



Jordan University of Science and Technology
Faculty of Engineering
Chemical Engineering Department

CHE206 Engineering Statistics - JNQF Level: 7

Second Semester 2022-2023

Course Catalog

3 Credit Hours. Engineering Statistics (3 Cr. Hr.) (Prerequisite: MATH 102) Review of hypotheses testing. Simple linear regression. Multiple linear regressions. Matrix approach to multiple linear regressions. Single factor analysis of variance, multi-factor analysis of variance. Design of experiments. Randomized block design. Non-parametric statistics. Engineering applications using software packages (SAS, SPSS, Minitab, etc. ...)

Text Book

Title	Applied Statistics and Probability for Engineers
Author(s)	Douglas C. Montgomery and George C. Runger
Edition	8th Edition
Short Name	applied statistics
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
DOE	Design and Analysis of Experiments	DOUGLAS C. MONTGOMERY	6th Edition	
SQC	Introduction to Statistical Quality Control	Douglas C. Montgomery.	4th Edition	
stat for science and Engineers	Statistics for Engineers and Scientists	William Navidi	3rd Edition	

Instructor

Name	Prof. Majdi Al-Mahasneh
Office Location	CH2 L2 / Faculty Offices

Office Hours	Sun : 08:30 - 10:30 Sun : 11:30 - 12:00 Mon : 10:00 - 11:00 Tue : 08:30 - 10:30 Thu : 08:30 - 10:30
Email	mmajdi@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun : 17:30 - 19:00 Room: متزامن الحضور منصة الكترونية

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Introduction and Basic Statistical concepts	From applied statistics
Weeks 3, 4	Statistical distributions and hypothesis testing	From applied statistics
Weeks 5, 6, 7	Simple linear regression	From applied statistics , From DOE
Weeks 8, 9, 10	Multiple linear regressions	From applied statistics , From DOE
Weeks 11, 12	Single factor analysis of variance	From applied statistics , From DOE
Weeks 13, 14, 15	Design of experiments: Factorial design	From DOE
Week 16	Statistical Quality control	From SQC

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
describe the measures of location, the center and the spread of data and applying the normal and the Students t distributions. [1SO1] [1L7K1]	10%	
Conduct and interpret hypothesis tests for a single and two population means, population standard deviations known, unknown and matched or paired samples. [1SO1] [1L7K1]	20%	
Describe the simple and multiple linear regression and correlation. [1SO6] [1L7K1]	20%	
Describe the uses for F distribution in one-way analysis of variance (ANOVA). [1SO6] [1L7K1]	20%	
Conduct and analyze completely randomized design and factorial design [1SO6] [1L7K1]	20%	

Apply software packages (Excel, SPSS, Minitab and Design expert) to conduct statistical analysis [1SO7] [1L7C4]	10%	
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Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
30					60	10

Relationship to NQF Outcomes (Out of 100%)	
L7K1	L7C4
90	10

Evaluation	
Assessment Tool	Weight
Exam 1	25%
Exam 2	25%
HW	10%
Final Exam	40%

Policy	
Attendance	Attendance will be checked at the beginning of each class. University regulations will be strictly followed for students exceeding the maximum number of absences.
Homework Homework is an integrated part of this course. HW is intended to be an excellent practice for exams.	Homework is an integrated part of this course. HW is intended to be an excellent practice for exams.
Student Conduct	It is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Cheating will not be tolerated in this course. University regulations will be pursued and enforced on any cheating student.

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