



Jordan University of Science and Technology
Faculty of Science & Arts
Mathematics Department

MATH331 Statistical Methods(1)

First Semester 2017-2018

Course Catalog

3 Credit Hours. Simple linear regression: estimation and inference, prediction, residual analysis, multiple regression, estimation and statistical inference, criteria for choosing best model. The concept and applications of experimental design, randomized designs.

Text Book

Title	Applied Linear Statistical Models
Author(s)	Michael H. Kutner
Edition	5th Edition
Short Name	TextBook
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref 1	Design and Analysis of Experiment	Douglas C. Montgomery	6th Edition	John Wiley

Instructor

Name	Dr. HANAN HAMMOURI
Office Location	Ph4 level 0
Office Hours	Sun : 13:30 - 14:30 Mon : 11:30 - 13:00 Wed : 13:00 - 14:00 Thu : 10:00 - 12:30
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Class Schedule & Room

Section 1:

Lecture Time: Mon, Wed : 10:00 - 11:30

Room: M1303

Prerequisites

Line Number	Course Name	Prerequisite Type
903300	MATH330 Mathematical Statistics	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	The simple linear regression model: model description.	
Week 2	Estimation and testing.	
Week 3	Model diagnostics.	
Week 4	The multiple linear regression model: model description and estimation.	
Week 5	Hypothesis testing.	
Week 6	Model selection.	
Week 7	Multicollinearity and model diagnostics.	
Week 8	Experimental Design: basic principles	
Week 9	Simple comparative experiments, two independent samples and paired t-tests.	
Week 10	Experiments with a single factor: 1-WAY ANOVA, fixed effects model	
Week 11	Multiple comparisons.	
Week 12	Single factor, random effect model.	
Week 13	2-WAY ANOVA.	
Week 14	Completely randomized block design Incomplete randomized block design.	
Week 15	Review	

Mapping of Course Objectives to Program Student Outcomes¹

Assessment method

Understanding and fitting simple linear regression model and multiple regression model and perform model selection and model diagnostics. [1a, 2b, 1c]	
Understanding and Fitting 1-WAY ANOVA, fixed effect model and random effect model. And interpreting the results. [1a, 2b, 2c]	
Fitting and analyzing 2-WAY ANOVA, fixed effect model. And interpreting the results. [1a, 2b, 2c]	
Analyze a data using randomized complete and incomplete block designs. [1a, 2b, 1c]	

Relationship to Program Student Outcomes (Out of 100%)										
a	b	c	d	e	f	g	h	i	j	k
22.75	45.50	31.75								

Date Printed: 2017-11-28

McGraw-Hill, 2004. 1396 p. (Operations and Decision Sciences). ISBN 0-07-238688-6. This new edition of Applied Linear Statistical Models retains the book's uniquely straightforward writing style and format while providing you with the latest information and knowledge. Updates include developments and methods in partial regression and residual plots, an entirely new introduction to the "Design of Experiments" section that frames and outlines the organization and concepts of design and ANOVA, and more.