IE 1070 – Probability, Random Variables, and Distributions Syllabus
Fall 2025

Instructor: Prof. Yang Liu
Credit Hours: 3
Phone: 028-85990100 ext. 242
E-mail: yang.liu@scupi.cn
Office Hours: Monday, Tuesday, Thursday 12:30 PM - 1:50 PM and 4:30 PM - 6:00 PM or by appointment
Office: Room N415, SCUPI Building

Teaching Assistant:

Section 1 for Monday class
Yuze Yang
E-mail: yangyuze@stu.scu.edu.cn
Phone: 18810261690

Lectures

Section 1 Monday, 1:50 PM - 4:25 AM
Room S105, SCUPI Building

Textbook Walpole, Myers, Myers, Ye, *Probability & Statistics for Engineers & Scientists*, 9th Edition, Pearson.

Course Description

This course is an introductory course designed for students who are majoring in science and engineering. Specific topics include data analysis, probability, random variables, discrete and continuous probability distributions.

Course Objective

1. Students will understand why good statistics are critical to effective decision making.
2. Students will understand the role of statistics in engineering.
3. Students will have the fundamental concepts of probability and statistics.
4. Students will understand the process by which real-life statistical problems are analyzed.
5. Students will be able to use computer-based statistical analysis software packages such as SAS and R.

Learning Outcomes

(a) An ability to apply knowledge of mathematics, science, and engineering

(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) An ability to identify, formulate, and solve engineering problems
(d) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Pre-requisites No specific courses, but students must show sufficient academic maturity.

Grading

Midterm Exam	30%
Final Exam	40%
Homework	20%
Quiz	10%

Final grades:

Level	Letter Grade	Reported Numerical Score	Grade Points
Superior Performance	A	90 - 100	4.0
	A-	85 - 89	3.7
Meritorious Performance	B+	80 - 84	3.3
	B	76 - 79	3.0
	B-	73 - 75	2.7
Adequate Performance	C+	70 - 72	2.3
	C	66 - 69	2.0
	C-	63 - 65	1.7
Minimal Performance	D+	61 - 62	1.3
	D	60	1.0
Insufficient Performance (Failure)	F	< 60	0.0

Course Policies:

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class
- Questions concerning the grading of homework assignments, project-related materials, or exams must be presented to the instructor or the TA within one week (7 calendar days) after the materials have been made available for return to the student
- Late assignments will **NOT** be accepted, and all assignments, projects, and examinations must be **completed/taken at the scheduled time**. No exceptions will be made unless there are truly extenuating circumstances
- Cheating or academic dishonesty in any form will result in a grade of F for the course; there will be no exceptions to this policy.
- Professional classroom demeanor is required; in particular, all cell phones and personal electronic devices must remain off or silent during the lecture.
- Do not conduct side conversations during the lecture as it is distracting to the lecturer and other students.

Email Policy Email will be responded as promptly as possible. For detailed technical questions, please talk to the instructor during office hour.

Audio-Video Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussions, and activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's private use.

Make-up exam Policy

Make-up exam grading is only to replace your final exam grading. Students who pass the course after the make-up exam will receive only a passing grade as the final grade.

Special Accommodations

If the student has a disability for which the student is or may be requesting an accommodation, the student is encouraged to contact the instructor.

Tentative Schedule

Week 1: Course Introduction
Week 2: Introduction to Statistics and Data Analysis
Week 3: Probability
Week 4: Probability
Week 5: National Day Holiday
Week 6: Random Variables
Week 7: Random Variables
Week 8: Mathematical Expectation
Week 9: Midterm Exam
Week 10: Mathematical Expectation
Week 11: Discrete Probability Distribution
Week 12: Discrete Probability Distribution
Week 13: Continuous Probability Distribution
Week 14: Continuous Probability Distribution
Week 15: Problem Solving Practice
Week 16: Course Review
Week 17: Final Exam