PSY 2321 010
Research Methods & Statistical Analysis
Fall 2020

Instructor: Dr. Stephen Lippi
Email: stephen.lippi@angelo.edu
Phone: (325) 486-6923
Office: Academic 104C
Office Hours: MTWR 2:30-5PM (Please call my office for office hours inquiries)

Course Information

Course Description
This course is meant to introduce students to various experimental and non-experimental methods utilized by scientists/researchers to gather and analyze data. Numerous analyses will be explored, including: measures of central tendency and variability (descriptive statistics), t-tests, analysis of variance (ANOVA) (inferential statistics), correlation & regression, and nonparametric statistics. Statistics is like a foreign language; the more you practice it, the more you will be able to use and understand it. We will begin the semester with the basics: experimental design, reliability and validity, and how to describe, measure, and collect data. Then we will build on this foundation by exploring ways that scientists can make hypotheses and collect and run data to test these hypotheses. The second half of the semester will be devoted to running various statistical tests, learning how to interpret output, and understanding how to arrive at statistically sound conclusions. Alongside learning how to calculate these tests by hand, we will use Jamovi, a free statistical software that analyzes data.

This course is going to be a flipped-classroom. This means that students will be primarily responsible for reading the respective textbook chapters and studying the slides before arriving to class. Class time will be devoted to working out example problems, inputting data into Jamovi, and exploring calculations and data. Lecture topics will be explored as we work through data; this is why it’s important for students to have reviewed/read the material BEFORE class each week.

Course Credits
3 credits
**Prerequisite and Co-requisite Courses**
None.

**Prerequisite Skills**
Accessing Internet websites, using ASU Library resources, accessing Blackboard and proficiency with Microsoft Word and/or PowerPoint are expectations of this course.

**Student Learning Outcomes**

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assignment(s) or activity(ies) validating outcome achievement:</th>
</tr>
</thead>
<tbody>
<tr>
<td>By completing all course requirements, students will be able to:</td>
<td>Weekly homework assignments</td>
</tr>
<tr>
<td>1) Gain a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)</td>
<td>Module Exams</td>
</tr>
<tr>
<td>a) Understand and be able to discriminate between various research methods and statistical tests used to collect and analyze data</td>
<td>“How are we doing?” Assignments</td>
</tr>
<tr>
<td>2) Learn appropriate methods for collecting, analyzing, and interpreting numerical information</td>
<td>Weekly homework assignments</td>
</tr>
<tr>
<td>a) Develop skills required to be able to analyze and interpret datasets</td>
<td>Module Exams</td>
</tr>
<tr>
<td>b) Learn how to run various statistical tests and understanding how to interpret data, outcomes, and make appropriate decisions</td>
<td>Weekly homework assignments</td>
</tr>
<tr>
<td></td>
<td>Module Exams</td>
</tr>
</tbody>
</table>
Class Mask Policy

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Course Delivery

This course is going to be a flipped-classroom. This means that students will be primarily responsible for reading the respective textbook chapters and studying the slides before arriving to class. Class time will be devoted to working out example problems, inputting data into Jamovi, and exploring the calculations and data. Lecture topics will be explored as we work through data; this is why it’s important for students to have reviewed/read the material BEFORE class each week. Lecture PowerPoints will be delivered online via Blackboard.

Required Texts and Materials


Technology Requirements

To successfully complete this course, students need to download Jamovi statistical software. Software: Jamovi (https://www.jamovi.org) – free and open statistical software; each student will need to download this program to their computer to complete homework assignments

Assignment and Activity Descriptions

Chapter homework

There are 4 main themes/modules throughout this semester: Methodology and Descriptive statistics, Inferential statistics and t tests, ANOVAs, and Correlation/regression/nonparametric stats. There will be weekly homework assignments. These are meant to keep students engaged in course material as they learn it; these are due each week on Thursday via Blackboard. These homework assignments will be submitted solely online. These homework assignments are meant to aid in your understanding of the subject (given that you will spend time putting together conclusions from data and output) as well as provide additional practice for learning how to handle data and decide between different analyses. Each of
these homework assignments will be worth 20 points. Each student is allowed to drop one homework assignment – this can either be the lowest or if a student fails to complete one. The due dates are provided in the schedule below; announcements will be made on Blackboard throughout the semester. Any homework not turned in on time will result in an automatic 10% reduction in points. A total of 240 points (12 homework assignments) will be from homework assignments.

Exams

Each unit will involve a take-home exam. Do not confuse take-home with easy. These exams are meant to allow students ample opportunity to work with data and draw appropriate conclusions. Rather than have you sit in a room for 75 minutes staring at mathematical formulas, you can work on them from the comfort of your own home. This not only should cut down on the stress of having to solve problems within a specified amount of time, but should also allow you to work throughout problems at an individual pace – helping you get the problems correct. These exams must be printed out and will be due to me on Thursdays (see course for specific due dates). These are open-note and open-book, but not open-friend. If you are found to have cheated on an exam, you and the person you cheated from will receive zeros, no questions asked. There are 3 non-cumulative exams and a cumulative final exam (the cumulative final will focus on the last 2 chapters we cover; but will also cover material from the entire semester). A total of 4 exams will count towards your final grade. Exams 1-3 will each count for 50 points and exam 4 will be 100 points. A total of 250 points will be from exams.

“How are we doing?” Assignments

Each Thursday (by the end of the day) you will submit a written statement as part of a discussion board post including 1) something you feel confident about and 2) something you would like more information about. This serves as an indicator of what I should spend more time on in the following class (back to the notion of the flipped classroom). There will be ~12 of these assignments throughout the semester; the lowest 2 will be dropped. Each of these (10) will be 10 points each; a total of 100 points will be from the “How are we doing?” assignments.

Communication

I will respond to email messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday. All private communication must be done through your ASU email address. Check frequently for announcement and policy changes. In any emails to faculty, please include the course name (PSY 2321 010) in the subject line.

Course Outline/Schedule** (May be adjusted at professor’s discretion)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Text</th>
<th>Homework Due (Turned in on Blackboard by 2:30PM)</th>
<th>Exams (Turned in on Blackboard by 1PM)</th>
<th>Discussion board posts How are we doing? Due by Thursday evenings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>August</td>
<td>Course</td>
<td>Ch. 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Date Range</td>
<td>Topic</td>
<td>Homework Due Date</td>
<td>Exam Date Due Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
<td>---------------------------------------------------------</td>
<td>---------------------------------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>August 25-27</td>
<td>Reliability, Validity, Scales of Measurement</td>
<td>Ch. 1 Homework due August 27</td>
<td>Ch. 3 - How are we doing due August 27 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>September 1-3</td>
<td>Description, Measurement, and Sampling</td>
<td>Ch. 3 Homework due September 3</td>
<td>Ch. 4 - How are we doing due September 3 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>September 8-10</td>
<td>Descriptive Statistics</td>
<td>Ch. 4 Homework due September 10</td>
<td>Ch. 5 - How are we doing due September 10 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>September 15-17</td>
<td>Inferential Stats</td>
<td>Ch. 5 Homework due September 17</td>
<td>Ch. 6 - How are we doing due September 17 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>September 22-24</td>
<td>One-Sample t-tests</td>
<td>Ch. 6 Homework due September 24</td>
<td>Ch. 7 - How are we doing due September 24 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>September 29-October 1</td>
<td>Independent-samples t-test</td>
<td>Ch. 7 Homework due October 1</td>
<td>Ch. 10 (Ind. t-tests) How are we doing due October 1 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>October 6-8</td>
<td>Dependent-samples t-test</td>
<td>Ch. 10 (Ind. T-tests) Homework due October 8</td>
<td>Ch. 11 (Dep. t-tests) How are we doing due October 8 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>October 13-15</td>
<td>One-way ANOVA</td>
<td>Ch. 11 (Dep. T-tests) Homework due October 15</td>
<td>Ch. 10 (ANOVA) How are we doing due October 15 by 11:59PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>October 20-22</td>
<td>Repeated-measures ANOVA</td>
<td>Ch. 11 (ANOVA) Homework due October 22</td>
<td>Ch. 11 (Rpt. Meas. ANOVA) How are we doing due October 22 by 11:59PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Grading**

**Evaluation and Grades**
Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent/Points of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly Homework (lowest dropped)</td>
<td>240 points</td>
</tr>
<tr>
<td>How are we doing? Activities (lowest 2 dropped)</td>
<td>100 points</td>
</tr>
<tr>
<td>Exams (none dropped)</td>
<td>250 points</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>590 points</strong></td>
</tr>
</tbody>
</table>

**Grading System**
Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.
The following grading scale is in use for this course:

A = 531– 590 points (90% - 100%)
B = 472- 530 points (80% - 89.8%)
C = 413– 471 points (70% - 79.8%)
D = 354– 412 points (60% - 69.8%)
F = 0 – 353 points (0% - 59.8%)

***Important: At the end of the semester, you may be tempted to email me a variant of the following:

● “Dr. Lippi, I’m SO CLOSE to a passing grade!”
● “Dr. Lippi, what extra credit is there that I can do to boost my grade?”
● “Dr. Lippi, I have to graduate!”
● “Dr. Lippi, can you please curve my grade?”

Please do not email me at the end of the semester asking to boost your grade, change your grade, or curve your grade. This is not ethical to do. Grades are earned by each and every student and it is not fair to adjust your grade or assign you extra credit without doing the same for everyone.

Extra credit (SONA Systems participation)

Since this course involves exploration of research methods and statistics, students can earn extra credit by participating in SONA system studies. Participation in these studies are important for graduate students/professors’ data collection. Each student can earn up to 3 points of extra credit for participating in SONA studies throughout the semester. You’re welcome to do more, but you will only get credit for up to 3 hours (3 points). For credit to be applied, you must allocate the credit to PSY 2321 010. For additional details, see the Psychology department’s “Research Opportunities” website menu. https://angelostate.sona-systems.com/Default.aspx?ReturnUrl=%2f

Teaching Strategies

Students are expected to be “active learners.” It is a basic assumption of the instructor that students will be involved (beyond the materials and lectures presented in the course) discovering, processing, and applying the course information using peer-reviewed journal articles, researching additional information and examples on the Internet, and discussing course material with their peers.

Late Work or Missed Assignments Policy

POLICY ON LATE OR MISSED ASSIGNMENTS

Due dates and times for assignments are posted. Failure to submit your assignments on the assigned date will result in a 10 percent deduction for each day after the posted deadline. No papers or postings will be accepted more than one week past the assigned due date.
General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog

Student Responsibility and Attendance

Each student is expected to arrive on time for each class and attend class regularly. However, if you are not feeling well, if you are unable to get a green check on your daily wellness ASU check, if you feel any less than 100%, please do not come to class. We want everyone to stay safe this semester. This class is not worth you coming in sick and risking exposing others to any kind of illness - myself included. Each class’s lecture material will be recorded and uploaded to Blackboard after class for students to watch if they choose or decide not to come to class.

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university’s Statement of Academic Integrity.

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability

---

1 https://www.angelo.edu/student-handbook/
2 https://www.angelo.edu/catalogs/
3 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

**Incomplete Grade Policy**

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](https://www.angelo.edu/content/files/14197-op-1011-grading-procedures) for more information.

**Plagiarism**

Plagiarism is a serious topic covered in ASU’s [Academic Integrity policy](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php) in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

It is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](https://www.angelo.edu/dept/writing_center/academic_honesty.php).

**Student Absence for Observance of Religious Holy Days**

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of) for more information.

---

4 [https://www.angelo.edu/services/disability-services/](https://www.angelo.edu/services/disability-services/)  
5 [https://www.angelo.edu/content/files/14197-op-1011-grading-procedures](https://www.angelo.edu/content/files/14197-op-1011-grading-procedures)  
6 [https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php)  
7 [https://www.angelo.edu/dept/writing_center/academic_honesty.php](https://www.angelo.edu/dept/writing_center/academic_honesty.php)  
8 [https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of](https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of)
Syllabus Changes

The faculty member reserves the option to make changes as necessary to this syllabus and the course content. If changes become necessary during this course, the faculty will notify students of such changes by email, course announcements and/or via a discussion board announcement. It is the student’s responsibility to look for such communications about the course on a daily basis.

Title IX at Angelo State University

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D. You may submit reports in the following manner:

Online: www.angelo.edu/incident-form
Face to face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: michelle.boone@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit: www.angelo.edu/title-ix.
Student Evaluation of Faculty and Course

Students in all programs are given the opportunity to evaluate their courses and the faculty who teach them. Evaluations are most helpful when they are honest, fair, constructive, and pertinent to the class, clinical experience, or course. Faculty value student evaluations, and use student suggestions in making modifications in courses, labs and clinical experiences. Angelo State University uses the IDEA (Individual Development and Educational Assessment) system administered through Kansas State University for all course evaluations. The Office of Institutional Research and Assessment administers IDEA for the entire university, online and has established a policy whereby students can complete course evaluations free from coercion.