



Course guide

240632 - 240632 - Management Systems

Last modified: 16/05/2023

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2023 **ECTS Credits:** 4.5 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: RAMON SALVADOR VALLÈS

Others: RAMON SALVADOR VALLÈS

PRIOR SKILLS

The capabilities acquired during previous studies.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

1. Correct knowledge of the business/company concept, company's institutional and legal framework. Company organisation and management.
2. Knowledge applied to business/company organisation.
3. Knowledge and capacities to organise and manage projects. Knowing the organisational structure and functions of a project office.

Generical:

6. PROJECT MANAGEMENT: Being able to present, execute and direct Industrial Engineering projects, by means of applying scientific and technologic knowledge , attitudes and procedures, once conditions have been identified or valued.

Transversal:

4. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.
5. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.
7. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.
8. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.

TEACHING METHODOLOGY

Lectures with active participation of students, where the teacher presents the theoretical and practical aspects of the subject.
Practical classes where students solve problems and assumptions, both individually and in groups, and the teacher presents examples and answers questions.
Case method, where students, with the teacher's support, analyze management and information systems applications in specific organizations, describing and assessing issues and results.



LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course students should be able to describe systems used by managers to help them in making decisions in organizations, to support group work and to identify information and communication technologies needed. Systems related processes and procedures attached to organizational activities and company objectives should be also identified. The knowledge and basic skills of discipline should be described, learning to learn in the context of the subject.

STUDY LOAD

Type	Hours	Percentage
Hours medium group	45,0	40.00
Self study	67,5	60.00

Total learning time: 112.5 h

CONTENTS

1. INTRODUCTION TO MANAGEMENT SYSTEMS

Description:

The Organization. Systems and organizational management. Information needs in organizations and the role of information system. Information systems and organizational management. Categories of information systems. Information and communication technologies. Information and communication technologies and the organization. Impact of management systems in organizations.

Specific objectives:

To describe the meaning, characteristics and impact of management systems in organizations.

Related activities:

Activities 1 and 5.

Full-or-part-time: 21h

Theory classes: 6h

Practical classes: 3h

Self study : 12h

2. ORGANIZATIONAL AND DECISIONAL MANAGEMENT SYSTEMS

Description:

Systems for managing organizational functions. Enterprise resource planning (ERP) systems. Customer relationship management (CRM) systems. Supply chain management systems. Groupware systems. Knowledge management systems. Electronic commerce. Public administration systems. Decision support systems.

Specific objectives:

To identify applications and their role in organizations.

Related activities:

Activities 1 and 5.

Full-or-part-time: 28h

Theory classes: 6h

Practical classes: 6h

Self study : 16h



3. STRATEGIC MANAGEMENT FOR MANAGEMENT SYSTEMS

Description:

Strategy, needs and ICT governance. Information and communication technologies outsourcing. The planning of systems. Organizational needs. Analysis of systems. The evolution of the information and communication technologies. The strategic alignment of systems and reengineering. Use of systems as a strategic resource.

Specific objectives:

To identify and describe strategic information needs and manage systems at a strategic level.

Related activities:

Activities 2, 3 and 5.

Full-or-part-time: 28h

Theory classes: 6h

Practical classes: 6h

Self study : 16h

4. DEVELOPMENT AND MANAGEMENT OF MANAGEMENT SYSTEMS

Description:

Systems planning and processes reengineering. Strategies for systems development. Systems modeling. Project management. Cost-benefit analysis of management systems. Analysis of risk. Evaluation of projects feasibility.

Specific objectives:

To describe methods to develop and manage systems development. Managing projects implementation. To evaluate the feasibility of management systems projects.

Related activities:

Activities 4 and 5.

Full-or-part-time: 28h

Theory classes: 6h

Practical classes: 6h

Self study : 16h

ACTIVITIES

ACTIVITY 1. USING MANAGEMENT SYSTEMS IN ORGANIZATIONS

Description:

Analysis of organizations to see how they use management systems. Identifying technologies, their application to business processes and the impact on the organization.

Specific objectives:

To identify the role of management systems in organizations and their implications for companies.

Material:

Description of cases and objectives, along with a guide to activities to be performed and course slides.

Delivery:

Individually written report, together with answers to questions.

Full-or-part-time: 15h

Laboratory classes: 9h

Self study: 6h



ACTIVITY 2. INFORMATION AND COMMUNICATION TECHNOLOGIES OUTSOURCING

Description:

Analysis of information and communication technologies outsourcing cases, outsourcing models between companies and suppliers, service quality indicators and constraints.

Specific objectives:

To describe information and communication technologies outsourcing practices by firms.

Material:

Description of cases and objectives, along with a guide to activities to be performed and course slides.

Delivery:

Individual report with the result of an analysis.

Full-or-part-time: 4h 30m

Laboratory classes: 1h 30m

Self study: 3h

ACTIVITY 3. SYSTEMS STRATEGIC PLANNING

Description:

Application of procedures for strategic planning of systems in companies, to prepare a strategic plan for the development of projects.

Specific objectives:

Identifying strategic opportunities for management systems in a company, designing strategic actions and proposing projects to be developed.

Material:

Description of cases and objectives, along with a guide to activities to be performed and course slides.

Delivery:

Reports at the group level with the proposed solution

Full-or-part-time: 13h 30m

Laboratory classes: 4h 30m

Self study: 9h

ACTIVITY 4. PROJECT DEVELOPMENT AND FEASIBILITY STUDY.

Description:

Analysis of cases and exercises on systems development, implementation and management. Feasibility analysis.

Specific objectives:

To describe systems development and management processes and determine the value of a system for a company.

Material:

Description of cases and objectives, along with a guide to activities to be performed and course slides.

Delivery:

Individual or group report, as indicated, with the proposed solution and results.

Full-or-part-time: 15h

Laboratory classes: 6h

Self study: 9h



ACTIVITY 5. FINAL EXAM

Description:

Individual written test on the entire subject.

Specific objectives:

To assess assimilation of the concepts, principles and basic foundations of the course and the methods related to the individual topics of the subject.

Material:

Written text of the final test questions.

Delivery:

Once the test programmed by the ETSEIB is finished the answers will be supplied.

Full-or-part-time: 18h 40m

Laboratory classes: 2h

Self study: 16h 40m

GRADING SYSTEM

The final mark is the weighted sum of:

$$N_{\text{final}} = 0.6 N_{\text{ef}} + 0.3 N_{\text{pb}} + 0.1 N_{\text{pr}}$$

N_{final} : Final mark

N_{ef} : Final exam mark

N_{pb} : Exercise mark

N_{pr} : Presentation mark

The final examination consists of a multiple choice test with a single correct answer, plus two exercises and/or an essay questions.

The approximate duration is two hours.

EXAMINATION RULES.

No reference materials are allowed during examinations. Examination tests are conducted in accordance with the timetable provided by the Centre.

BIBLIOGRAPHY

Basic:

- Salvador, R.; Guimet, J. Sistemes d'informació [on line]. 2a ed. Barcelona: Edicions UPC, 2003 [Consultation: 09/09/2022].

Available on: <https://upcommons.upc.edu/handle/2099.3/36263>. ISBN 8483015684.

- O'Brien, J.A.; Marakas, G.M. Sistemas de información gerencial. 3a ed. México: McGraw-Hill, 2006. ISBN 9701056302.

- Laudon K.C.; Laudon J.P. Sistemas de información gerencial [on line]. 14a ed. México: Pearson, 2016 [Consultation: 19/02/2020].

Available on: http://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=6944. ISBN 9786073236966.

RESOURCES

Other resources:

Lectures slides, case studies, exercises and guides.