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

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](https://www.jamovi.org)) – free and open statistical software; each student will need to download this program to their computer to complete homework assignments

### Topic Outline – subject to change at the Professor’s discretion***

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Homework Due at beginning of class</th>
<th>Exams Due at beginning of class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 13</td>
<td>Course Overview Ch. 1: Thinking like a Researcher</td>
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<td>Jan 15</td>
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<td>2</td>
<td>Jan 20</td>
<td>MLK Jr. Day (20) - No Class Ch. 3: Reliability Validity; Scales of Measurement</td>
<td>Ch. 1 Homework Jan 22</td>
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<td>Jan 22</td>
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<tr>
<td>3</td>
<td>Jan 27</td>
<td>Finish Ch. 3 Ch. 4: Description, Measurement, and Sampling</td>
<td>Ch. 3 Homework Jan 29</td>
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<td>Jan 29</td>
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<tr>
<td>4</td>
<td>Feb 3</td>
<td>Ch. 5: Descriptive Statistics</td>
<td>Ch. 4 Homework Feb 5</td>
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<td></td>
<td>Feb 5</td>
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<tr>
<td>5</td>
<td>Feb 10</td>
<td>Ch. 6: Inferential Statistics</td>
<td>Ch. 5 Homework Feb 12</td>
<td>Exam 1 due Feb 10 at 11am</td>
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<td>Feb 12</td>
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<tr>
<td>6</td>
<td>Feb 17</td>
<td>Ch. 7: One-sample T-test</td>
<td>Ch. 6 Homework Feb 19</td>
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<td>Feb 19</td>
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<tr>
<td>7</td>
<td>Feb 24</td>
<td>Ch. 10: Independent samples T-tests</td>
<td>Ch. 7 Homework Feb 26</td>
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<td>Feb 26</td>
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<tr>
<td>8</td>
<td>March 2</td>
<td>Ch. 11: Dependent Samples T-tests</td>
<td>Ch. 10 (T-tests) Homework March 4</td>
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<td></td>
<td>March 4</td>
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<tr>
<td>9</td>
<td>Mar 9</td>
<td><em><strong>Spring Break</strong></em> No class</td>
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<td>Mar 11</td>
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<tr>
<td>10</td>
<td>Mar 16</td>
<td>Ch. 10: One-way ANOVA</td>
<td>Ch. 11 (T-tests) Homework March 18</td>
<td>Exam 2 due March 16 at 11am</td>
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<td>Mar 18</td>
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<tr>
<td>11</td>
<td>Mar 23</td>
<td>Ch. 11: Repeated measures ANOVA</td>
<td>Ch. 10 (ANOVA) Homework March 25</td>
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<td>Mar 25</td>
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</table>
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 Wednesday. These homework assignments will be submitted in class. 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. *Please plan accordingly; make sure you print this out and have it ready to turn in when it is due. Any homework not turned in on time will result in an automatic 10% reduction in points. A total of 260 points (13 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 the Monday after they are assigned. (Exams will open up on Wednesdays and will be due to me Monday morning at 11 am). See the schedule above for all 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 4 non-cumulative exams and a cumulative final exam; a total of 5 exams will count towards your final grade. Exams 1-4 will each count for 50 points and exam 5 will be 100 points. A total of 300 points will be from exams.
“How are we doing?” Assignments
Each Monday you will submit a written statement 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). Also, this is an indicator of who is showing up to class throughout the semester. 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.

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>260 points (39.39%)</td>
</tr>
<tr>
<td>How are we doing? Activities (lowest 2 dropped)</td>
<td>100 points (15.15%)</td>
</tr>
<tr>
<td>Exams (none dropped)</td>
<td>300 points (45.45%)</td>
</tr>
<tr>
<td>Total</td>
<td>660 points (100%)</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 = 594 – 660 points (90% - 100%)
B = 528 - 593 points (80% - 89.8%)
C = 462 – 527 points (70% - 79.8%)
D = 396 – 461 points (60% - 69.84%)
F = 0 – 395 points (0% - 59.84%)

***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](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](https://www.angelo.edu/student-handbook/)
- [Angelo State University Catalog](https://www.angelo.edu/catalogs/)

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1 [https://www.angelo.edu/student-handbook/](https://www.angelo.edu/student-handbook/)
2 [https://www.angelo.edu/catalogs/](https://www.angelo.edu/catalogs/)
Student Responsibility and Attendance
Each student is expected to arrive on time to each class and attend class regularly. Although attendance is not officially a part of the grade, exam scores and homework scores may reflect a subpar attendance record. Attendance will be loosely assessed by the “How are we doing?” assignments each Monday. Also, exams and homework are due in person on their respective dates; if they are turned in late, a student will receive a penalty of 10% per day it’s late.

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 Services website. 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

3 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
4 https://www.angelo.edu/services/disability-services/
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 for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy 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.

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 for more information.

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

5 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
6 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
7 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
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](http://www.angelo.edu/incident-form)
Face to face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: [michelle.boone@angelo.edu](mailto: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](http://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.