



EAST TEXAS A&M UNIVERSITY

HHPH 517: BIOSTATISTICS

COURSE SYLLABUS: FALL 2026

INSTRUCTOR INFORMATION

Adjunct Faculty: Mickelder Kercy, MD, MS, MPH

Program: Master of Public Health

Department: Health and Human Performance

Office Location: Zoom

Office Hours: Monday (4-6pm CST / 5-7pm EST)

University Email Address: mickelder.kercy@etamu.edu

Preferred Form of Communication: Email and [Zoom](#)

Communication Response Time: 24-48 business hours, Monday-Friday

COURSE INFORMATION

Credit Hours: 3

Course Format and Sections:

- 81W – Web-based
- 81B – Blended

Course Materials: Textbook, Readings, Supplementary Materials, SPSS/PSPP, and a Calculator.

Textbook



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

Inclusive Access: An electronic version of the textbook will be available through D2L Brightspace beginning on the first day of class. This option is more affordable than purchasing a hard-copy textbook.

Additional Materials and APA Style: All written assignments must follow APA 7th edition style unless otherwise specified in the assignment instructions. Students are encouraged to have access to the *Publication Manual of the American Psychological Association* (7th ed.).

Course Description: This course provides an introduction to statistical methods and their applications in health, human performance, and educational research. Computer applications will be integrated throughout the course to develop skills in population sampling; organizing, displaying, and summarizing data; probability; normal distributions; hypothesis testing; correlation and simple regression; z- and t-tests; and chi-square tests.

Throughout the course, students will use the Statistical Package for the Social Sciences (SPSS) to apply statistical concepts and conduct analyses. SPSS is available in the university open computer labs. Students may also purchase a student version or use SPSS available through their workplace. PSPP may be used as a free alternative. Students using SPSS should use a current version of IBM SPSS Statistics.

Student Learning Outcomes (SLO):

1. Describe fundamental concepts of probability and statistics.
2. Explain the characteristics of normal and other probability distributions.
3. Summarize and interpret quantitative and categorical data using appropriate descriptive statistics.
4. Construct and interpret confidence intervals.
5. Formulate and evaluate statistical hypotheses using appropriate hypothesis-testing procedures.
6. Select and apply appropriate statistical methods to categorical and quantitative data.
7. Use SPSS/PSPP to conduct statistical analyses and interpret statistical output.
8. Critique the appropriateness of statistical methods used in health and human performance research.
9. Communicate statistical methods, results, and conclusions effectively in written formats.
10. Collaborate effectively with peers to discuss and interpret statistical concepts and findings.

SLO Evaluation	Homework	Exam 1	Exam 2	Final Project
1. Probability/statistics	✓	✓	✓	
2. Probability distributions	✓	✓	✓	
3. Descriptive statistics	✓	✓	✓	✓
4. Confidence intervals	✓		✓	✓
5. Hypothesis testing	✓		✓	✓
6. Select methods	✓	✓	✓	✓
7. SPSS/PSPP	✓		✓	✓
8. Critique methods	✓	✓	✓	✓
9. Communication	✓			✓
10. Collaboration	✓			

STUDENT RESPONSIBILITIES FOR COURSE

Instructional Methods: This course is an online course. To be successful in this course, all content and course modules including weekly lectures, PowerPoint slides, textbook readings, and supplemental readings should be read and reviewed. All assignments and quizzes (both graded and not graded) must be completed by the due date specified. Please contact the instructor by email for any assistance or support.

Course Workload: To be successful in this course, active engagement and consistent study habits are required. This 3-credit course requires a weekly dedication of 3 to 4 hours on instructional activities and an additional 6 to 9 hours on out-of-class work. In total, students must plan to commit approximately 9 to 13 hours per week engaging with course materials, completing assignments, participating in course activities, and studying for assessments. Actual time requirements may vary depending on students' prior preparation and the complexity of the material.

CWID and Password: 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@etamu.edu.

Technology-Related Issues: Students are responsible for maintaining reliable access to a computer and internet connection. Technical problems do not automatically excuse missed deadlines. Students should maintain a backup plan, such as access to a campus computer lab, public library, or another reliable computer and internet connection.

TECHNOLOGY REQUIREMENTS AND SUPPORT

Minimal Technical Skills Needed: Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online (D2L Brightspace), and Microsoft Office.

Learning Management System (LMS) – D2L Brightspace: All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the [Learning Management System Requirements Webpage](#).
- Learn more on the [LMS Browser Support Webpage](#).

Technical Support: If you are having technical difficulty with any part of D2L Brightspace, please contact D2L Brightspace Technical Support at (877) 325-7778. Other support options can be found on the [Brightspace Support Webpage](#).

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement: This is an online course; therefore, expect most communication to be online as well. If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your “myLeo” mail) and announcements in myLeo online (D2L Brightspace). You will not RECEIVE email through D2L Brightspace, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

When emailing questions or concerns to the instructor, the following policies apply:

1. **Response Windows:** The standard response time for emailed inquiries is 24 to 48 business hours. Inquiries sent over the weekend may not receive a response until the following business week.
2. **Collective Updates:** The instructor reserves the right to address questions regarding assignments, examinations, or discussion boards via a class-wide email or announcement post to benefit all students.
3. **Professional Conduct:** Courteous and professional communication is required in all interactions with fellow classmates and the instructor.

UNIVERSITY AND COURSE POLICIES AND PROCEDURES

University Specific Policies and 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 online in the [Student Guidebook](#). Students should also consult the [Rules of Netiquette Webpage](#) for more information regarding how to interact with students in an online forum.

ETAMU Attendance: For more information about the attendance policy, please review the [Attendance Policy Webpage](#).

Academic Integrity: Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty, please review the following procedures:

[Graduate Academic Dishonesty 13.99.99.R0.10](#)

[Undergraduate Student Academic Dishonesty Form](#)

CID Policy on Academic Integrity: Academic dishonesty includes cheating, complicity in cheating, multiple submissions (or substantial portions) of the same work for credit without authorization, submitting another's work, plagiarism, submitting algorithmically (AI) plagiarized work, and other acts that may reasonably be called academic dishonesty.

- Students who commit academic dishonesty will receive a grade of 0 for the assignment in the course and be issued a Written Warning that is reported to the CID Assistant Dean's office and listed in a database.
- If the student does NOT have a previous Written Warning for academic dishonesty reported in CID courses and has additional attempts available for the assignment, the student may resubmit the assignment (this applies to CBE courses only).
- If the student has a Written Warning of academic dishonesty reported in CID courses, the student may NOT resubmit the assignment, and the instructor will follow the procedure detailed in Policy 13.99.99.R0.10 for Graduate Academic Dishonesty and report the incident to the Provost Office.

Submitting Past Work: The resubmission of work submitted in a past course is self-plagiarism. Also, the resubmission of substantial parts of work submitted in a past course is self-plagiarism. If a student would like to resubmit past work or substantial parts of past work, the student must gain permission from the instructor prior to submission and cite the work properly. If the student does not gain permission and cite the work, then the submission will be flagged for self plagiarism and result in actions detailed in the CID Policy on Academic Integrity.

Use of Artificial Intelligence: East Texas A&M University 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

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

Nondiscrimination Notice: East Texas A&M University 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.

Campus Concealed Carry Statement: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University 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 ETAMU 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.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M University campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

East Texas A&M Supports Students' Mental Health – Counseling Services: The Counseling Center at East Texas A&M University, 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 <https://www.etamu.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.



Course Specific Policies and Procedures

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.

Course Schedule: The course is organized by module with a typical 1-week duration. Each module will include module learning objectives, printable PowerPoint slides, additional reading materials and assignments. A tentative course schedule with due dates is listed at the bottom of the syllabus on D2L Brightspace. 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.

- **Getting Started:** Initial actions include reviewing the syllabus, obtaining materials (textbook), familiarizing oneself with the course layout (watch welcome video), introducing oneself in Module 1, and review the major assignments information
- **Pacing:** Students are responsible for managing their time and completing all required activities by the stated module deadlines.
- **Weekly Routine:** Access and review course instructions in module content area, review lectures and readings, and submit all assignments (e.g., discussion boards, written assignments and project deliverables) through designated D2L Brightspace links.

Course Attendance

- **Section 81B (Blended):** Attendance is tracked through regular engagement with and completion of course activities, including assignments, discussions, quizzes, and other required activities.
- **Section 81W (Web-based):** Attendance is tracked through regular engagement with and completion of course activities, including assignments, discussions, quizzes, and other required activities.

Excused Absences & Make-Up Work: An excused absence may include a university-approved activity or another circumstance recognized by university policy or approved by the instructor. The instructor reserves the right to change the content or format of make-up work. Students must notify the instructor via email ahead of time when possible, and provide written documentation upon return for the following approved reasons:

- Participation in an authorized university activity.
- Death or major illness in the immediate family (including dependents).
- Participation in required legal or administrative proceedings.
- Severe or contagious illness verified by the Health Center or a physician.
- Required military duty.
- Religious Holy Days (Religious holy days will be accommodated in accordance with university policy. Students should notify the instructor as early as possible when an absence is anticipated.).

Online Professionalism: Students are expected to communicate respectfully and professionally in email, discussion boards, group activities, Zoom meetings, and other course interactions. Disruptive, threatening, discriminatory, harassing, or inappropriate behavior may result in removal from an online activity and referral under applicable university policies.

Generative Artificial Intelligence (AI): Generative AI tools (e.g., ChatGPT, Microsoft Copilot, and Google Gemini) are not permitted for course assignments unless specifically authorized in the assignment instructions. Standard spelling and grammar tools may be used to proofread students' original work, provided they do not generate or substantially rewrite content. Students are responsible for the accuracy, originality, and sources of all submitted work.

COURSE ASSESSMENTS AND GRADING

Course Assessments and Grade Distribution

The final course grade is based on assignments and discussions, exams, and the final project. Grade items have different point values. The final course grade is calculated using the percentage weights shown below.

Assessment Category	Grade Items	Maximum Points	Course Weight
Assignments & Discussions	Intro Video (5); Intro Materials Quiz (5); SPSS Worksheet (10); SPSS Reflection (5); Homework 1 Part 1 (15); Homework 1 Part II Discussion [counted as Homework 2] (50); Homework 3 (25); Homework 4 (35); Homework 5 (40); Homework 6 (40); Homework 7 (40)	270	45%
Exams	Midterm Exam (100); Final Exam (100)	200	40%
Final Project	CITI Training Certificates (5); Research Question Proposal (10); Data Preparation (10); Preliminary Analysis (10); Methodology Draft (10); Final Draft (35)	80	15%
Total		550	100

Course Assessments

Assignments and Discussions (45%)

Students will complete homework assignments that assess their ability to apply biostatistical concepts through calculations, data visualization using SPSS or PSPP, and written interpretation of results. The discussion assignment allows students to engage collaboratively with peers and apply course concepts.

Exams (40%)

Two exams will be administered during the semester, each worth 20% of the final course grade. Exams will assess students' ability to evaluate study designs and epidemiologic measures, select appropriate statistical methods, perform and interpret calculations, and interpret statistical output, as applicable.

Midterm Exam

- **Format:** Open note/open book
- **Attempts:** 1
- **Time limit:** 120 minutes
- **Questions:** 30 total
 - 6 short answer questions
 - 11 multiple choice questions
 - 3 multi-select questions
 - 4 true/false questions
 - 3 matching questions
 - 3 fill-in-the-blank questions
- **Calculations:** 8 questions require calculations and a calculator

Final Exam

- **Format:** Open note/open book
- **Attempts:** 1
- **Time limit:** 120 minutes
- **Questions:** 30 total
 - 9 short answer questions
 - 8 multiple choice questions
 - 3 multi-select questions
 - 3 true/false questions
 - 5 matching questions
 - 2 fill-in-the-blank questions
- **Calculations:** 7 questions require calculations and a calculator

Scoring: The score displayed upon submission is not the final score. Short-answer questions will be manually graded after all students have submitted the exam.

Final Project (15%)

Students will practice data preparation, apply statistical methods, and analyze publicly available NHANES (National Health and Nutrition Examination Survey) data provided through D2L Brightspace to complete a public health research report. Students will not recruit participants or collect new human-subject data for this project. CITI training is included as an educational requirement to introduce students to research ethics and responsible conduct.

Grading, and Feedback

Assignments, examinations, and final project components will be graded and returned within 7 days of the submission deadline.

Course 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 = below 60%

Minimum Passing Grade: C. No more than three C grades may count toward the MPH degree.

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COURSE CALENDAR

Fall 2026

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

Week #	Topics	Assigned Readings	Assignments & Exams Due SUNDAY by 11:59 PM CST unless otherwise noted.
UNIT 1: INTRODUCTION			
Week 1 8/20 - 8/23	Introduction	Course material Chapter 1	Introduction video
Week 2 8/24 - 8/30	Basics of SPSS		Download SPSS (or PSPP) Download and complete SPSS (or PSPP) Worksheet Submit Reflection
Week 3 8/31 - 9/06	Study Design	Chapter 2	Homework 1: Part I CITI training
Week 4 9/07 - 9/13	Measures for Disease	Chapter 3	Homework 1: Part II (counted as Homework 2) Final project research question proposal
UNIT 2: DESCRIPTION			
Week 5 9/14 - 9/20	Descriptive Methods	Chapter 4	Homework 3
Week 6 9/21 - 9/27	Probability	Chapter 5 (through 5.5)	Final project data preparation
Week 7 9/28 - 10/04	Probability (dichotomized & continuous variables; Central limit theorem)	Chapter 5 (5.6)	Homework 4

Week 8 10/05 - 10/11	Confidence Interval Estimation	Chapter 6 (through 6.3)	Midterm Exam
UNIT 3: ESTIMATION			
Week 9 10/12 - 10/18	Confidence Interval Estimation	Chapter 6 (6.4-6.6)	Final project preliminary analysis
UNIT 4: TESTING			
Week 10 10/19 - 10/25	Hypothesis Testing	Chapter 7	Homework 5
Week 11 10/26 - 11/01	Power & Sample Size	Chapter 8	Homework 6
Week 12 11/02 - 11/08	Multivariable Methods	Chapter 9	Final project methodology draft
Week 13 11/09 - 11/15	Data Visualization	Chapter 12	Homework 7
Week 14 11/16 - 11/22	Nonparametric tests; survival analysis	Chapter 10 Chapter 11 <u>(Supplemental content not included on Final Exam)</u>	Extra Credit
Week 15 11/23 - 11/29	Project Wrap-Up	Chapter 13	Final Project Due
Week 16 11/30 - 12/11	Finals Week		Final Exam