Students should become fully aware of the importance and the possibilities of statistics in the context of quality management. They should learn and know how to apply the fundamental techniques.

Skills to be learned:
* Understand and be aware of why statistics are an important tool in quality management.
* Identify in which situations tools for improving quality can be useful and learn how to use them properly.
* Set up and carry out capacity studies. Learn what they are and how to calculate indices of capacity.
* Learn the role control charts play in tackling variability. Learn how they are constructed and how to interpret the most common types of chart.
* Understand and know how to calculate the risks inherent in any sampling plan. Construct and interpret the characteristic curve of a sampling plan.
* Learn the most common techniques involved in quality planning.

Teaching methodology

The first part of the class is devoted to theoretical explanations. The second part is devoted to problems and solving practical cases. Some classes will be held in computer labs.

Theoretical sessions:
Introduction to the subject with slide projections (Power Point). Students are encouraged to participate in discussions on the cases and situations presented.

Problem-solving sessions:
Finding solutions to problems and practical examples. Problems will be set for solution outside of class. Grades for the results of these problems will count towards the final result (as part of continuous assessment).

Practicals:
The same as the problem-solving sessions.
# Content

## Introduction to quality management

**Description:**

## Quality improvement

**Description:**

## Variability causes and measurement

**Description:**

## Statistical process control

**Description:**

## Sampling inspection

**Description:**
Planning tools

**Description:**

Qualification system

\[ NF = 0.20 \times NAC + 0.30 \times NEP + 0.50 \times NEF \]
NF: Final result
NAC: Continuous assessment result (exercises that students must hand in throughout the course)
NEP: Partial exam result
NEF: Final exam result
The final exam covers the entire syllabus.

Prior skills

Those acquired in the following courses: "Probability Calculus" and the 1st course of "Basic Statistics.

Bibliography

**Basic:**

**Complementary:**