

Centre	University College of Engineering of Vitoria-Gasteiz
Name of subject	25986 – Integrated Management Systems
Qualification	Degree in Industrial Electronic Engineering and Automatics
Type	Compulsory
Credits	6 ECTS
Year	4
Term(s)	1st
Department	Business Organisation
Language	Spanish and Basque

Outcomes / Objectives

Be able to:

- Apply, in the context of an organisation, the management principles for quality, preservation of the environment and occupational safety.
- Know and be able to apply the guidelines of ISO 9001:2008 quality standard, ISO 14001:2004 the standard that incorporates eco-design, and UNE 81900:1996 EX standard on occupational risk prevention.
- Know and correctly apply the vocabulary used in the quality, environment and occupational safety models.
- Work in a team to undertake cooperative tasks with other team members in the context of the subject.

Syllabus

1) CHAPTER I: Introduction. (4h)

- 1.1) The new business framework
- 1.2) Social responsibility of business organisations
- 1.3) Business management systems.
- 1.4) Accreditation, approval and certification

2) CHAPTER 2: Total Quality Management. (6h)

- 2.1) Concept and objectives of quality.
- 2.2) Different approaches to quality.
 - 2.1) The Noriaki Kano or Bidimensional quality model
 - 2.2) The three approaches to quality
 - 2.3) Key factors applied to a product's quality
- 1.3) Quality tools.
 - 1.3.1) The Deming cycle.
 - 1.3.2) Continuous Improvement.
 - 1.3.3) The Cause-Effect Diagram.
 - 1.3.4) Brainstorming
 - 1.3.5) The Pareto Chart.

3) CHAPTER III: Environmental Management. (8h)

- 3.1) Sustainable development.
 - 3.1.1) Social responsibility and the new business paradigm.
- 3.2) Identification and assessment of environmental aspects.
 - 3.2.1) Applicable concepts and definitions.
 - 3.2.2) General methodologies for environmental risk assessment.
- 3.3) Environmental indicators.
 - 3.3.1) Definitions.
 - 3.3.2) Indicators of environmental quality and pollution.
 - 3.3.3) Indicators of natural resource consumption.
- 3.4) Life cycle analysis.
 - 3.4.1) Definition and objectives.
 - 3.4.2) Life cycle analysis methodology.

- 4) CHAPTER IV. Occupational Risk Prevention. (6h)
- 4.1) Introduction to occupational safety: basic concepts.
- 4.1.1) Overview of occupational safety
- 4.2) Prevention principles.
- 4.2.1) Injuries and losses.
- 4.2.2) Causes of accidents.
- 4.3) Identification and assessment occupational risks.
- 4.3.1) General prevention principles.
- 4.3.2) Risk detection.
- 4.3.3) Magnitude of risk.
- 4.3.4) Assessment criteria.
- 5) Chapter V. Management Systems. (20)
- 5.1) Definition and objectives.
- 5.2) ISO 9001:2008 international standard.
- 5.3) ISO 14001:2004 standard
- 5.4) UNE 81900:1996 EX standard. Occupational Risk Prevention
- 5.5) System integration.

Methodology

Teaching Method

Face-to-Face Teaching Hours

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
48		12						

Student Hours of Non Face-To-Face Activities

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
60		30						

Assessment System

General criteria

- Multiple choice test
- Practical tasks (exercises, case studies or problems)
- Presentation of assignments, reading.

Clarification regarding assessment

ASSESSMENT CRITERIA

Multiple choice theory test. (Minimum marks required to pass the test: 3.5 points)	50%
Practical exam. Problem solving. (Minimum marks required to pass the exam: 3.5 points)	20%
Team assignment.	30%

TEAM WORK ACTIVITIES

Short discussion tasks.	5%
Search for bibliographic information (seminar)	20%
Written document (seminar)	20%
Oral presentation and discussion of results (seminar)	45%
Dynamic assessment of group assignment (student assessment)	5%
Individual assessment of the content of the tasks/products	5%

Bibliography

Basic Bibliography

- Alfonso Fernández Hatr. Sistemas Integrados de Gestión. Editado por Instituto de Desarrollo Económico del Principado de Asturias.
- Jenaro Romero Pastor (2006): Implantación e integración de sistema de gestión integrada. Edit. Visión NET. Madrid.

In-depth Bibliography

- Antonio Carretero Peña (2007): Aspectos ambientales. Identificación y evaluación. AENOR ediciones. Madrid.
- IHOBE (2004): Indicadores ambientales. Editado por IHOBE- Sociedad Pública de Gestión ambiental.
- José María Cortés Díaz (1998): Técnicas de prevención de riesgos laborales. Edit. Tébar. 3º e. Madrid.
- Marta Sangüesa, Ricardo Mateo y Laura Izarbe (2006): Teoría y práctica de la calidad. Edit. THOMSON. Madrid.
- Joseph Fiksel (1996): Ingeniería de diseño medioambiental. Edit. McGraw-Hill. Madrid.

Websites

- Asociación Española de Normalización y Certificación.
<http://www.aenor.es>
- IHOBE (Sociedad Pública de Gestión Ambiental).
<http://www.ihobe.es>
- Monografía: sistemas integrados de gestión. (Alfonso Fernández Hatre)
http://www.portalcalidad.com/docs/177-sistemas_integrados_gestion