Oakland University
Department of Mathematics and Statistics

STA 2226 – Applied Probability and Statistics Section 007 (CRN: 43473)   **Fall 2025**

Instructor	Jun Hu, Ph.D. 367 Mathematics and Science Center (MSC) E-mail: <junhu@oakland.edu>
Meeting Times	Mondays and Wednesdays 5:30 – 7:17 PM
Classroom	185 MSC
Student Hours	Mondays and Wednesdays 4:00 – 5:00 PM, or by appointment.
Catalog Description	Introduction to probability and statistics as applied to the physical, biological and social sciences and to engineering. Applications of special distributions and nonparametric techniques. Regression analysis and analysis of variance.
Course Objectives	The primary goal is to build a fundamental understanding of statistical theory and its applications. The successful student will develop an understanding of the purposes and methods of acquiring data from a population, displaying and summarizing them; stochastic description of random phenomena and a number of well-known distributions of discrete and continuous random variables; statistical inference in estimation and hypothesis testing and their applications.
Pre/Corequisites	**MTH 1222** or **MTH 1554** with a grade of 2.0 or higher.
Required Text	*Probability and Statistics for Engineering and the Sciences, 9th edition.* Jay L. Devore.
Website	Moodle: http://moodle.oakland.edu
Attendance	Attendance at every lecture is expected. (100 points)
Assignments	Textbook exercises will be assigned from each chapter. Late homework assignments are in general not accepted. The lowest homework can be dropped when computing grades. (200 points)
Examinations	There will be three exams: two midterms (200 points each), and one final (300 points). The second midterm is generally not cumulative. The final will be cumulative.
Grading	Letter grades will be assigned as follows based on the percentage of total points you have earned out of the total 1,000 points available to you: 95% or more: A; 90% to 95%: A−; 85% to 90%: B+; 80% to 85%: B; 75% to 80%: B−; 70% to 75%: C+; 65% to 70%: C; 60% to 65%: C−; 55% to 60%: D+; 50% to 55%: D; less than 50%: F.
Important Dates	December 3: Last class; Midterm 1: 5:30 – 7:17 PM, Monday, October 6; Midterm 2: 5:30 – 7:17 PM, Monday, November 10; Final: 7:00 – 10:00 PM, Monday, December 8. Other important dates: Winter 2025 Important Dates

STA 2226 Tentative Schedule

Week	Chapters	Topics
1	Chapter 1	Introduction, Descriptive Statistics
2	Chapter 1	Descriptive Statistics
	Chapter 2	Probability
3	Chapter 2	Probability
4	Chapter 3	Discrete Random Variables and Probability Distributions
5	Chapter 3	Discrete Random Variables and Probability Distributions
		Review for Mid 1
6	Chapter 4	Continuous Random Variables and Probability Distributions
7	Chapter 4	Continuous Random Variables and Probability Distributions
	Chapter 5	Joint Probability Distributions and Random Samples
8	Chapter 5	Joint Probability Distributions and Random Samples
	Chapter 6	Point Estimation
9	Chapter 6	Point Estimation
	Chapter 7	Confidence Intervals
10	Chapter 8	Tests of Hypotheses
		Review for Mid 2
11	Chapter 8	Tests of Hypotheses
	Chapter 9	Inferences Based on Two Samples
12	Chapter 9	Inferences Based on Two Samples
	Chapter 12	Simple Linear Regression
13	Chapter 12	Simple Linear Regression, Correlation
14		Review for Final

Course Policies

Make-up Policy
No make-up exams will be given. If you miss an exam and have valid documentation, your grade for the missed exam will be determined from the portion of the final exam corresponding to the missed material. Otherwise, the missed exam will be counted as a 0.

Calculator Policy
You may use a scientific calculator (e.g. TI-84) for exams. To receive full credit, be sure to show all necessary work for setting up a calculation.

Software Usage and Computer Lab
Computer laboratories are not a formal part of this course. Statistical analysis using **R** and **Excel** will be illustrated in class.

Generative AI Policy
At Oakland University, we recognize that generative artificial intelligence (GenAI) tools such as ChatGPT, Claude, DALL·E, Perplexity, Grammarly, and others are rapidly transforming the landscape of research, teaching, and learning. These tools offer both opportunities and risks, and their responsible use is essential to upholding academic integrity, intellectual growth, and the mission of the university. You may use GenAI tools as **learning and writing aids** for brainstorming, outlining, organizing ideas, checking grammar and style, or improving clarity and flow. However, **all final work must reflect your own analysis, synthesis, and voice.**

Submitting AI-generated drafts as your own is not permitted. If you use AI in your process, you must **acknowledge it** either by citing the tool (for specific text or wording, e.g., ChatGPT. (version). Response to prompt "[insert prompt]." OpenAI. https://chat.openai.com) or by including a brief **Process Note** describing how you used it (e.g., "I used ChatGPT to suggest alternative transitions and revised them in my own words"). Failure to disclose AI use will be treated as a violation of academic integrity.

Email Communication
Your privacy is important to us. Therefore, please use only your **Oakland email account** for any communication with me. Any email from other addresses, for your privacy sake, will be ignored. I will respond within 24 hours during normal business hours.

Academic Integrity
Cheating is a serious academic crime. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found guilty of cheating in the course will receive a course grade of F, in additional to any penalty assigned by the Academic Conduct Committee. Receiving help from someone else or from unauthorized written materials during tests is cheating, so is using a calculator as an electronic "crib sheet" or using cell phones to communicate with unauthorized sources of help.

Dropping the Course
The Department of Mathematics and Statistics is committed to achieving the goal of an academically sound freshman and sophomore mathematical sciences curriculum in which most conscientious Oakland University students can expect to be successful. If you are considering dropping the course and wish to discuss the matter further, you are encouraged to contact your instructor.

University Policies

Reasonable Accommodations
Accessibility and Accommodations: It is the University's goal that learning experiences be as accessible as possible. Students with disabilities who have questions about course accessibility are encouraged to contact the instructor immediately. The Office of Disability and Support Services (DSS) is available to help. DSS is located in room 103A North Foundation Hall. For more information, call 248-370-3266 or visit http://www.oakland.edu/dss

Policy on Academic Misconduct
All members of the academic community at Oakland University are expected to practice and uphold standards of academic integrity. Academic integrity means representing oneself and one's work honestly. Misrepresentation is cheating since it means the student is claiming credit for ideas or work not actually his or her own and is thereby seeking a grade that is not actually earned. All academic misconduct allegations are forwarded to the Dean of Students Office and adhere to the Student Code of Conduct found at
https://www.oakland.edu/deanofstudents/student-code-of-conduct/

Excused Absence Policies
The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. For the excused absence policy, see https://www.oakland.edu/provost/administrative-policies/.

Bereavement Policy
In the event of the death of certain members within families or among loved ones, the University grants necessary bereavement absences upon student request. For the official policy, see
https://www.oakland.edu/provost/administrative-policies/

Student Preferred Name/Pronoun Policy
The University recognizes that as a community many of its members use names other than their legal names to identify themselves. As long as the use of this different name is not for the purposes of misrepresentation or a legal name is required by University business, policy or legal need, the University acknowledges that a "preferred name" will be used wherever possible. The University reserves the right to not accept a preferred name if it is deemed inappropriate, including a preferred name that is vulgar, offensive, fanciful, or creates confusion with another person. For the official policy, see
https://www.oakland.edu/policies/information-technology/840/

Disclaimer

The instructor reserves the right to make changes to the syllabus as necessitated by circumstances.