Course guides
220565 - 220565 - Information System

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 732 - OE - Department of Management.
Degree: MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2012). (Compulsory subject).
Academic year: 2021 ECTS Credits: 5.0 Languages: Catalan, Spanish

LEcTURER

Coordinating lecturer: XAVIER PERRAMON TORNIL

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Apply theories and principles related to technology and information systems in order to analyze uncertainty complex situations and make decisions using engineering tools.
2. Apply theories and inherent principles in the general direction of an organization with the aim of analyzing uncertainty complex situations and make decisions using engineering tools.
3. Develop a business plan in a new context.

Generical:
4. Ability to apply knowledge to solve problems in new environments or unfamiliar environments within broader contexts (or multidisciplinary) related to engineering.
5. Ability to integrate knowledge and formulate judgments with the aim of making decisions based on information that, with incomplete or limited include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
6. Ability to operate and lead multidisciplinary and multicultural groups, with negotiation skills, group work, relationships in an international setting, and conflict resolution.

TEACHING METHODOLOGY

The course is divided into three parts:

- Theory classes.
- Practical classes.
- Self-study for doing exercises and activities.

In the theory classes, teachers will introduce the theoretical basis of the concepts, methods and results and illustrate them with appropriate examples to facilitate their understanding.

In the practical classes (in the classroom), teachers guide students in applying theoretical concepts to solve problems, always using critical reasoning. Students will be prompted to solve exercises in and outside the classroom, to promote contact and use of the basic tools needed for solving problems and for developing the activities.

Students, independently, need to work on the materials provided by teachers and the outcomes of the sessions of exercises/problems, in order to fix and assimilate the concepts. Teachers provide the workplan for study and monitoring of activities (through ATENEA).
LEARNING OBJECTIVES OF THE SUBJECT

The course Information Systems introduces students to the concepts, principles and fundamentals for the development of information systems in organizations, by use case models, data models and process models.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>80,0</td>
<td>64.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>8,0</td>
<td>6.40</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>15,0</td>
<td>12.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>22,0</td>
<td>17.60</td>
</tr>
</tbody>
</table>

Total learning time: 125 h

CONTENTS

**Module 1: Phases of the development of information systems**

**Description:**
- Systems planning
- Systems analysis
- Systems design
- Systems implementation and support

**Full-or-part-time:** 27h
- Theory classes: 2h
- Practical classes: 2h
- Guided activities: 5h
- Self study: 18h

**Module 2: Systems modeling techniques**

**Description:**
- Systems requirements modeling
- Data modeling
- Process modeling

**Full-or-part-time:** 33h
- Theory classes: 3h
- Practical classes: 3h
- Guided activities: 5h
- Self study: 22h
Module 3: Information systems implementation

**Description:**
Tools for information systems implementation
Practical case

**Full-or-part-time:** 65h
Theory classes: 3h
Practical classes: 10h
Guided activities: 12h
Self study : 40h

---

**GRADING SYSTEM**

The final grade depends on the following assessment criteria:

Projects, weight: 40%

Mid-semester exam 1, weight: 30%
Mid-semester exam 2, weight: 30%

Unsatisfactory results in each of the mid-semester exams can be redressed on the day of the final exam. This test will be available to all enrolled students. The mark achieved in application of this redress will replace the original mark as long as it is higher.

---

**BIBLIOGRAPHY**

**Basic:**

---

**RESOURCES**

**Other resources:**
Slides and Notes.
Pack of exercises and problems.