*One-sample Hypothesis Testing* (cont'd) ▪ Type I error ▪ Type II error & ▪ Power	Chapter 8	
Tue 2/28	*One-sample Hypothesis Testing* (cont'd)		
Thu 3/2	*The t-statistic*	Chapter 9	Chapter 9 2, 5, 6, 18, 22, 23
Tue 3/7	*Confidence intervals*	Chapter 9	
Thu 3/9	*Confidence intervals*	Chapter 9	Chapter 9 12c), 13b), 13c), 21c)
Tue 3/14	***Spring Break***		☺
Thu 3/16	***Spring Break***		☺
Tue 3/21	*Two-sample Hyp. Testing* ▪ Sampling dist'n of differences between sample means	Chapter 10	Chapter 10 3, 6, 10, 14a), 21), 22a)
Thu 3/23	*Related samples* Sampling dist'n of mean differences	Chapter 11	Chapter 11 1, 10a), 20, 22, 23

Date:	Topic	Reading	Homework
Tue 3/28	Review		REVIEW
Thu 3/30	***EXAM 2***		
Tue 4/4	*Analysis of Variance* (ANOVA)	Chapter 12 p.385-415	Chapter 12 10, 12, 19, 21a), 21b)
Thu 4/6	*ANOVA* (cont'd)		
Tue 4/11	*Correlation* ▪ Hypothesis testing	Chapter 15 p.509-535	Chapter 15 5, 9, 10, 12, 14
Thu 4/13	*Correlation* (cont'd)		
Tue 4/18	*Regression*	Chapter 16 p.557-569	Chapter 16 3, 4, 6, 8, 10a)
Thu 4/20	*Regression* (cont'd)		
Tue 4/25	*Chi-squared test of* ▪ Goodness of Fit	Chapter 17 p.591-603	Chapter 17 2, 4, 11
Thu 4/27	χ^2 *test of* ▪ Independence	Chapter 17 p.604-613, p.615-616, p.620-on	Chapter 17 14, 20, 25
Tue 5/2	Review		REVIEW
Thu 5/4	***EXAM 3***		

Summary:

    Exams: 2/16, 3/30, 5/4. These dates and times are not negotiable and will not change.

    Please note that these homework due dates will ***most likely change*** based on the class's response to the material covered (i.e., based on the class's pace). You are responsible for hearing about these changes **in class**.