

HSP 4338

BIOSTATISTICS

FALL 2021



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Office: HHS 222C

Office Hours: MW from 3.30 PM – 4:30 PM

Course Schedule: MW from 2.00 PM – 3:15 PM

Location: HHS 208

Course Information

Course Description

Biostatistics is essential to ensuring that findings and practices in public health and biomedicine are supported by reliable evidence. This course covers the basic tools for the collection, analysis, and presentation of data in all areas of public health. Central to these skills is assessing the impact of chance and variability on the interpretation of research findings and subsequent recommendations for public health practice and policy. Topics covered include: general principles of study design; hypothesis testing; review of methods for comparison of discrete and continuous data including ANOVA, t-test, correlation, and regression.

Course Credits

3 Advanced Credit Hours

Prerequisite and Co-requisite Courses

Health Science Professions 4337 or Mathematics 3321

Prerequisite Skills

Accessing Internet websites, using ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are expectations of the Health Science Professions.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Understand statistical concepts utilized in research within the social sciences
2. Apply the mathematical/statistical techniques presented for social science research
3. Demonstrate an ability to analyze and interpret data within the social sciences
4. Analyze practical examples as to when statistical techniques presented are appropriate for analysis.

Course Delivery

This course is of the face-to-face instructional format. It will meet on campus. Most content will be delivered via class or online lectures/videos, discussions and course assignments. The course will also use the Blackboard Learning Management System for online components. The course site can be accessed at [ASU's Blackboard Learning Management System](#).

Required Texts and Materials

Biostatistics for the Biological and Health Sciences, 2nd Edition (2018)
Triola, Triola & Roy. Pearson.

ISBN-13: 978-0134039015

Technology Requirements

- A computer capable of running Windows 7 or later, or Mac OSX 10.8 or later
- The latest version of one of these web browsers: internet Explorer, Firefox, or Safari
- Microsoft Office Suite or a compatible Open Office Suite
- Adobe Acrobat Reader
- High Speed Internet Access
- Ethernet adapter cable required (wireless connections can drop during tests and Collaborate sessions)
- Webcam

Refer to Angelo State University's Distance Education website for further technology requirements: [Angelo State University's Distance Education Website](#)

Technical Assistance

If you have any technical problems associated with the test (i.e. webcam problems, lock down browser problems) you should contact the IT Department. The IT Service Department is open M-F from 8-5 and the number is (325) 942-2911. If you call any time after 5 pm or on the

weekend, most likely you will not be able to get assistance until the following weekday, so please plan accordingly.

Topic Outline

- ✚ General Principles of Study Design
- ✚ Hypothesis Testing
- ✚ Statistical Significance
- ✚ T-Tests
- ✚ Analysis of Variance
- ✚ Correlation Coefficient
- ✚ Linear Regression
- ✚ Non-parametric Statistics

Communication

Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line, a salutation in the body and sign your email with your full name.

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Grading

Course grades will be determined as indicated in the table below.

Assessment	Points of Total Grade
Biostatistics Project	100
Quizzes (10 x 30 points each)	300
Midterm Exam	250
Final Exam	250
Class Participation & Attendance	100
Total	1000

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 = 900.00-1000 points

B = 800.00-899.99 points

C = 700.00-799.99 points

D = 600.00-699.99 points

F = 0-599.99 points (Grades are not rounded up)

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-review journal articles, researching additional information and examples on the Internet, and discussing course material and clinical experiences with their peers.

Assignment and Activity Descriptions

Exams: There will be two (2) major exams (Midterm & Final Exams). Please bring a #2 pencil and a sheet of scratch paper on exam days. You may also bring a dedicated calculator. Cheating on an exam will result in failure of the course. Leaving the classroom during an exam should not occur and no web-enabled devices are to be used during exams. The final exam will have to be taken at the scheduled time.

Material for exams will come from lectures, discussions in class, textbook readings, materials brought to class by the instructor, companion website and slide handouts. Makeup exams are contingent to the presentation of a valid excuse according to the student’s manual and University regulations.

Readings: You are responsible for the material covered in the book prior to attending class. Please note that the week’s readings are specified in the class pacing schedule posted on Blackboard. In addition to these readings, the instructor may assign supplemental readings throughout the semester. These supplemental readings do not appear on the schedule, as these readings will be assigned at the instructor’s discretion.

Quizzes: Weekly online quizzes will be given throughout the semester and will require that you read and respond to material in the textbook as well as revisit topics discussed in class. Access to quizzes will be through Respondus™ Lockdown Browser [see Other Required Materials for a

list of needed equipment] via Blackboard. Students may use written materials as well as their textbook; however, use of another electronic device is prohibited.

There is a *Readiness Quiz*, which will serve as a webcam test and will give you an opportunity for bonus points. These tools will be available to the student to assure accessibility. Students will have multiple (3) attempts to complete the practice quiz. This process will allow you to become familiar with the technology associated with testing and improve testing environment. Instructional videos and more information regarding Respondus Monitor can be found under the Respondus Monitor Help tab in your Blackboard course.

Homework: Students will be responsible for the completion of multiple homework assignments. The purpose of these assignments is to assist students in applying their understanding of the statistical procedures discussed in class.

Assignment Submission

All assignments MUST be submitted through the Assignments link in the Blackboard site. This is for grading, documenting, and archiving purposes. Issues with technology use arise from time to time. If a technology issue does occur regarding an assignment submission, email me at jay.brown@angelo.edu and attach a copy of what you are trying to submit. **Please contact the IT Service Center at (325) 942-2911 or go to your Technology Support tab to report the issue.**

This lets your faculty know you completed the assignment on time and are just having problems with the online submission feature in Blackboard. Once the problem is resolved, submit your assignment through the appropriate link. This process will document the problem and establish a timeline. Be sure to keep a backup of all work.

Late Work or Missed Assignments Policy

Due to the nature of assignments, NO late/make-up assignments will be accepted nor will be allowed without prior approval from the instructor. The instructor will determine if a student will be allowed to make up the assignment in the rare cases of excused absences (documented medical emergencies or documented death in the family).

ASU Required Use of Facial Covering 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.

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](#)¹
- [Angelo State University Catalog](#)²

Student Responsibility and Attendance

Students are expected to attend classes. Class attendance and participation will be evaluated. According to the undergraduate handbook, a week's worth of cumulative absences (regardless of the nature of the absence) in any one course will result in faculty evaluation of the student's ability to meet course objectives and may result in failure of the course. Emergencies and illness do happen, but these are the exceptions not the rules. Make every effort to be in every class. In addition, students are expected to be on time to class and remain in class until the end of the session.

Students are expected to take responsibility for their own learning. What you get out of this class, including your grade, is based on your effort and commitment.

In order to succeed, just follow these simple tips:

- a) Arrive to class on time
- b) Read and study
- c) Plan and schedule your assignments' submissions and exam preparations in advance. Calendar all course assignments at the beginning of the semester to ensure they are completed before or by due dates
- d) Please make sure you are clear on assignment deadlines
- e) Block time in your schedules several days before assignments are due to ensure assignments are completed well before due dates.

Student Contribution: Students are expected to actively contribute to class and group discussions, but not to dominate them.

Respect & Tolerance: Students are expected to listen to other people's views, even if you don't agree with them. Please be respectful and professional at all times. Students are expected to stay focused in class. Please do not side talk or do your other work while in class.

Questions: Students are strongly encouraged to use the instructor as a resource person in solving any problems or questions concerning the course. If you are unclear concerning any concepts or assignments, please feel free to contact the instructor.

Cell Phones: Cell phones are to be turned off during class. If there is an expected need to receive a cell phone call then please talk to me before class. In these cases, your phone should be set to vibrate and can be left on your desktop. There will be no text messaging in the class.

Computers: Computers can be used to write or access class notes, but internet surfing for unrelated material should not be occurring. Please do not surf the web, shop online, log into Facebook, send personal emails, or do anything else that is unrelated to class. This is distracting and inconsiderate to other students and may affect your participation grade.

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](#).³

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](#).⁴ 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](#)⁵ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁶ 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.

In your discussions and/or your papers, 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](#).⁷

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](#)⁸ for more information.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

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.

Recommended Use of Masks/Facial Coverings by Students in Class At ASU

As a member of the Texas Tech University System, Angelo State University strongly recommends the use of masks/facial coverings 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, we strongly recommend that students in this class wear a mask/facial covering before, during, and after class. Faculty members will also ask you to display your daily screening badge as a prerequisite to enter the classroom.

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 Miller, 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.miller@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.

End of Syllabus

- 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>
- ⁴ <https://www.angelo.edu/services/disability-services/>
- 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>