Republic of Iraq

Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Apparatus

University: Shatt Al-Arab University
College: Engineering College
Department: Civil Engineering
Stage: 2nd stage
Lecturer name: Nabil Najem AlHamdani
Academic title: Lecturer

Course Weekly Outline

Name	Mr.Nabil Najem AlHamdani			
E-mail address	nabil.najm@sa-uc.edu.iq			
Course name	Engineering Statistics			
Course objective	The course aims to present the basic of engineering statistics by analysing, organizing and describing data in tables and drawings, knowing the measures of dispersion and central tendency, in addition to knowing the theory of probability and inference from the data to make decisions and linking them to engineering reality.			
Course description	A- Knowledge and Understanding 1- Understand the importance of statistics and its divisions. 2- Learn how to show and represent statistical data with tables or graphics. 3- Identify the most important measures of central tendency and dispersion of data. 4- Learn about probability theory and its different distributions. 5- Identifying the design of samples, their estimation, and knowledge of their properties. B. Subject-specific skills 1- Analyze, organize, and describe data in tables and/or curves. 2- Describe the averages of the data and methods of measuring their dispersion. 3- Engineering inference from the statistical data to take the appropriate decision. 4- Linking information to engineering reality.			
References	Statistics with engineering applications-Entry to statistics			
External sources	Fundamentals of Behavioral Statistics, by RP Runyon ,1988			
Course assessment	**Lab.**	**Quizzes and assessment**	**Mid-term exam**	**Final exam**
		40	**10**	**50**
General notes				

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Week No.	Theoretical	Experimental	Aims
1	INTRODUCTION TO ENGINEERING STATISTICS (Brief definition in statistics)		The course aims to present the basic of engineering statistics by analysing, organizing and describing data in tables and drawings, knowing the measures of dispersion and central tendency, in addition to knowing the theory of probability and inference from the data to make decisions and linking them to engineering reality.
2	PRESENTATION OF STATISTICS DATA cont. (Frequency distributions, Frequency distributions table)		
3	PRESENTATION OF STATISTICS DATA (Cumulative frequency distribution, Graphical representation of data)		
4	Graphical representation of data (Cumulative frequency curves, Histogram, Frequency polygon)		
5	MEASURES OF CENTRAL LOCATION (Measures of center, four types)		
6	MEASURES OF DISPERSION, THE PROBABILITY (Measures of dispersion, four types, Probability theory)		
7	THE PROBABILITY cont. (Combinations of Three or More Events)		
8	THE PROBABILITY cont. (Probability theory rules, Conditional Probability, Bayes' theorems)		
9	Geometric Probability (Geometric Probability examples)		
10	PROBABILITY DISTRIBUTION (Discrete probability distribution, Discrete Uniform Distribution)		
11	PROBABILITY DISTRIBUTION, cont. (Geometric Distribution, Negative binomial Distribution, Binomial Distribution)		
12	Continuous Probability Distributions, Continuous		

	Uniform Distributions, Normal Distributions, Exponential Distribution)		
13	SAMPLING DISTRIBUTION (Sampling Distribution of the Sample Mean, Central Limit Theorem, applications)		
14	THE EXPECTATION (Expectation properties and Moments)		
15	Preparatory week before the final Exam		