Course guide
220551 - 220551 - Innovation and Technology Policy

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: 2022 ECTS Credits: 5.0 Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: ROSA MARIA VIDAL TUSAL

Others: Primer quadrimestre:
MARIA JOSE SAURA AGEL - Grup: 1
ROSA MARIA VIDAL TUSAL - Grup: 1

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. 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.
2. Plan, organize, implement, lead and manage engineering projects, especially projects of innovation (R + D + I) and process improvement.
3. Manage activities with relevant content of projects and / or operations that technology and organization have to interact effectively and efficiently

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 effectively communicate their findings, knowledge and concluding reasons to skilled and unskilled audiences, clearly and unambiguously.
7. Self-learning capacity to independent continuous training.
8. Ability to understand the impact of engineering solutions in a global and social context.
TEACHING METHODOLOGY

The course is divided into three parts:

Theory classes

Practical Working Sessions (Oral or written submissions of related subjects about Scientific, Technical or nowadays news)

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.

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.

LEARNING OBJECTIVES OF THE SUBJECT

The course Innovation and Technology Policy introduces students to the concepts, principles and fundamentals of Innovation’s management as the most important way to be competitive in today’s global market. It’s pointed out technological innovation cause student’s engineering knowledge and today’s especial relevance of technical and scientific advances.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guided activities</td>
<td>22,0</td>
<td>17.60</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>Self study</td>
<td>80,0</td>
<td>64.00</td>
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Total learning time: 125 h
CONTENTS

Module 1: Theory

Description:
1. Identifying references
2. How to organize?
3. How to find ideas?
4. How to plan projects?
5. How to run projects?
6. How to finance innovation?
7. What are the profits?

Full-or-part-time: 63h
Theory classes: 4h
Practical classes: 8h
Guided activities: 11h
Self study: 40h

Module 2: Practice

Description:
1. Model of competitive strategies
2. Definition and planning of an innovation project

Full-or-part-time: 62h
Theory classes: 4h
Practical classes: 7h
Guided activities: 11h
Self study: 40h

ACTIVITIES

ACTIVITY 1: THEORY/LARGE GROUPS SESSIONS

Description:
Preparation before and after the theory sessions and attendance.

Specific objectives:
Transfer the necessary knowledge for a correct interpretation of the contents in the large group sessions, resolving doubts about the content of the course and generic skills development.

Material:
Notes posted to the Atenea platform.
General literature of the course.

Delivery:
During some sessions, exercises will be conducted in the class, individually or in small groups.

Full-or-part-time: 48h
Theory classes: 28h
Self study: 20h
ACTIVITY 2: EXERCISES/MEDIUM GROUPS SESSIONS

Description:
Preparation before and after the exercises sessions and attendance to the sessions.

Specific objectives:
Acquire the necessary skills for a correct interpretation of the problems of the course, and their satisfactory resolution. Preparation for the practical part of exams of the course. Development of generic skills.

Material:
Notes posted to the Atenea platform. General literature of the course. Exercises on the Atenea platform. Collection of Newspapers news related with the course.

Delivery:
During these sessions, exercises will be conducted in class or virtually, individually or in small groups. It represents 25% of the final course grade.

Full-or-part-time: 64h
Practical classes: 14h
Self study: 50h

ACTIVITY 3: MID-SEMESTER EXAM

Description:
Individual and writing assessment about the contents of module 1.

Specific objectives:
The exam must demonstrate that the student has acquired and assimilated the concepts, principles and fundamentals related to module 1.

Material:
Instructions and terms for the mid-semester exam.

Delivery:
The hand-in will be the result of the exam. It represents 35% of the final course grade.

Full-or-part-time: 6h
Theory classes: 1h
Self study: 5h
**ACTIVITY 4: FINAL EXAM**

**Description:**
Individual and writing assessment about the contents of modules 1, 2 and 3.

**Specific objectives:**
The exam must demonstrate that the student has acquired and assimilated the concepts, principles and fundamentals related to modules 1, 2 and 3.

**Material:**
Instructions and terms for the final exam.

**Delivery:**
The hand-in will be the result of the exam. 
It represents 40% of the final course grade.

**Full-or-part-time:** 7h
Theory classes: 2h
Self study: 5h

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**GRADING SYSTEM**

Exam 1, weight 20%
Exam 2, weight 30%
Presentations, weight 25%
Project, weight 20%
Attendance and participation 5%

All students unable to attend the mid-semester exams, or failing it, will have the option of repeating it with the final exam.

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**BIBLIOGRAPHY**

**Basic:**