Course guide
220566 - 220566 - Project Management

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 758 - EPC - Department of Project and Construction Engineering.

Degree: MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2012). (Compulsory subject).
Academic year: 2022  ECTS Credits: 7.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: VÍCTOR LÓPEZ GRIMAU
Others: BEATRIZ AMANTE GARCÍA

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. To analyze the risks and consequences of proposed solutions in the various organizational sub-systems and their social and environmental contexts.
3. 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.
4. Manage activities with relevant content of projects and / or operations that technology and organization have to interact effectively and efficiently.
5. Plan, organize, implement, lead and manage engineering projects, especially projects of innovation (R + D + I) and process improvement.

Generical:
6. Ability to apply knowledge to solve problems in new environments or unfamiliar environments within broader contexts (or multidisciplinary) related to engineering.
7. Self-learning capacity to independent continuous training.
8. Ability to effectively communicate their findings, knowledge and concluding reasons to skilled and unskilled audiences, clearly and unambiguously.

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 examples appropriate to facilitate their understanding.

In the practical classes (in the classroom), teachers guide students in applying theoretical concepts to solve cases / projects / problems, always using critical reasoning. We propose that students solve cases in and outside the classroom, to promote contact and use the basic tools needed to solve problems.

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

Project management is the discipline of planning, organizing, securing and managing resources to bring about the successful completion of specific project goals and objectives. The aim of this course is to provide guidelines to address any difficulties successfully and reach goals.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>10.0</td>
<td>5.71</td>
</tr>
<tr>
<td>Self study</td>
<td>112.0</td>
<td>64.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>23.0</td>
<td>13.14</td>
</tr>
<tr>
<td>Hours small group</td>
<td>30.0</td>
<td>17.14</td>
</tr>
</tbody>
</table>

**Total learning time:** 175 h

CONTENTS

**Module 1: Project Management Processes for a Project**

**Description:**
- Project Management Processes
- Project Management Process groups
- Processes interactions
- Project Management Process Mapping

**Full-or-part-time:** 36h 30m
- Theory classes: 6h
- Practical classes: 7h 30m
- Self study: 23h
Module 2: Project Integration Management and Project Time and Scope Management

Description:
- Introduction:
  Process Flow Diagrams
  Major Project Documents
- Project Integration Management
  Develop Project Charter
  Develop Preliminary Project Scope Statement
  Develop Project Management Plan
  Direct and Manage Project Execution
  Monitor and Control Project Work
  Integrated Change Control
  Close Project
- Project Scope Management
  Scope Planning
  Scope Definition
  Create WBS
  Scope Verification
  Scope Control
- Project Time Management
  Activity Definition
  Activity Sequencing
  Activity Resource Estimating
  Activity Duration Estimating
  Schedule Development
  Schedule Control

**Full-or-part-time:** 36h 30m

Theory classes: 6h
Laboratory classes: 7h 30m
Self study: 23h

Description:
- Project Cost Management
  Cost Estimating
  Cost Budgeting
  Cost Control
- Project Quality Management
  Quality Planning
  Perform Quality Assurance
  Perform Quality Control
- Project Human Resource Management
  Human Resource Planning
  Acquire Project Team
  Develop Project Team
  Manage Project Team
- Project Communication Management
  Communications Planning
  Information Distribution
  Performance Reporting
  Manage Stakeholders

Full-or-part-time: 51h 30m
Theory classes: 9h
Laboratory classes: 7h 30m
Guided activities: 2h
Self study: 33h

Module 4: Project Risk Management

Description:
Risk Management Planning
Risk Identification
Qualitative Risk Analysis
Quantitative Risk Analysis
Risk Response Planning
Risk Monitoring And Control

Full-or-part-time: 51h 30m
Theory classes: 9h
Laboratory classes: 7h 30m
Guided activities: 2h
Self study: 33h
GRADING SYSTEM

The final grade depends on the following assessment criteria:

- Mid-semester exam 1, weight 20%
- Mid-semester exam 2, weight 20%
- Tests and questions, weight 10%
- Project evaluation: document(s) 25%
- Project evaluation: individual work 15%
- Project evaluation: Oral presentation 10%

All students unable to attend the mid-semester exams, they must attend the final exam. The students failing the mid-semester exams will have the option of repeating them in the final exam.

BIBLIOGRAPHY

Basic:

Complementary:

RESOURCES

Hyperlink:
- Entorn col·laboratiu BSCW. Resource
- ATENEA