Psychological Statistics
Lecture MTWR 12:30 – 2:25
Cole STEM Building 201

Professor: Steven Estrada, PhD
Office: ED 215 F
Email: estradasm@sfasu.edu
Phone: 936-468-1415, leave message

Final Exam: Friday August 16, 2019, 12:30 PM – 2:30 AM

Required: There is no required textbook. However, it is suggested that you purchase a book covering the topics in statistics listed below. If in doubt, please see the professor concerning the book. You can check out a book from a library, borrow from a friend, order from Amazon, purchase at Barnes and Noble, etc...

You will also want to bring the calculator of your choice to each class meeting. Simple is good. The most advanced feature necessary is the ability to square and find square roots.

Course Objectives: This course will introduce you to statistics and its application to psychological research. Objectives include an understanding of the relationship between probability and statistical inference, how to calculate basic equations involved in statistics, and how to choose the correct statistical procedure and how to interpret results.

<table>
<thead>
<tr>
<th>PROGRAM LEARNING OUTCOMES or PLO</th>
<th>Proficiency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student will demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.</td>
<td>Advanced</td>
</tr>
<tr>
<td>The student will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation.</td>
<td>Advanced</td>
</tr>
<tr>
<td>The student will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.</td>
<td>Advanced</td>
</tr>
<tr>
<td>The student will understand and apply psychological principles to personal, social, and organizational issues.</td>
<td>Intermediate</td>
</tr>
<tr>
<td>The student will value empirical evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a science.</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

Student Learning Outcomes
• A learner will demonstrate the ability to use statistics to describe data including frequency distributions, percentiles and histograms/polygons.
• A learner will demonstrate the ability to identify and calculate several measures of
central tendency and variability
• A learner will demonstrate the ability to use the hypothesis testing process
• A learner will demonstrate an understanding of probability
• A learner will demonstrate the ability to compute measures of correlation and test for statistical significance
• A learner will demonstrate the ability to compute statistics testing statistical significance of differences in means (i.e., t and Z)
• A learner will demonstrate the ability to compute statistics testing statistical significance of differences in variances (i.e., \( F_{\text{max}}, F, \) and \( t \))
• A learner will demonstrate an understanding of single factor (between and within-subjects) ANOVA and Factorial ANOVA (between subjects)
• A learner will demonstrate facility with statistical calculators and software (SPSS)

TCCNS Course Credit Hour Justifications
PSYC 330 “Psychological Statistics” (4 credits) is designed to introduce students to the application of descriptive and inferential statistical techniques to behavioral data. These techniques include normative, parametric, and nonparametric applications. The course typically meets 150 minutes a week in two 75-minute segments or three 50-minute segments. The course runs for 15 weeks with a 2-hour final examination period. The course laboratory typically meets in additional weekly, 75-minute session in which students develop experience working with computer software for organizing data and implementing statistical methods to examine research on behavior. Students typically have significant weekly reading assignments, statistics homework, and are expected to take regular examinations of their skills and knowledge of statistics. These activities average at a minimum 8 hours of work each week to prepare outside of classroom hours. Online course sections contain extensive written content that includes the same information students in a face-to-face lecture sections receive, requiring students to engage the online modules for at least three hours per week. For every hour a student spends engaging with the online content, he/she spends at least two hours completing associated activities and assessments.

Performance Evaluation:
Exams: There are 3 exams during the semester plus one final exam. Exams will only cover the specified lectures; however, knowledge from previous lectures might be necessary. Exams consist of multiple choice and computational problems. The computational parts of the exam are open book, open note. Documentation is needed for any make-ups and the professor must be notified within a day of the exam. Make-up exam MUST be taken within 2 days of the delivery. Final exam must be taken on specified day. No early or make-ups unless cleared by me with a valid reason.

Assignments: May be given throughout the semester. These assignments would consist of problem sets similar to those on the exam. All assignments are for your benefit and are not for a grade. Do them, understand them, and you will excel in my course.

Attendance: Attendance will not be taken in lecture, but you are responsible for all material covered in class. Also, announcements are made at the beginning of the class. These
Psy 330_001  
Summer 2019

announcements cover due dates, changes in scheduling, extra credit, and changes in exams. It is your responsibility to learn the information if you do not attend class.

**Grading Scale:**

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
<th>Grade Criteria</th>
<th>Points Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>100</td>
<td>A = 90-100% of Points</td>
<td>360 pts or more</td>
</tr>
<tr>
<td>Exam 2</td>
<td>100</td>
<td>B = 80-89% of Points</td>
<td>320 – 359 pts</td>
</tr>
<tr>
<td>Exam 3</td>
<td>100</td>
<td>C = 70-79% of Points</td>
<td>280 – 319 pts</td>
</tr>
<tr>
<td>Final</td>
<td>100</td>
<td>D = 60-69% of Points</td>
<td>240 – 279 pts</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
<td>F &lt; 60% of Points</td>
<td>&lt; 240 pts</td>
</tr>
</tbody>
</table>

**D2L:** Students have access to course information, announcements, and grades via D2L. It is your responsibility to stay up-to-date via D2L.

**Extra Credit:** Extra Credit assignments will be assigned and described by the instructor in class.

**Academic Integrity (A-9.1)**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades Semester Grades Policy (A-54)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.
**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Electronic Devices** UNLESS YOU HAVE ASKED AND I HAVE ALLOWED, NONE, EVER.

No electronic devices of any kind will be allowed during exams (media players, headsets, cell phones, palm pilots, language translators, etc.). Laptops and cell phones may not be used during class time. Students wishing to send text messages must exit the classroom. If you have special needs regarding language assistance, please speak with me to make arrangements.

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

**Important Dates**

The academic calendar can be found at [http://www.sfasu.edu/297.asp](http://www.sfasu.edu/297.asp). It contains important dates of which you need be aware.

**Student Contacts**

Your peers may be able to provide additional support (i.e., help with homework, lecture notes) when you need it most. Introduce yourself to at least two individuals in this class and share your contact information with them. Be friendly and smile! :0)

Student Contact #1:

Name ________________________________________________

Email ________________________________________________

Phone ________________________________________________
Tentative Course Schedule (subject to change)

EXAM SCHEDULE, DUE DATES, AND DATES OF INTEREST

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 22-23</td>
<td>CLASS CANCELLED</td>
</tr>
<tr>
<td>July 25</td>
<td>Exam 1</td>
</tr>
<tr>
<td>Aug 5</td>
<td>Exam 2</td>
</tr>
<tr>
<td>Aug 12</td>
<td>Exam 3</td>
</tr>
<tr>
<td>Aug 8</td>
<td>Last day to Withdraw from the University Without WP or WF</td>
</tr>
<tr>
<td>Aug 15</td>
<td>LAST DAY OF CLASS; ALL ASSIGNMENTS AND EXTRA CREDIT DUE</td>
</tr>
<tr>
<td>Aug 16</td>
<td>Final – 12:30-2:30</td>
</tr>
</tbody>
</table>

Topics to be covered in Lecture

1.00% Syllabus, Expectations, and Overview  
7.50% Introduction to Statistics and Science  
5.00% Frequency Distributions  
5.00% Measures of Central Tendency  
5.00% Measures of Variability  
5.00% Z-Scores  
5.00% Probability  
5.00% Samples  
7.50% Z-scores and Probability: The Normal Distribution  
7.50% Hypothesis testing and power  
5% Introduction to the t-test  
5.00% T-test for independent samples  
5.00% T-test for dependent samples  
5.00% Confidence intervals and Estimation  
5.00% Correlation  
5.00% Analysis of Variance: ANOVA  
5.00% Repeated-measures ANOVA  
5.00% Factorial Design  
2.50% Regression  
2.50% Chi-square