

## Quality Control

Academic Year: ( 2021 / 2022 )

Review date: 18-06-2021

Department assigned to the subject: Statistics Department

Coordinating teacher: GRANE CHAVEZ, AUREA

Type: Compulsory ECTS Credits : 6.0

Year : 3 Semester : 1

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

It is highly recommended to take the course of "Regression" simultaneously. It is not compulsory.

## OBJECTIVES

Specific Skills:

Quality control tools in both manufacturing processes (SPC) and Services (Measurement of Customers Satisfaction).  
Design of Experiments.

## GENERAL SKILLS

1. Analysis and synthesis capability.
2. Knowledge of statistical software.
3. Resolution of problems
4. Team work.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Statistic Process Control (SPC).  
Variables  
Attributes.
2. ANOVA
3. Design of Experiments for quality improvement  
Factorial Experiments. Two level  
Fractional Factorial experiments
4. Quality of Services.  
-Factorial Analysis  
-Cluster Analysis  
-Use of both techniques in Customer Satisfaction
5. Quality indicators.

## LEARNING ACTIVITIES AND METHODOLOGY

Every week there are two lessons. A theoretical one that introduces various analysis techniques, and a practical one (in a computer room) where the learned technique are applied to real problems.

## ASSESSMENT SYSTEM

This course has two parts. At the end of each part there will be a midterm exam (25% +25%); exercises during the course (10%). Final exam 40%.

<b>% end-of-term-examination:</b>	40
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	60

## BASIC BIBLIOGRAPHY

- Box, G.E.P. et al. Statistics for Experimenters: Design, Innovation, and Discovery, wiley.
- Montgomery, D. C. Statistical Quality Control, Wiley, 2012

