



**Jordan University of Science and Technology**  
**Faculty of Engineering**  
**Industrial Engineering Department**

IE347 Applied Engineering Statistics

Summer Semester 2019-2020

**Course Catalog**

3 Credit Hours. This course focuses on the application of regression analysis and design of experiments in solving engineering problems. Topics include simple and multiple linear regression analysis, design of engineering experiments with single and multiple factors, analysis of variance (ANOVA), and the use of statistical software tools in engineering.

**Text Book**

<b>Title</b>	Applied Statistics and Probability for Engineers
<b>Author(s)</b>	D. C. Montgomery and G. C. Runger
<b>Edition</b>	7th Edition
<b>Short Name</b>	Reference 1
<b>Other Information</b>	

**Class Schedule & Room**

**Prerequisites**

Line Number	Course Name	Prerequisite Type
292420	IE242 Probability And Statistics	Prerequisite / Study

**Tentative List of Topics Covered**

Weeks	Topic	References
Week 1	Introduction	
Weeks 2, 3, 4	Simple linear regression	
Weeks 5, 6, 7	Multiple linear regression	

Week 8	Regression with Minitab software	
Weeks 9, 10	Design of experiments with single factor	
Weeks 11, 12	Design of experiments with several factors	
Weeks 13, 14	Student project presentations	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Perform estimation using linear regression models and evaluate a proposed model [1SLO1, 1SLO6]	25%	
Recognize how to plan a Design of Experiment (DOE) and analyze the experimental results [1SLO6]	25%	
Analyze statistical data using the analysis of variance (ANOVA) approach [1SLO1, 1SLO6]	25%	
Use statistical software such as Minitab to aid solving relevant engineering problems [1SLO1]	25%	

Relationship to Program Student Outcomes (Out of 100%)						
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7
50					50	

Evaluation	
Assessment Tool	Weight
Midterm Exams	60%
Final Exam	40%

Policy	
Class 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; i.e. a student who misses 20% of course lectures without a valid excuse will be assigned a zero grade (35%).
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. Thus, cheating may never be tolerated, as University regulations will be pursued and enforced in any circumstance.

Date Printed: 2020-09-24