240632 - Management Systems

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2017
Degree: BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 4,5  Teaching languages: Catalan, Spanish

Teaching staff

Coordinator: RAMON SALVADOR VALLÈS
Others: RAMON SALVADOR VALLÈS

Prior skills

The capabilities acquired during previous studies.

Degree competences to which the subject contributes

Specific:
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.

General:
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.
6. 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.
240632 - Management Systems

**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**

<table>
<thead>
<tr>
<th>Total learning time: 112h 30m</th>
<th>Hours large group:</th>
<th>0h</th>
<th>0.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group:</td>
<td>45h</td>
<td></td>
<td>40.00%</td>
</tr>
<tr>
<td>Hours small group:</td>
<td>0h</td>
<td></td>
<td>0.00%</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>0h</td>
<td></td>
<td>0.00%</td>
</tr>
<tr>
<td>Self study:</td>
<td>67h 30m</td>
<td></td>
<td>60.00%</td>
</tr>
</tbody>
</table>
# Content

## 1. INTRODUCTION TO MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>21h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>6h</td>
</tr>
<tr>
<td>Practical classes:</td>
<td>3h</td>
</tr>
<tr>
<td>Self study:</td>
<td>12h</td>
</tr>
</tbody>
</table>

**Description:**

**Related activities:**
Activities 1 and 5.

**Specific objectives:**
To describe the meaning, characteristics and impact of management systems in organizations.

## 2. ORGANIZATIONAL AND DECISIONAL MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>28h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>6h</td>
</tr>
<tr>
<td>Practical classes:</td>
<td>6h</td>
</tr>
<tr>
<td>Self study:</td>
<td>16h</td>
</tr>
</tbody>
</table>

**Description:**

**Related activities:**
Activities 1 and 5.

**Specific objectives:**
To identify applications and their role in organizations.
### 3. STRATEGIC MANAGEMENT FOR MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>Learning time: 28h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td>Practical classes: 6h</td>
</tr>
<tr>
<td>Self study: 16h</td>
</tr>
</tbody>
</table>

**Description:**

**Related activities:**
Activities 2, 3 and 5.

**Specific objectives:**
To identify and describe strategic information needs and manage systems at a strategic level.

### 4. DEVELOPMENT AND MANAGEMENT OF MANAGEMENT SYSTEMS

<table>
<thead>
<tr>
<th>Learning time: 28h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td>Practical classes: 6h</td>
</tr>
<tr>
<td>Self study: 16h</td>
</tr>
</tbody>
</table>

**Description:**

**Related activities:**
Activities 4 and 5.

**Specific objectives:**
To describe methods to develop and manage systems development. Managing projects implementation. To evaluate the feasibility of management systems projects.
# Planning of activities

## ACTIVITY 1. USING MANAGEMENT SYSTEMS IN ORGANIZATIONS

**Hours:** 15h  
Laboratory classes: 9h  
Self study: 6h

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

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

**Descriptions of the assignments due and their relation to the assessment:**  
Individually written report, together with answers to questions.

**Specific objectives:**  
To identify the role of management systems in organizations and their implications for companies.

## ACTIVITY 2. INFORMATION AND COMMUNICATION TECHNOLOGIES OUTSOURCING

**Hours:** 4h 30m  
Laboratory classes: 1h 30m  
Self study: 3h

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

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

**Descriptions of the assignments due and their relation to the assessment:**  
Individual report with the result of an analysis.

**Specific objectives:**  
To describe information and communication technologies outsourcing practices by firms.

## ACTIVITY 3. SYSTEMS STRATEGIC PLANNING

**Hours:** 13h 30m  
Laboratory classes: 4h 30m  
Self study: 9h

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

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

**Descriptions of the assignments due and their relation to the assessment:**  
Reports at the group level with the proposed solution.

**Specific objectives:**  
Identifying strategic opportunities for management systems in a company, designing strategic actions and proposing projects to be developed.
ACTIVITY 4. PROJECT DEVELOPMENT AND FEASIBILITY STUDY.

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

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

**Descriptions of the assignments due and their relation to the assessment:**
Individual or group report, as indicated, with the proposed solution and results.

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

<table>
<thead>
<tr>
<th>Hours</th>
<th>Laboratory classes: 6h</th>
<th>Self study: 9h</th>
</tr>
</thead>
</table>

ACTIVITY 5. FINAL EXAM

**Description:**
Individual written test on the entire subject.

**Support materials:**
Written text of the final test questions.

**Descriptions of the assignments due and their relation to the assessment:**
Once the test programmed by the ETSEIB is finished the answers will be supplied.

**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.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Laboratory classes: 2h</th>
<th>Self study: 16h 40m</th>
</tr>
</thead>
</table>

**Qualification system**

The final mark is the weighted sum of:

\[ N_{\text{final}} = 0.6 \times N_{\text{ef}} + 0.3 \times N_{\text{pb}} + 0.1 \times N_{\text{pr}} \]

- \( N_{\text{final}} \): Final mark
- \( N_{\text{ef}} \): Final exam mark
- \( N_{\text{pb}} \): Exercise mark
- \( N_{\text{pr}} \): 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.

**Regulations for carrying out activities**

No reference materials are allowed during examinations. Examination tests are conducted in accordance with the timetable provided by the Centre.
240632 - Management Systems

Bibliography

Basic:


Others resources:

Lectures slides, case studies, exercises and guides.