Course guides
820061 - PEM - Project Engineering & Management

Unit in charge: Barcelona East School of Engineering
Teaching unit: 717 - DEGD - Department of Engineering Graphics and Design.

Degree:
- BACHELOR’S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
- BACHELOR’S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
- BACHELOR’S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Optional subject).
- BACHELOR’S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
- BACHELOR’S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
- BACHELOR’S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2021  ECTS Credits: 6.0  Languages: English

LECTURER
Coordinating lecturer: FRANCISCO ALPISTE PENALBA
Others: Primer quadrimestre:
        FRANCISCO ALPISTE PENALBA - M10

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Understand the organisational structure and functions of project management offices.

Transversal:
2. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

TEACHING METHODOLOGY

The subject uses about 40% expositive methodology in classroom activities and projects based learning in 60 %. The individual work is needed about 40% of overall student learning time. the work in groups is needed in 60 %.

LEARNING OBJECTIVES OF THE SUBJECT

The following general learning objectives of this course can be considered:
1. Acquire fundamentals and knowledge about PROJECT ENGINEERING & MANAGEMENT. It refers to the management tasks related to the implementation of projects (Project Management)

2. Reliable use of information resources

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>30.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>15,0</td>
<td>10.00</td>
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</table>
Total learning time: 150 h

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<tr>
<th>CONTENTS</th>
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<tbody>
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<td><strong>Theme 2: Project Integration Management</strong></td>
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<tr>
<td><strong>Description:</strong></td>
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<tr>
<td>Theme 2: Project Integration Management. To ensure that the various elements of the project are properly coordinated.</td>
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<tr>
<td><strong>Full-or-part-time:</strong> 4h</td>
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<tr>
<td>Theory classes: 2h</td>
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<tr>
<td>Self study: 2h</td>
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</tbody>
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| **Theme 1: Introduction** |
| **Description:** |
| Theme 1: Introduction. The basic fundamentals of project management |
| **Full-or-part-time:** 4h |
| Theory classes: 2h |
| Self study: 2h |

| **Theme 3: Project Scope Management** |
| **Description:** |
| Theme 3: Project Scope Management. To ensure that the project includes all work required and only these. |
| **Full-or-part-time:** 4h |
| Theory classes: 2h |
| Self study: 2h |

| **Theme 4: Project Time Management** |
| **Description:** |
| Theme 4: Project Time Management. To ensure the completion of the project within schedule. |
| **Full-or-part-time:** 45h |
| Practical classes: 7h 30m |
| Guided activities: 15h |
| Self study: 22h 30m |

| **Theme 5: Project Cost Management** |
| **Description:** |
| Theme 5: Project Cost Management. To ensure that the project is completed within budget. |
| **Full-or-part-time:** 45h |
| Practical classes: 7h 30m |
| Guided activities: 15h |
| Self study: 22h 30m |
### Theme 6: Project Quality Management

**Description:**
Theme 6: Project Quality Management. To ensure that the project meets the requirements, i.e. the needs for which was undertaken.

**Full-or-part-time:** 8h  
Theory classes: 4h  
Self study: 4h

### Theme 7: Project Human Resource Management

**Description:**
Theme 7: Project Human Resource Management. To achieve the most effective use of people involved in the project.

**Full-or-part-time:** 8h  
Theory classes: 4h  
Self study: 4h

### Theme 8: Project Communication Management

**Description:**
Theme 8: Project Communication Management. To ensure adequate and timely generation, collection, dissemination, storage and final location of project information.

**Full-or-part-time:** 8h  
Theory classes: 4h  
Self study: 4h

### Theme 9: Project risk Management

**Description:**
Theme 9: Project risk Management. To identify, analyze and respond to project risks. Includes maximizing the likelihood and consequences of positive events and minimize the negative events.

**Full-or-part-time:** 8h  
Theory classes: 4h  
Self study: 4h

### Theme 10: Project Procurement Management

**Description:**
Theme 10: Project Procurement Management. To acquire products (goods or services) from outside the organization conducting the project.

**Full-or-part-time:** 16h  
Theory classes: 8h  
Self study: 8h
**ACTIVITIES**

**PARTICIPATORY EXPOSITORY CLASS**

**Description:**
Fundamentally expositive by involving the student with short-term activities. The teacher is the protagonist, sets the task to carry out and sets the rhythm of activity.

**Hours:** 4h/week  
In class: 2h  
Self-study: 2h

**Delivery:**
An exercise to be performed by each student, similar to the examples solved by the teacher.

**Full-or-part-time:** 60h  
Theory classes: 30h  
Self study: 30h

**PARTICIPATORY PROBLEM BASED LEARNING CLASS**

**Description:**
The method is based on the approach to problems by the teacher which the student has to solve developing a project in a given time or developing a task by planning, designing and carrying out activities.

**Hours:** 6h/week  
Practical class (half group): 1h  
Guided activities: 2h  
Self-study: 3h

**Delivery:**

**Full-or-part-time:** 90h  
Practical classes: 15h  
Guided activities: 30h  
Self study: 45h

**GRADING SYSTEM**

Exams of project theory 25%  
Exams of problems 25%  
Deliverables 20%  
Project: 30%

Assessment of student work, individual and / or group, made in person and distance, will be held by the teacher assessment weighting appropriately the different activities. The final mark includes the generic competence assessed on the course: "EFFECTIVE USE OF INFORMATION RESOURCES".

These mark of "EFFECTIVE USE OF INFORMATION RESOURCES" constitutes the 20% of the Project qualification. It is calculated by the teacher and classmates evaluating the contributions made by each student developing the Project.

**EXAMINATION RULES.**

Exam of theory without reference material  
Exam of problems with reference material
BIBLIOGRAPHY

Basic:

Complementary:

RESOURCES

Other resources:
Learning material published in the virtual learning environment.