

ISEN 2610 - Engineering Statistics

Fall 2026 Syllabus, Section 02, CRN 44238,

Credit hours: 3

Instructor

Zefeng Lyu

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Public Instructor Information

Instructor Title: Assistant Professor

Instructor Professional Qualifications: Ph.D., Industrial Engineering, University of Tennessee, 2023

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Course Description

2610. Engineering Statistics. Applications of data collection and analysis techniques to engineering problems. Techniques for data structuring, data modeling, parameter estimation, and design of experiments utilizing engineering data. Prereq.:C or better in one of MATH 1570 or MATH 1571 or MATH 1571H or MATH 1585H, C or better in either ENGR 1550 or ENGR 1550H. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	An Introduction to Statistical Methods and Data Analysis	R. Lyman Ott and Michael Longnecker	1305269470
Optional	Engineering Statistics	Montgomery, Runger, Hubele	0470631473 All course

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Probability concept Computing probability	
8/31	Random variables - discrete Bayes rule	
9/7	Random variables – continuous Jointly distributed random variables	
9/14	Data description – measures of central tendency Data description – measures of variability	
9/21	Box plots	
9/28	Sample distribution of the mean Central limit theorem	
10/5	Introduction to inferences Confidence interval for the binomial parameter	
10/12	Inference for the population mean t-distribution Confidence interval for population mean	
10/19	Null and alternative hypothesis Choosing the hypothesis	
10/26	The nature of hypothesis testing	

11/2	Introduction to comparing two population means Comparing two population means: paired data Comparing two population means: independent samples
11/9	Comparing two population proportions with independent samples Contingency tables and Chi-square test of independence
11/16	Simple Linear Regression
11/23	Correlation coefficient and coefficient determination
11/30	Simple linear regression for forecasting

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.