Course guide
220567 - 220567 - Research Seminars on Management Engineering

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: 2023  ECTS Credits: 3.0  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Pep Simo

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. Apply concepts and techniques of descriptive and statistical inference under uncertainty.
2. Apply quantitative and experimental methods for making decisions in situations where intangibles appear
3. Apply theories and inherent principles in the production and logistics area in order to analyze uncertainty complex situations and make decisions using engineering tools.
4. Apply theories and inherent principles in the personal area in order to analyze uncertainty complex situations and make decisions using engineering tools.
5. 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.
6. Develop and present a research proposal according to the criteria of the international scientific community.

General:
7. 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.
8. Ability to effectively communicate their findings, knowledge and concluding reasons to skilled and unskilled audiences, clearly and unambiguously.
9. Self-learning capacity to independent continuous training.
TEACHING METHODOLOGY

The course is divided into three parts:

Theory classes  
Guided activities class  
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 guided activity class (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.

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 Research Seminars on Management Engineering introduces students to the concepts, principles and fundamentals of scientific research in Management Engineering organization from two points of view: the first presents the research from a methodological point of view (and more theoretical and formal) and a second point of view where cases and particular areas of scientific research in the engineering organization are presented.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>8,0</td>
<td>10.67</td>
</tr>
<tr>
<td>Guided activities</td>
<td>16,0</td>
<td>21.33</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>3,0</td>
<td>4.00</td>
</tr>
<tr>
<td>Self study</td>
<td>48,0</td>
<td>64.00</td>
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</tbody>
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Total learning time: 75 h
CONTENTS

Module 1: Research Concepts in Management Engineering

Description:
Introduction
The research question
Quality indexes for scientific research
Working with the literature
Research design
Data collection
Data management and analysis
The challenge of writing the results

Full-or-part-time: 75h
Theory classes: 8h
Practical classes: 3h
Guided activities: 16h
Self study: 48h

GRADING SYSTEM

Activity A1 (20%)
Activity A2 (20%)
Activity A3 (25%)
Activity A4 (35%)

All activities will be recoverable with a second optional delivery.

BIBLIOGRAPHY

Basic:

RESOURCES

Other resources:
Notes posted to the Atenea platform