



University of Petra		 جامعة البتراء - خمسة وعشرون عاما University of Petra Anniversary
Faculty of Arts and Sciences		كلية الآداب والعلوم
Department of Chemistry		قسم الكيمياء

Course Syllabus

Year: 2018/2019

Semester: 20182

Course No.	Course Title	Prerequisite	Co-requisite	Credit Hours Lectures / Lab.	ECTS
101447/1	Quality Control	101243	-	3/-	5

Instructor Name	E-mail	Office No.	Office Ext.	Office Hours
Dr. Nabil Eldurini	nabild@uop.edu.jo	7111	7111	Sun, Tue, Thu, 10.00 – 11.00 Mon, 11.00 – 14.00

Coordinator's Name: (if applicable)	-
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Course Description	Basic principles of quality; Total quality management; Fundamentals of statistics and statistical quality control; Control charts.
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Course Objectives:

Instill in students a sense of enthusiasm for quality principles and techniques, an appreciation of its application in different contexts and to involve them in an intellectually stimulating and satisfying experience of learning and studying in order:

- To better understand the interrelationship between quality and behavior.
- To develop qualitative and quantitative thinking skills and problem solving techniques through the interpretation of quality data.
- To develop the ability to propose reasonable solutions to problems under investigations.
- To develop skills for process control.
- To develop an appreciation for the complexity yet beauty of quality systems

Course Intended Learning Outcomes (ILOs) and their Alignment with Program ILOs:

Upon successful completion of this course, students are expected to achieve the following learning outcomes:

Course ILOs	Program ILOs	Teaching and Learning Method	Assessment Method
Knowledge and Understanding (K): By the end of the course students should be able to:			
1. Define quality and its principles and practices.	K(1)	Lectures using data show and Models	Exams
2 Identify Major aspects of fundamentals of statistics .	I(2)	Lectures using data show and Models	Exams
Intellectual Skills (I): By the end of the course students should be able to:			
1. Collect data and apply statistical process control for data analysis.	I(2)	Lectures using data show and Models	Exams
2. Employ different tools and techniques of total quality management.	K(3)	Lectures using data show	Exams
Practical skills (P): By the end of the course students should be able to:			
1. Apply previous knowledge on constructing control charts and discuss process variables.	P(2)	Lectures using data show	Exams
2. Use central limit theorem to calculate process capability and tolerance.	P(5)	Lectures using data show	Exams

Course Schedule:

Units	Topics	Topic Details	Reference
1	Introduction to Quality:	Definitions; Responsibility for Quality; and Chief Executive Officer.	Chapter 1
2	Total Quality Management: Principles and Practices:	Introduction; Basic Approach; Leadership; Customer Satisfaction; Employee Involvement; Continuous Process Improvement; Supplier Partnership; Performance Measure; Deming's 14 Points.	Chapter 2
3	Total Quality Management: Tools and Techniques:	Introduction; Pareto Diagram; Cause-and-Effect Diagram; Check Sheets; Process Flow Diagram; Scatter Diagram; Histogram; Control Charts.	Chapter 3
4, 5	Fundamentals of Statistics:	Introduction; Frequency Distribution; Measure of Central Tendency; Measure of Dispersion; Other Measures; Population and Sample; The Normal Curve; Tests for Normality.	Chapter 4
5, 6	Control Charts:	Introduction; Control Chart Techniques; State of Control; Specifications; Process Capability; Six Sigma; Different Control Charts.	Chapter 5
7	Workshop:	Application problems related to principles studied.	Work sheets

Assessment Methods:

Assessment method	Grade	Comments
First Exam	20	(Tue) 26/03/2019
Second Exam	20	(Tue) 07/05/2019
Workshop	20	Last week
Final Exam	40	Set by the Registrar
Total	100	

Alignment of Teaching and Learning Methods, Assessment and Course ILOs:

Teaching method	Contact Hours	Assessed through	ILOs numbers
Lectures	42	Exams and workshop	All ILOs

Learning References:

1- Textbook (s): Printed sheets will be available in the bookshop.
2- References: Quality Control, by Dale H. Besterfield. Prentice Hall, 2000.
3- Other Resources: Power point slides supplied by the instructor.

Course Policies:

- **Attendance Policy:** University regulations apply to attendance.
- **Academic Honesty:** Academic dishonesty is an unacceptable mode of conduct, and will not be tolerated in any form at University of Petra. All persons involved in academic dishonesty and plagiarism in any form will be disciplined in accordance with University rules and regulations.

Approved by	Name	Date	Signature
Head of Department	Dr. Abdelmnim Al Tweiq		
Faculty Dean	Prof. Rami Abdulrahim		