



COURSE DATA

DATA SUBJECT

Code: 46544
Name: Tools for Quality Evaluation
Cycle: Master's Degree
ECTS Credits: 4
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2260 - Master's degree in Quality Management	Facultat d'Economia	1	Annual

SUBJECT-MATTER

Degree	Subject-matter	Character
2260 - Master's degree in Quality Management	Herramientas, técnicas y programas de gestión de la calidad	COMPULSORY

COORDINATION

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SUMMARY

The objective of the subject **Tools to evaluate quality** consists in the fact that students learn and apply tools that allow them to obtain and identify ideas, causes and solutions that allow them to optimize both the processes linked to production and the service sector. Therefore, we will study the statistical tools in the different stages linked to the control and improvement of these business processes. Likewise, the student will develop the ability to identify a problem that can be solved through statistical techniques. Evaluate this problem and quantify the loss due to non-quality, proposing the appropriate improvement actions.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

The knowledge required to take this course is the same as that required for admission to the master's degree program.



COMPETENCES / LEARNING OUTCOMES

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Collaborate effectively in work teams, assuming responsibilities and leadership roles and contributing to collective improvement and development.

Demonstrate critical and self-critical reasoning within the field of study, considering aspects such as professional ethics, moral values and the social implications of the different activities carried out.

Demonstrate knowledge and understanding of social inequalities based on sex and gender within this specific field of study; integrate the different needs and preferences based on sex and gender into the design of solutions and problem solving.

Know the main technical tools and quality management programmes.

Lead teams and empower them.

Make strategic, tactical or operational decisions in the field of quality management.

Promote commitment to quality in all departments and at all hierarchical levels of the organisation.

Propose creative and innovative solutions to complex situations or problems specific to the field of knowledge to respond to different professional and social needs.

Use tools to assess and control quality as well as different continuous improvement techniques.

DESCRIPTION OF CONTENTS

1. Introduction to Statistical Quality Control. Basic statistical concepts

Presentation of the beginning and evolution of Statistical Quality Control. Description of the necessary statistics in the implementation of a system for the control and quality assurance.

2. Tools for Quality Control

Description of the statistical tools oriented to quality control.

3. Control in the supply and shipment of products.

Description and application of the statistical tools to the control of the procurement and in the expedition of the product.



4. Process Control by variables. Tolerance and Capacity

Description and application of statistical tools to process control by variables, analyzing process tolerance and capacity.

5. Process Control by attributes and by defect name.

Description and application of statistical tools to process control by attributes and by number of defects.

6. Product evolution. Design and redesign

Description and application of statistical tools in the design and redesign of processes, pursuing optimization in both scenarios.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	40,00
Total hours	40,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	60,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	60,00

TEACHING METHODOLOGY

Each session will be developed interactively (MD1) so that, using the material provided by the teacher, after the exposition of the corresponding topic, the rest of the class will be devoted to the following tasks:

- The realization by the students of theoretical-practical cases related to the exposed topic (MD3, MD4, MD6, MD11).
- The clarification of the concepts that have presented problems in their application (MD1).



MD1- Theoretical classes - Participative master classes

MD3- Practical cases

MD4- Problems

MD6- Project development (real application of the methodologies learned)

MD11- Working group

For the processing of information through the use of Generative Artificial Intelligence (GAI) tools, the following considerations must be taken into account:

- ¿ As a general rule, GAI tools may not be used to achieve the main objective of assessment activities
- ¿ Teachers will explicitly indicate under what conditions and for what type of activities the use of GAI is permitted or restricted.
- ¿ If the student uses any GAI tools, they must indicate this in the work submitted. They will include a footnote or an appendix containing the prompt used, its various modifications and a fragment of the most relevant text from the response.

EVALUATION

The evaluation of the course will be carried out by means of:

- The evaluation of the student's participation in the different sessions (10%).
- The realization and defense of a group work (s), in which the contents taught throughout the course will be applied (30%).
- The evaluation of the written test(s) and/or individual work (60%).

In no case may less than 50% be obtained in each of the following sections: "The realization and defense of a (s) work (s) in group, in which the contents taught throughout the course will be applied" and "the assessment of the written test (s) and/or individual work (s)".

REFERENCES

BASICA

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- Deming, W.E. (1992). Out of the crisis: quality productivity and competitive position. Cambridge University Press
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COMPLEMENTARY

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- Esteban García et. al (2005). Estadística descriptiva y nociones de probabilidad. Ed Paraninfo
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- Ishikawa,K.(1995).¿Qué es el control total de calidad?: la modalidad japonesa. Ed. Parramón
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- Taguchi, G (1987). Introducción a la Ingeniería de Calidad. Centro de Calidad. DGI-ITESM. Monterrey