ESI 3215

Evaluation of Engineering Data I

Section: RVC

Internet/Fully Online

Spring Term 2026

Course Time Zone | Eastern Time (ET). Course due dates are according to this time zone.

Professor Information

Atoussa Tehrani

Roles: Primary Instructor

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Response Time: 24 hours

Phone: (305)348-4943

Office Hours: Tuesdays at 8 PM or by appointment

Office Location: EC3113

Department or Academic Unit: ECE

Course Prerequisites

Course prerequisites, if any, are listed below.

Prerequisite: MAC 2311 or MAC 2281, or instructor permission

Course Description

This is undergraduate-level course which covers the fundamentals of statistics for engineers. Engineers play a significant role in designing and developing new products, manufacturing systems and processes, and also improving existing systems. Statistical methods are an important tool in these activities because they provide engineers with both descriptive and analytical methods for dealing with variability in observed data. This course presents statistical methods for data analysis that must be carried by engineers. Since the course is intended to serve students with a background in engineering, prior knowledge of algebra and calculus is expected. Topics covered include: Sampling and descriptive statistics, Probability, Confidence intervals, Hypothesis testing, Regression, and Statistical quality control.

This course will consist of 6 modules. Module availability is open. Assignments will be completed individually. Assignments will be evaluated within one weeks of submission. Communication will take place primarily via email and professor announcements. At the end of the course you would have learned all the fundamental statistical concepts and techniques that are used by engineers.

Textbook and Course Materials

CONNECT ONLINE ACCESS FOR STATISTICS

Required/Recommended: Required

Authors: NAVIDI

Publisher: MCGrawHill

Publication Date: 2024

Copyright Date: 2024

ISBN 10: 8220130831400

ISBN 13: 8220130831400

Notes: Use this link to see introduction video: https://www.mheducation.com/highered/support/support-at-every-step/connect/first-day-of-class/ia-canvas

Chapters/Pages: Chapters 1, 2, 4, 5, 6, 7, 10

Panther Book Pack

Get all required course materials for $20.50 per undergrad credit hour through Panther Book Pack. You'll be charged automatically unless you opt out within 3 days after the add/drop deadline.

For more details, to compare costs, and to learn how to access your course materials, visit the Panther Book Pack information page on FIU OneStop.

Readings, Materials, and Open Educational Resources (OER)

Software used for assignments

- Minitab and Excel are used for these course assignments. **Excel software can be accessed through EIC.** You must have an EIC account to be able to access the software remotely. You will be provided with the license for MiniTAB. Both software are also available in all computers at Engineering Center on Flagler street.

Student Learning Outcomes/Objectives

- Describe some ways to draw a valid sample from a collection of objects or outcomes.
- Compute summary statistics.
- Produce appropriate graphs for both categorical and quantitative data.
- Interpret graphs and descriptive statistics for univariate and bivariate data.
- Apply the theory of probability and apply probability rules to study the physical world.
- Use common distributions to estimate the probability mass or density function, the concepts of expected value and variance for discrete and continuous variables.
- Identify confidence interval that can be used to estimate a population parameter.
- Perform different hypothesis testing methods.
- Use correlation coefficient to summarize bivariate data.
- Carry out and interpret statistical modeling using multiple regression and analysis of variance.

- Use statistical methods to apply basic quality control procedures in an industrial setting.

- Learn how to access, manipulate and analyze data using statistical software.

Expectations of this Course

This is an online course, which means most (if not all) of the course work will be conducted online. Expectations for performance in an online course are the same for a traditional course. In fact, online courses require a degree of self-motivation, self-discipline, and technology skills which can make these courses more demanding for some students.

Students are expected to:

- Review the how to get started information located in the course content.
- Introduce yourself to the class during the first week by posting a self-introduction in the appropriate discussion forum.
- Take the practice quiz to ensure that your computer is compatible with Canvas.
- Participate in learner-content and learner-instructor interactions. Learner-learner interaction is not required for this course. All home works and activities are individual assignments. This is an introductory course in statistics covering fundamental topics. Students must be proficient in the basics of the subject before being in a position to work with a peer. The instructor is available and encourages students to contact her for assistance.
- Review and follow the course calendar.

- Log in to the course at least two times per week
- Respond to emails/messages within one day.
- Submit assignments by the corresponding deadline.

The instructor will:

- Log in to the course two times per week.
- Respond to discussion boards, blogs, and journal postings within five days.
- Respond to emails/messages within two days.
- Grade assignments within seven days of the assignment deadline.

Smart Book

Smart Book Expectations:

- Students must **purchase the required connect edition of the textbook** to have access to assignments and quizzes.
- Smart book reading assignments for each module can be accessed in Canvas.
- Students are required to complete reading assignments and questions in chapters for every module by the due date.
- No credit is given past the due date.

Course Communication

Communication in this course will take place within Canvas. See the Canvas Guide on communicating with course users for more information.

Policies & Resources

Before starting this course, please review the Policies & Resources Page in Canvas which includes comprehensive information on various University and Course Level Policies such as:

- University Policies
- Accessibility and Accommodations
- Online Etiquette
- Technical Requirements and Skills
- Computer & Digital Literacy Skills
- Course Technology Accessibility Statements and Privacy Policies
- Academic Integrity
- Copyright Statement
- Core Principles of This Course
- Nondiscrimination Statement
- Panthers Care & Counseling and Psychological Services (CAPS)
- Fair Use Policy

Assignments & Assessments

Assignments

Practice Assignments:

- Students are provided with practice problems and solutions to use as preparation for assignments and assessments.
- Practice assignments are not graded. Student work is not submitted.

Assignments:

- Students will have to complete an individual assignment for each chapter. These assignment are included in the connect edition of the textbook and can be accessed in Canvas.
- Two attempts are allowed for each assignment.
- The assignment will be automatically submitted on the due date.
- No extension can be given past the due date for the assignment.

Assessments

In order to mitigate any issues with your computer and online assessments, it is very important that you take the " Honorlock Practice Quiz" from each computer you will be using to take your graded midterm and final exams. It is your responsibility to make sure your computer meets the minimum hardware requirements.

Quiz Expectations:

- Students must take seven graded quizzes, one for each chapter covered in this course.
- The quizzes will be available for several days.
- There is no time limit and two attempts are allowed for each quiz.
- Students will be able to see their grade upon the completion of the quiz.

Exam Expectations:

- Students must take their midterm exam on **Monday, March 9th at 8:00 PM – 9:30 PM** in Canvas. Midterm exam is closed book and notes. Students must make their own one page formula sheet. They can use one page formula sheet. Exam is proctored using Honorlock. Duration is 90 minutes. Only one attempt is permitted.
- Students must take their Final Exam on **Monday, April 20th at 8:00 PM – 9:30 PM** in Canvas. Final exam is closed book and notes. Students must make their own one page formula sheet. They can use one page formula sheet and the printed z table, t table, and control chart constant tables. Exam is proctored using Honorlock. Duration is 90 minutes.
- **No alternatives are available for midterm and final exams date and time.** Students must enroll in other sections of this course if they have a conflict with scheduled exams time. Only one attempt is permitted.

Assessments in this course are not compatible with mobile devices and should not be taken through a mobile phone or a tablet. If you need further assistance please contact FIU Online Support Services.

Proctored Exams

Please note that the information contained in this section applies only if your course requires a proctored exam.

Through a careful examination of this syllabus, it is the student's responsibility to determine whether this online course requires proctored exams. Please visit our Student Proctored Exam Instructions webpage for important information concerning proctored exams, proctoring centers, and important forms.

Zoom Video Conference

Office hours are held using Zoom, please use the Zoom link in Canvas to join. The passcode is shared in anounncements.

Grading

COURSE REQUIREMENTS	NUMBER OF ITEMS	POINTS F EACH
Smart Book	7	100
Assignments	7	100
Quizzes	7	100
Midterm Exam	1	100
Final Exam	1	100
Total	23	N/A

LETTER	RANGE (%)	LETTER	RA
A	95 or above	B	
A-	90 - 93	B-	
B+	87-89	C+	

Canvas Schedule

Due Date	Assignment Name	Assignment Type	Points
	Academic Honesty Policy	Quiz	0
	Honorlock Practice Quiz	Quiz	0
	Open Forum	Discussion	0
	Open Forum	Discussion	0
	Practice Quiz	Quiz	0
1/18/26	Ch 1 SmartBook	Assignment	100
1/18/26	Ch 1 Assignment	Assignment	100
1/18/26	Ch 1 Quiz	Assignment	100
1/18/26	Connect Orientation Videos	Assignment	100
1/18/26	SmartBook 2.0 Orientation Videos	Assignment	100
2/8/26	Ch 2 Assignment	Assignment	94.46
2/8/26	Ch 2 Quiz	Assignment	100
2/8/26	Ch 2 SmartBook	Assignment	100
3/8/26	Ch 4 SmartBook	Assignment	100
3/8/26	Ch 4 Assignment	Assignment	100

Due Date	Assignment Name	Assignment Type	Points
3/8/26	Ch 4 Quiz	Assignment	100
3/9/26	Midterm Exam	Quiz	100
3/22/26	Ch 5 SmartBook	Assignment	100
3/22/26	Ch 5 Assignment	Assignment	100
3/22/26	Ch 5 Quiz	Assignment	100
3/29/26	Ch 6 SmartBook	Assignment	100
3/29/26	Ch 6 Assignment	Assignment	100
3/29/26	Ch 6 Quiz	Assignment	100
4/12/26	Ch 7 SmartBook	Assignment	100
4/12/26	Ch 7 Assignment	Assignment	100
4/12/26	Ch 7 Quiz	Assignment	100
4/19/26	Ch 10 SmartBook	Assignment	100
4/19/26	Ch 10 Assignment	Assignment	100
4/19/26	Ch 10 Quiz	Assignment	100
4/20/26	Final_Exam	Quiz	100

Schedule of Topics

1/5/2026 - 1/18/2026	Chapter 1 - Summary Statistics

1/19/2026 - 2/8/2026	Chapter 2 - Probability
2/9/2026 - 3/8/2026	Chapter 4 - Common Probability Distributions
3/9/2026 - 3/22/2026	Chapter 5 - Confidence Intervals
3/23/2026 -3/29/2026	Chapter 6 - Hypothesis Testing
3/30/2026 - 4/12/2026	Chapter 7 - Correlation and Simple Regression
4/13//206 - 4/19/2026	Chapter 10 - Statistical Quality Control

Course Awards

Course Awards

Quality Matters

This certification mark recognizes that this course met Quality Matters review standards.

Nondiscrimination Statement

The **Office of Civil Rights Compliance and Accessibility** (CRCA) is responsible for ensuring that FIU maintains a workplace and learning environment free from discrimination, where current and prospective faculty, staff, and students are treated equitably. If any student, employee, or applicant has a sincere and reasonable belief that they have been discriminated against or harassed based on age, color, disability, marital status, ethnic or national origin, race, religion, retaliation, sex, or any other protected category, they can report their concerns to the CRCA team through report.fiu.edu.