HHPH 517: BIOSTATISTICS

COURSE SYLLABUS: FALL 2025

INSTRUCTOR INFORMATION

Instructor: Dr. Rahmatu Kassimu, Adjunct Professor
Office Location: Online
Office Hours: By Appointment
Office Phone: 903-886-5349
Office Fax: 903-886-5365
University Email Address: Rahmatu.Kassimu@etamu.edu
Preferred Form of Communication**: Email; Scheduled appointments**
Communication Response Time: 48 business hours

COURSE INFORMATION

Course Value: Three (3) Credit Hours
Course Location/Time:

- 81B– Bi-Weekly sessions (TBD)
- 01W – Online

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

Sullivan, L. M. (2023). *Essentials of biostatistics in public health* (4th ed.). Sudbury, MA: Jones & Bartlett Learning.

IA version will be available on D2L on first day of class – this is more affordable than hard copy

Optional Texts and/or Materials: All course written assignments are to be submitted in APA format style unless otherwise noted in the assignment directions. All students are encouraged to have a current copy of the APA Publication Manual: ***Publication Manual of the American Psychological Association*, (7th ed.).**

The *syllabus/schedule are subject to change.*

Course Description

Throughout the end of this course (and heavily towards the end) we will utilize a piece of software known as Statistical Packages for the Social Sciences (SPSS). This software is available in the university open computer labs. Many students purchase a student version of the software. Others have SPSS available where they work. You should utilize version SPSS 16 or higher.

This course provides an introduction to statistical methods and their implications for health and human performance- specific situations as well as educational researchers. Appropriate computer applications will be integrated with classroom content relating to populations and samples; organizing, displaying, and summarizing data; probability; normal distribution; tests of significance; correlation and simple regression; Z and T tests; and the chi square test. (3 credit hours)

Student Learning Outcomes (Should be measurable; observable; use action verbs)

1. Describe the nature of probability and statistics.
2. Organize data using distribution curves; explain the normal distribution.
3. Describe data via statistical processes.
4. Utilize confidence intervals based on sample size.
5. Perform hypothesis testing.
6. Apply appropriate statistical analysis methods using SPSS to analyze both categorical and quantitative data.
7. Effectively use SPSS to perform statistical calculations.
8. Critique statistical methods.
9. Develop written and oral reports to communicate effectively to research investigators pivotal aspects of a study, including its design, objectives, data, analysis methods, results, and conclusions ensuring that results and conclusions are valid and reliable and address the research objectives.
10. Create a collaborative environment for working on written and oral reports and developing critical thinking skills.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Instructional Methods

This course is fully online. In addition to weekly posted lectures, PowerPoint slides, textbook readings, and supplemental readings will guide the class.

Student Responsibilities or Tips for Success in the Course

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GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% or Below

Total points corresponding to the final letter grades
A = 451- 500 Points
B = 401- 450 Points
C = 351- 400 Points
D = 301- 350 Points F
= 300 & > Points

Weights of the assessments in the calculation of the final letter grade. Assignments 45%
Exams 40%
Final Project 15%
TOTAL 100%

Assessments

Course Assessments Assignments (45%):
Throughout the term, you will have homework assignments. These assignments are intended to evaluate your ability to grasp and apply the statistical methods we cover in class, while also giving you additional practice in manipulating data sets, and utilizing SPSS to analyze data.

These homework assignments will include the use of recent NHANES (National Health and Nutrition Examination Survey) data sets, which can be found on D2L. Homework accounts for a total of 45%, with that percentage being equally distributed across all assignments.

Exam (40%):
Students will have 2 exams. The examination for this course will be based off all the course material. The exam will evaluate your ability to calculate and interpret the correct results, as well as applying the appropriate statistical methods using SPSS.

Final Project (15%):
Students will analyze NHANES dataset and finish the final project. Students will be required to take the CITI training and turn in the CITI training certificates as part of your project grade. The instructions will be posted at a later time.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_suppo rt.htm

Zoom Video Conferencing Tool
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Accou nt.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These

methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

E-mail strategy: You are welcome to email your questions or concerns to me. There are, however, some caveats associated with email that you must remember:

1. A reasonable response time to emailed questions is 24 - 48 business hours. 2. Questions emailed on weekends may not receive a response until the work week begins.
3. As the instructor, I reserve the right to answer emailed questions regarding assignments, tests, discussion boards, etc., in a direct email/announcement post to everyone for the benefit of all students.
4. Please be courteous and professional in all of your interactions with fellow classmates and instructor.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

The course is organized by modules, each formatted very similarly with a 2 to 3 week duration (except for Module 5). Each module will include module learning objectives, printable powerpoint slides, additional reading materials and module assignments. A tentative course schedule with due dates is listed at the bottom of the syllabus on D2L. You will be responsible for managing your time to complete readings, post your discussion boards, and written assignments. All assignments should be submitted in the respective assignment link.

Attendance:

- Time spent on coursework is at your leisure (except for due dates).
- You can work at your own pace (except that due dates are absolute).
- Due dates are when coursework MUST be completed. You can work ahead, but you cannot get behind.

What Should Students Do First? Students should begin by:

- Thoroughly reviewing the syllabus
- Obtain materials (textbooks)
- Familiarizing oneself with the course layout (watch welcome video)
- Introduce yourself in the Module 1 introduction discussion
- Review the major assignments information

How Should Students Proceed Each Week for Class Activities?

- The student will access and follow all course instructions found in the module content areas.
- The student will read associated module readings and listen to all online lectures provided in the PowerPoint section.
- The student will then complete all module assignments inclusive of discussion boards, written assignments and major project content.

Course Specific Policies

1. For 81Bstudents, weekly remote attendance on scheduled day/time is **required**.
    a. If you are unable to attend a class, please notify me through email.
    b. While in class, participation is strongly encouraged and includes:
        i. actively prepare by reading the assigned materials,
        ii. participate in discussion (ask and answer questions),
        iii. bring your notes and textbook,

iv. bring your ideas, and
v. come ready to engage

2. This class may have an "experiential learning" component that will require attendance and travel outside of class. For these activities/sessions, attendance is required as grades are contingent on participation. Those dates will be clearly outlined in the syllabus schedule.
3. For 01W, attendance counts as logging in, completing work weekly. a. Inclusive of active involvement in class discussions, assignments, quizzes and active participation in group activities.
4. An "excused absence" is defined as a documented university approved activity. The instructor reserves the right to change the content or format of all make-up work. The student is responsible for making up missed class work or assignments. If the absence is one of the reasons listed below, you will be able to make up the work. Please notify me ahead of time if you know you will be absent and once back, provide appropriate written documentation via email:
    a. Participation in an activity appearing on the University's authorized activity list.
    b. Death or major illness in a student's immediate family.
    c. Illness of a dependent family member
    d. Participation in legal proceedings or administrative procedures that require a student's presence.
    e. Religious Holy Day (please let instructor know at the beginning of the semester so as to discuss alternative accommodations as appropriate).
    f. Illness that is too severe or contagious for the student to attend class (to be determined by Health Center or off campus physician).
    g. Required participation in military duty

5. NO PROFANITY. No inappropriate or offensive language or gestures. No inappropriate or offensive clothing. This will not be tolerated and you will be asked to leave and it will be considered an unexcused absence for the day.

Make-up Work

Make-up of coursework will follow university protocols as listed above. Life circumstances do happen and in those instances, I encourage you to reach out as soon as possible so we can review and discuss potential make-up/extensions. In most cases:

- Send a notification at least 48 hours business hours prior to the end of the course week a particular assignment is due in order to verify your reason for missing coursework (rare circumstances and/or excused absences).

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook. https://inside.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedures 13.99.99.R0.01

The *syllabus/schedule are subject to change.*

http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03 Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf

Graduate Students Academic Integrity Policy and Form

Graduate Student Academic Dishonesty Form

https://inside.tamuc.edu/aboutus/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10.pdf

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Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce Velma
K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu Website:

Student Disability Services

https://www.tamuc.edu/student-disability-services/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.
Web url: http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at The

903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit **www.tamuc.edu/counsel**

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

http://telusproduction.com/app/5108.html

AI use policy

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism). Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any

assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

***Course Specific AI Policies**

Since writing, analytical, and critical thinking skills are part of the learning outcomes of this course, all writing assignments should be prepared by the student. Developing strong competencies in this area will prepare you for a competitive workplace and ensure you are learning foundational knowledge. This foundational knowledge is what equips you with theoretical knowledge that can help you accurately assess the credibility and validity of any content related work you come across (publications, websites or AI generated responses). This policy ensures that students are actively engaging with the material and honing their own skills rather than relying on automated tools to generate writing that requires content specific knowledge to help develop critical thinking skills

- Therefore, in this class, AI use for generating writing is prohibited. This course assumes that all work submitted by students will be generated by the students themselves, working individually or in groups.
  Students should not have another person/entity do any of the writing of an assignment for them, which includes hiring a person or a company to write assignments and using artificial intelligence tools like Copilot, ChatGPT and Google Bard.

- If editing platforms including AI or Grammarly are used to help revise and edit your original work, you are required to submit two separate versions to the written assignment link (1) your original un-edited work and (2) the final version that includes the revised grammar corrected AI generated writing/text. If these two versions are different in regards to content, it will be assumed that AI was used for content generation and the graduate school policies and procedures for academic dishonesty will be followed (13.99.99.R0.10 Graduate Student Academic Dishonesty)

*Edited from IOWA Office of Teaching, Learning and Technology.

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COURSE OUTLINE / CALENDAR

COURSE OUTLINE: Fall 2025

Please note that this schedule is tentative and is subject to change.

Week #	Topics	Assigned Readings	***All assignments are due SUNDAY by 11:59 PM CST*** Assignments & Exams
UNIT 1: INTRODUCTION			
Week 1	Introduction	Course material, Chapter 1	Introduction video
Week 2	Basics of SPSS		Download SPSS (or PSPP), Worksheet, Reflection
Week 3	Study Design	Chapter 2	Homework 1, CITI training
Week 4	Measures for Disease	Chapter 3	Final project research question proposal
UNIT 2: DESCRIPTION			
Week 5	Descriptive Methods	Chapter 4	Homework 3
Week 6	Probability	Chapter 5 (through 5.5)	Final project data preparation
Week 7	Probability (dichotomized & continuous variables; Central limit theorem)	Chapter 5 (5.6)	Homework 4

Week 8	Confidence Interval Estimation	Chapter 6 (through 6.3)	Exam 1
UNIT 3: ESTIMATION			
Week 9	Confidence Interval Estimation	Chapter 6 (6.4-6.6)	Final project preliminary analysis
UNIT 4: TESTING			
Week 10	Hypothesis Testing	Chapter 7	Homework 5
Week 11	Power & Sample Size	Chapter 8	Homework 6
Week 12	Multivariable Methods	Chapter 9	Final project methodology draft
Week 13	Data Visualization	Chapter 12	Homework 7
Week 14	*Thanksgiving Week* **NOT ON TEST, Posted for your leisure:** Nonparametric tests; survival analysis	Chapter 10 Chapter 11 ***(Not on test, just for your reference)***	Extra Credit
Week 15	Project Wrap-Up	Chapter 13	Final Project Due
Week 16	Finals Week		Exam 2

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