Grado en Ingeniería de Materiales

Department (School) / Departamento (Escuela)
Departamento Ingeniería de Organización, Administración de Empresas y Estadística (ETSI Industriales)

Asignatura / Subject
Calidad y Gestión
Quality and Management

ECTS	Type	Curso / Semestre	Idioma	Sylabus code	Subject Code
6	Compulsory	3 / 5	EN	04MI	45000124

Lecturers (Name)	Contact email	Office hours (Tutorials)
Jorge Esteban	jorge.esteban@upm.es	By appointment

El profesor que aparece en primer lugar es el coordinador de la asignatura

Evaluation

Continuum assessment.
Will be taught theory classes, practical work and cases. It will use a collaborative teaching methodology type in which, in addition to theory classes and presentation of concepts with case study illustrations, will encourage teacher-student contact and between students, which encourages teamwork and learning. There will be continuous assessment and examination at the end of the semester.
- Continuous evaluation (% final mark): 50
- Individual work (% final mark): 25
- Team work (% final mark): 25

Final assessment.
- Continuous evaluation (% final mark): 100

Justification and Objectives

The course objectives are:
Guidance for the students to consider the needs and expectations of customers as a starting point for planning and quality management. Understand and manipulate the rules and current models for quality management systems. Familiarize the student with the analysis and resolution of complex and unstructured problems, using the case methodology. Provide students with an overview of what it is and how it is produced and makes an Engineering Project analysing legislation, studies and knowledge areas involved in the execution of an Engineering Project

Prerequisites

None

Previous knowledge of the student

Companies organization, Mathematical, IT

Contents in coordination with other subjects

Final Degree Project

Generic competencies

CG1, CG2, CG3, CG4, CG11

Specific competencies

CE2

Bibliography

• Joseph M. Juran y Frank M. Gryna. Manual de Control de Calidad. Volumen I y II. ISBN 84-481-0055-7. McGrawHill. 4ª Edición. 1993.
• Comité de Costes de la Calidad y Jack Campanella. Principios de los costes de la calidad. ISBN 84-7978-036-3.

Diaz de Santos. 1992.
• Juan Roure y Miguel A. Rodriguez. Aprendiendo de los Mejores. ISBN 84-8088-603-X. Gestión 2000. 2ª Edición. 2001.
• John Marsh. Herramientas de mejora continua. ISBN 84-8143-173-7. Asociación Española de Normalización. 2000
• Peter S. Pande, Robert P. Neuman y Roland R. Cavanagh. Las claves de seis sigma. ISBN 84-481-3753-1. McGraw Hill. 2002.
• Yoji Akao. Quality Function Deployment. Integrating Cistomer Requirements into Product Design. ISBN 0-915-299-41-0. Productivity Press. 1990
• Harold Kerzner. Project Management: A Systems Approach to Planning, Scheduling, and Controlling . eighth edition. 2008.
• Carl Chatfield and Timothy Johnson. Microsoft Office Project 2007 Step by Step. 2007.
• Frederick Plummer. "Project Engineering: The Essential Toolbox for Young Engineers". Ed. Butterworth-Heinemann. 2007.
• Subhendu Moulik, "Basics of Multi-Discipline Project Engineering". ISBN 9781449086930.
• N J Smith, "Project Cost Estimating", ISBN: 978-0-7277-2032-0, 1995.
• Stephen Arnet, "Project Cost Justification", Ed. Patton Press, 1999

LM: Lesson at room, RP: Problems Resolution, LB: Laboratory,, TI: Individual Work, TG: Group Work, DB: Debate at Room, VI: Visits, EV: Exams, OT: Other procedures

Item	Contents	Code

Subject contents and time distribution

LM: Lesson at room, RP: Problems Resolution, LB: Laboratory,, TI: Individual Work, TG: Group Work, DB: Debate at Room, VI: Visits, EV: Exams, OT: Other procedures

Week	Tema (LM)	RP	LB	EV	TI/TG
1	Concepts and definitions of quality Evolution of the concept and quality models	2h			
2	Quality and Income Quality costs	2h			
3	Policy and quality objectives Quality Planning Management of human activity	1h			1h
4	ISO system of quality management Basic principles of system quality management The quality system certification	2h			
5	The EFQM Model 6 Sigma Methodology Quality and sustainability	1h			1h
6	Analysis and resolution of cases	1h			1h
7	Quality, interest groups and social responsibility	2h		2h	
8	Presentation of the Group Works	2h			
9	Introduction to Engineering Project • Concepts. Definitions. Types of Projects. Project Life Cycle	2h			
10	Preliminary Project and conditions • Previous Studies. Project feasibility. Market research. Legislation.	2h			
11	Defining Project Scope • Approval of the investment. Importance of the scope and content. Objectives and major requirements. Project breakdown structure (EDP)	1h			1h
12	Temporary Programming • Study of programming. CPM and PERT methods. Networks. Basics: Slack, margin, critical path. Precedence diagram. Resource allocation and leveling	1h	2h		1h
13	Resources project • Organizational. Distribution of work. Coordination. Functions.		1h	1h (DB)	

14	Project Budget • Types of cost estimates for the project. Contingencies and supplies. Importance of time in the project. Relationship between cost and time. Budget and its importance.			2h	
15	Presentation of the Group Works	1h		1h	