

MTH 242 STATISTICS II

COURSE OUTLINE

Prerequisites

MTH 241 or equivalent.

Course Description

Continues the study of estimation and hypothesis testing with emphasis on correlation and regression, analysis of variance, chi-square test, and non-parametric methods. Presents linear programming, network theory, project scheduling, and other quantitative applications. Uses the computer package, Minitab, to solve case studies.

Semester Credits: 3

Lecture Hours: 3

Lab/Recitation Hours: 0

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Course Objectives

At the completion of this course, the student should be able to use, interpret and critique the following methods:

1. Regression, including multiple and polynomial as well as simple linear regression.
2. Contingency tables, multinomial experiment tests utilizing chi-square.
3. Linear programming, including sensitivity analysis.
4. Network analysis (graph theory) particularly in transportation models.
5. Project scheduling including both deterministic (CPM) and stochastic (PERT) methods.
6. Use a computer to obtain appropriate statistics for use in applied problems.

MTH 242 STATISTICS II

Textbook

Discovering Business Statistics + Minitab Bundle, Nottingham, 9th edition, Hawkes Learning Systems.
ISBN 9781941552582

Topical Description

	<u>Topics</u>	<u>Chapter</u>
I.	ANOVA for Randomized Block Designs	14
II.	Contingency Tables and Goodness of Fit	15
III.	Simple Linear Regression and Correlation	16
IV.	Multiple Regression	17 & 18

The following topics will be taught from Introduction to Management Science, Bernard Taylor, 11th Edition, Prentice-Hall Publishing Company.

V.	Linear Programming	2-4
VI.	Integer Programming	5
VII.	Transportation and Assignment Methods	6
VIII.	Networks, PERT, and the Critical Path Methods	7 & 8
IX.	Decision Analysis	12
X.	Queuing Models	13
XI.	Inventory Management	16

Computer usage is stressed throughout the course. Students will use Minitab and Excel throughout the course.