

Course guide

220565 - 220565 - Information System

Last modified: 19/04/2023

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:** 5.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: XAVIER PERRAMON TORNIL

Others:

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.

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 operate and lead multidisciplinary and multicultural groups, with negotiation skills, group work, relationships in an international setting, and conflict resolution.

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 appropriate examples 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. Students will be prompted to solve exercises in and outside the classroom, to promote contact and use of the basic tools needed for solving problems and for developing the activities.

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. Teachers provide the workplan for study and monitoring of activities (through 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

Type	Hours	Percentage
Hours medium group	15,0	12.00
Self study	80,0	64.00
Hours large group	8,0	6.40
Guided activities	22,0	17.60

Total learning time: 125 h

CONTENTS

Module 1: Phases of the development of information systems

Description:

Systems planning
Systems analysis
Systems design
Systems implementation and support

Full-or-part-time: 27h

Theory classes: 2h
Practical classes: 2h
Guided activities: 5h
Self study : 18h

Module 2: Systems modeling techniques

Description:

Systems requirements modeling
Data modeling
Process modeling

Full-or-part-time: 33h

Theory classes: 3h
Practical classes: 3h
Guided activities: 5h
Self study : 22h



Module 3: Information systems implementation

Description:

Tools for information systems implementation
Practical case

Full-or-part-time: 65h

Theory classes: 3h
Practical classes: 10h
Guided activities: 12h
Self study : 40h

GRADING SYSTEM

The final grade depends on the following assessment criteria:

Projects, weight: 40%

Mid-semester exam 1, weight: 30%

Mid-semester exam 2, weight: 30%

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

BIBLIOGRAPHY

Basic:

- Fernández Alarcón, Vicenç. Desarrollo de sistemas de información: una metodología basada en el modelado [on line]. Barcelona: Edicions UPC, 2006 [Consultation: 18/09/2020]. Available on: <http://hdl.handle.net/2099.3/36751>. ISBN 8483018624.

RESOURCES

Other resources:

Slides and Notes.
Pack of exercises and problems.