

Course E-Syllabus

1	Course title	Engineering Statistics I
2	Course number	0936251
3	Credit hours	3
	Contact hours (theory, practical)	Sec1: Sun, Mon, Tue, Wed, Thu 8:30 – 9:45
4	Prerequisites/corequisites	Calculus II (0301102)
5	Program title	B.Sc. Industrial Engineering
6	Program code	0936
7	Awarding institution	The University of Jordan
8	School	School of Engineering
9	Department	Industrial Engineering
10	Level of course	2 nd year
11	Year of study and semester (s)	2019/2020 Summer
12	Final Qualification	
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	June 22, 2020

18 Course Coordinator:

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19 Other instructors:

Name:
Office number:
Phone number:
Email:

Name:
Office number:
Phone number:
Email:

20 Course Description:

Quantitative and graphical descriptive statistics, probability concepts, discrete and continuous random variables and distributions, joint probability distributions, covariance and correlation of random variables, point and interval estimation, sampling distributions, hypothesis testing, introduction to simple linear regression. Practical exercises on the application of statistical methods in engineering

21 Course aims and outcomes:

A- Aims:

The objective of the course is to establish a fundamental understanding of the use of probability and statistical analysis in engineering problem solving.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

- Compute and interpret sample parameters like (mean, variance, standard deviation, median, range ... etc.).
- Produce and interpret graphical displays for simple data sets (histogram, box plot,).
- Explain the important role of the normal distribution as a sampling distribution.
- Learn how to find a point estimator and interval estimator for a certain parameter
- Apply the techniques the student learned in the course using statistical software.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Introduction	Synchronous and Asynchronous lecturing (As needed)		
	1.2	Probability concepts and Counting Techniques			
	1.3	Probability concepts and Counting Techniques			
2-3	2.1	Probability concepts and Counting Techniques			
	2.2	Probability concepts and Counting Techniques			
	2.3	Probability concepts and Counting Techniques		HW + Quiz	
4-5	3.1	Discrete Random Variables and Probability Distributions			
	3.2	Discrete Random Variables and Probability Distributions			
	3.3	Discrete Random Variables and Probability Distributions			
6	4.1	Discrete Random Variables and Probability Distributions			
	4.2	Discrete Random Variables and Probability Distributions			
	4.3	Discrete Random Variables and Probability Distributions		HW + Quiz	

7	5.1	Continuous Random Variables and Probability Distributions			
	5.2	Continuous Random Variables and Probability Distributions			
	5.3	Continuous Random Variables and Probability Distributions			
8-9	6.1	Continuous Random Variables and Probability Distributions			
	6.2	Continuous Random Variables and Probability Distributions			
	6.3	Continuous Random Variables and Probability Distributions		HW + Quiz	
10	7.1	Joint probability distributions, covariance and correlation of random variables		Mid-Term Exam (All material)	
	7.2	Random Sampling and Data Description		Mini Project	
	7.3	Point Estimation of Parameters and sampling distribution			
11-13	8.1	Point Estimation of Parameters and sampling distribution			
	8.2	Test of hypothesis for a single sample			
	8.3	Test of hypothesis for a single sample		Final Exam (Everything)	
9	9.1				
	9.2				

	9.3				
10	10.1				
	10.2				
	10.3				
11	11.1				
	11.2				
	11.3				
12	12.1				
	12.2				
	12.3				
13	13.1				
	13.2				
	13.3				
14	14.1				
	14.2				
	14.3				
15	15.1				
	15.2				
	15.3				

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Student should have a computer, good internet connection, webcam, access to his/her JU email account, excel, account on MS teams using JU email account as the login credentials. Familiarity with spreadsheets and other office productivity software is assumed.

25 Course Policies:

- A- Attendance policies: Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class. JU policy requires the faculty member to assign ZERO grade (F) if a student misses 15% of the classes that are not excused, and 20% of the classes that are excused
- B- Absences from exams and submitting assignments on time: No late assignments will be accepted
- C- Health and safety procedures: Any students with disabilities who need accommodations in this course are encouraged to speak with the instructor as soon as possible to make appropriate arrangements for these accommodations
- D- Honesty policy regarding cheating, plagiarism, misbehavior: No group working is allowed unless announced otherwise by the instructor. All cases of academic dishonesty will be handled in accordance with university policies and regulations.
- E- Grading policy: 25% Quizzes & Hw + 25% Midterm + %50 final
- F- Available university services that support achievement in the course:

26 References:

- A- Required book(s), assigned reading and audio-visuals:

Applied Statistics and Probability for Engineers, by D. Montgomery and G. Runger, 6th edition, Wiley.
- B- Recommended books, materials and media:

Will be given to students as needed

27 Additional information:

Students are expected to be ready to take a quiz any time they have a class. There will be no make-up quizzes or home works.

Name of Course Coordinator: Dr. Mohammad A. Shbool Signature: --MS----- Date: 22/6/2020

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----