



MUTAH UNIVERSITY
Faculty of Engineering
Department of Chemical Engineering



Data Analysis in Chemical Engineering Course Syllabus

Course Code	Course Name	Credits	Contact Hours
0404302	Data Analysis in Chemical Engineering	2	

INSTRUCTOR/COORDINATOR

Name	Eng. Bahia Maitah
Email	Bahia_76@mutah.edu.jo
Website	

TEXTBOOK

Course Textbook: Box, G., Hunter, W., and S. Hunter, "Statistics for Experimenters" John Wiley and Sons, 1978.

Other Supplemental Materials

In addition to the above textbook the material of this course will be in the form of handouts from the following references:

Ref 1: Zivorad Lazic, "Design of Experiments in chemical Engineering," WileyVCH, 2004

SPECIFIC COURSE INFORMATION

A. Brief Description of the Content of the Course (Catalog Description)

Introduction to statistical distributions, descriptive statistics, regression and correlation, analysis of variance.

B. Pre-requisites (P) or Co-requisites (C)

0301102

C. Course Type (Required or Elective)

Required (Compulsory department course)

SPECIFIC GOALS

A. Specific Outcomes of Instruction

By the end of this course, the student should be able to:

1. understand the principles of Design of Experiments and also understand that experimentation is the process starting with identification of the problem and formulating hypotheses, then designing to investigate problem experimentally and finally analyze collected experimental data to formulate conclusions and make generalizations. **[SLO 1,6]**
2. Understanding how to apply the three principles for designing experiments: randomization, replication, and stratification to practical problems involving experimentation and data collection. **[SLO 1,6,7]**
3. Understanding how to apply descriptive statistics.
4. Understanding how to apply ANOVA.

B. Student Outcomes Addressed by the Course

1	2	3	4	5	6	7				
✓					✓	✓				

BRIEF LIST OF TOPICS TO BE COVERED

List of Topics	No. of Weeks	Contact Hours
Introduction to Industrial Experimentation.	1	2 hr /week
Descriptive Statistics	2-4	2 hr /week
ANOVA Analysis	5-7	2 hr /week
Hypothesis Testing	8-10	2 hr /week
Regression	11-13	2 hr /week
Case Studies	14-16	2 hr /week

METHODS OF ASSESSMENT

No.	Method of assessment	Week and Date	%
1	First Exam	6th week	25
2	Second Exam	9th week	25
3	Final Exam	End of Semester	50
Total			100