220565 - Information System

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2019
Degree: MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2012). (Teaching unit Compulsory)
ECTS credits: 5  Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: Perramon Tornil, Xavier  Fernández Alarcón, Vicenç

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.

General:
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.
220565 - Information System

**Teaching methodology**

The course is divided into three parts:

Theory classes.

Practical classes (project).

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 examples appropriate 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. We propose that students solve exercises in and outside the classroom, to promote contact and use the basic tools needed to solve problems, and development the project.

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.

The teachers provide the curriculum and monitoring of activities (by 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>Total learning time: 125h</th>
<th>Hours large group:</th>
<th>8h</th>
<th>6.40%</th>
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<tr>
<td></td>
<td>Hours medium group:</td>
<td>15h</td>
<td>12.00%</td>
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<tr>
<td></td>
<td>Guided activities:</td>
<td>22h</td>
<td>17.60%</td>
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<tr>
<td></td>
<td>Self study:</td>
<td>80h</td>
<td>64.00%</td>
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## Content

<table>
<thead>
<tr>
<th>Module 1: Introduction to Information Systems</th>
<th>Learning time: 21h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 1h</td>
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<tr>
<td></td>
<td>Practical classes: 2h</td>
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<tr>
<td></td>
<td>Guided activities: 3h</td>
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<td>Self study : 15h</td>
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**Description:**
- What is an Information System
- The Life Cycle of an Information System

<table>
<thead>
<tr>
<th>Module 2: Phases in the Systems Development</th>
<th>Learning time: 21h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 1h</td>
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<tr>
<td></td>
<td>Practical classes: 2h</td>
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<tr>
<td></td>
<td>Guided activities: 3h</td>
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<td>Self study : 15h</td>
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**Description:**
- Systems Planning
- Systems Analysis
- Systems Design
- Systems Implementation and Support

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<thead>
<tr>
<th>Module 3: Modeling Techniques</th>
<th>Learning time: 83h</th>
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<tr>
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<td>Theory classes: 6h</td>
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<td>Practical classes: 11h</td>
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<td>Guided activities: 16h</td>
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<td>Self study : 50h</td>
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**Description:**
- System Requirements Modeling
- Data Modeling
- Process Modeling
The final grade depends on the following assessment criteria:

Project, weight: 30%

Mid-semester exam 1, weight: 35%

Mid-semester exam 2, weight: 35%

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 redressment will replace the original mark as long as it is higher.

**Bibliography**

**Basic:**

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