

## **STAT 3320: Probability and Statistics**

CRN: 17605

Fall 2023

Online

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### **COURSE DESCRIPTION**

This course introduces students to probability and statistics applicable to research in Science and Engineering majors. By the end of this course, students should be able to read a word problem, realize the uncertainty that is involved in a situation described, select a suitable probability model, estimate and test its parameters on the basis of real data, compute probabilities of interesting events, and make appropriate conclusions. This course covers theory and applications of probability models, random variables, discrete and continuous probability distributions, joint and conditional distributions, sampling distributions, central limit theorem, hypothesis testing, confidence intervals, and exposure to simple linear regression.

### **REQUIRED MATERIALS**

**Textbook:** Probability and Statistics for Engineering and the Sciences, 9th Edit., by Jay L. Devore (Homework and ebook access -There is no separate package that does not include the e-book when you select the 9th/8th edition in WebAssign.)

**WebAssign Class Key:** [utep 9483 1917](#)

Instructions to access and register for WebAssign:

To enter you course on WebAssign, go to [www.webassign.net](http://www.webassign.net) and follow these steps:

- 1) Click on “Enter Class Key”
- 2) Enter the class key given by your instructor: utep xxxx xxxx in the three boxes given. (Check the picture of class key provided on blackboard)
- 3) Verify the section number and instructor name, and then enter your information. Please make sure that you use your miners email and that you remember the password that you create.
- 4) The next time you log in, click on “Log In” and enter your miners email and the password that you created.

You are required to purchase an access code to log in as soon as possible and definitely before the grace period ends. If you purchased a new book from the UTEP bookstore, the code should have come with it. When entering the code, enter all the words and characters in the boxes appropriately.

**Activities/Assignments:** All instructions will be ONLINE. Additionally, out of class homework Assignments are given. A semester inclusive of homeworks, midterms and a final exam will assess learning.

**Assessment of Objectives:** Homework and exams

**Course Schedule:** This course covers the theory and applications of probability models, random variables, discrete and continuous probability distributions, joint and conditional distributions, sampling distributions, central limit theorem, hypothesis testing, confidence intervals, and exposure to simple linear regression and time-to-failure probability models.

Chapter 1: Overview and Descriptive Statistics

Chapter 2: Probability

Chapter 3: Discrete Random Variables & Probability Distributions

Chapter 4: Continuous Random Variables & Probability Distributions

Chapter 6: Point Estimation

Chapter 7: Statistical Intervals Based on a Single Sample

Chapter 8: Tests of Hypotheses Based on a Single Sample

Chapter 9: Inferences Based on Two Samples

Chapter 12: Simple Linear Regression and Correlation

Chapter 14: Chi-Square Tests

## **COURSE ASSIGNMENTS AND GRADING**

Homework: 15%

Exam 1: 15% (TBA)

Exam 2: 20% (TBA)

Exam 3: 20% (TBA)

Comprehensive Final Exam: 30% (TBA)

**Note:** Graduate Students are required to do extra homework and in the exams, they are required to answer additional questions.

## **LATE WORK and MAKE-UP EXAMP**

No late work will be accepted if the reason is not considered excusable. No make-up exam will be given unless there is a documented emergency.

## **Grading Scale**

The usual grading scale will be used for this course:

90–100% = A

80–89% = B

70–79% = C

60–69% = D

0–59% = F

## **EXCUSED ABSENCES AND/OR COURSE DROP POLICY**

According to UTEP Curriculum and Classroom Policies, “When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of “W” before the course drop deadline and with a grade of “F” after the course drop deadline.” See academic regulations in the UTEP Undergraduate Catalog for a list of excuse absences. Therefore, if I find that, due to non-performance in the course, you are at risk of failing, I will drop you from the course. I will provide 24 hours advance notice via email.

## **OR**

I will not drop you from the course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the [Registrar’s Office](#) to initiate the drop process. If you do not, you are at risk of receiving an “F” for the course.

## **ACCOMMODATIONS POLICY**

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the [CASS portal](#).

## **SCHOLASTIC INTEGRITY**

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on

laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one's own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

## **COPYRIGHT STATEMENT FOR COURSE MATERIALS**

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

### **Course Resources: Where you can go for assistance**

UTEP provides a variety of student services and support:

#### Technology Resources

- [Help Desk](#): Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

#### Academic Resources

- [UTEP Library](#): Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

#### Individual Resources

- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.

- [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.