COURSE: PROJECT MANAGEMENT

SUBJECT: Project Management
MODULE: Management and production optimization and sustainability
STUDIES: MASTER IN CHEMICAL ENGINEERING

GENERAL CHARACTERISTICS*

Kind: ☐ Basic formation, ☑ mandatory, ☐ Optional

☐ Masther thesis, ☐ Internship

Duration: Biannual **Semester / s**: one
Number of ECTS credits: 3
LanguagesEnglish, may include sessions in Castilian or Catalan.

DESCRIPTION

BRIEF DESCRIPTION AND JUSTIFICATION

The course aims to introduce students in technical project management in a corporation. Contents from the definition of the strategy and organization of the project to the techniques to manage teams to the defined objectives will be covered to achieve the following objectives:

- Provide students with a methodology to manage a project inside a business environment.
- Provide students with techniques to organize and manage a project.
- Provide students with the skills to manage projects.
- Teach students to make a project plan, analysis and discussion of results.
- Teach students to plan project tasks implementation.
- Understand the impact of their activities on the environment and society and the importance of working in a professional and ethically responsible environment.

POWERS

- CB8 - Students are able to integrate knowledge and handle complexity, and formulate judgments based on information that was incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments
- CG1 - Students can design, manage, perform and present a project.
- CT3 - Ability to work in a multidisciplinary environment, individually or as a team member.
- CT4 - Ability to lead and manage teams.
- CT5 - Ability to assess the impact of Chemical Engineering in the sustainable development of society.
- EC8 - Lead and manage work organization and human resources using criteria of industrial safety, quality management, risk prevention, sustainability and environmental management.
- EC9 - Managing Research, Development and Technological Innovation, based on technology transfer and property rights and patents.

PREVIOUS REQUIREMENTS*

Admission to the Master in Chemical Engineering from the Universitat Ramon Llull.

CONTENTS

1. **Introduction: definition of a project and project management.**
   - Project Definition
   - Projects vs Operations
   - Project Characteristics
   - What is Project Management?
   - Context of the Project Management

2. **Strategic analysis.**
   - Influences on a project
   - Cultures and styles of the organization
   - Structure of the organization
   - SWOT analysis of a project
   - PESTEL analysis of a project

3. **Life cycle of a project.**
   - Definition of project life cycle
   - Life cycle characteristics
   - Project Management processes: initiation, planning, implementation, monitoring and control, closure.
   - Selection of projects - study economic viability: Payback, NPV, IRR, cost-benefit Scorecard
   - Initiation process: Project Charter

4. **Areas of project management.**
   - Project requirements
   - Areas of project management: initiation, Stakeholder, scope, resources, time, costs, risks, Quality, Procurement, Communications
   - Estimating costs of a project.
   - Risk management of a project

5. **Planning and project control.**
   - What is planning?
   - Project phases and milestones
   - Work breakdown structure (WBS)
   - Translate EDT in the Project Plan: estimations
   - Estimating costs of a project. Control and monitoring costs on a project
   - PERT / CPM and critical path calculation
   - GANT Diagram Tool
   - Using MS-Project

6. **Organization of the project team.**
   - Introduction: How is a project organized? Team configuration

- Project Director: skills, roles and responsibilities
- Communication
- Conflict resolution
- Negotiation
- Leadership

METHODOLOGY

FORMATION ACTIVITIES*

Formation activities	Credits ECTS	Competences
Lectures about concepts	0,72	CB8, EC8, EC9
Exercises, problems and business cases	0,57	CB8, EC8, EC9 CT3, CT4. CT5
Presentations	0.04	CB8, CG1 CT3, CT4. CT5
Personal study and independent work	1,63	CB8, CG1 CT3, CT4. CT5 EC8, EC9
Evaluation activities	0.04	CB8, CG1
TOTAL	**3.00**	

EXPLANATION OF TEACHING METHODOLOGY

This course uses the following teaching methods:

- Presentations (including demonstrations) by the teacher.
- Solving exercises, approach / problem solving and presentation / discussion of cases by a teacher with the active participation of students.
- Oral presentations done by students.
- Personal work of the student to acquire required skills.
- Written tests to assess skills acquired.

The course will be mainly in English.

EVALUATION

ASSESSMENT METHODS *

Assessment methods	Weight	competences
Final exams	40%	CB8, EC8, EC9
Exercises and cases	10%	CB8, CG1

* These features should not be modified without the approval of the bodies responsible for academic higher-level structures (field, module and / or system).

		CT3, CT4. CT5
Presentations	40%	CB8, CG1
Participation	10%	CB8, CG1

LEARNING OUTCOMES

The student will have acquired:

- Ability to integrate knowledge and handle complexity, to formulate judgments based on incomplete or limited information.
- Ability to design, manage, perform and present a project.
- Ability to work in a multidisciplinary environment individually or as a team member.
- Ability to lead and manage teams.
- Ability to assess the impact of Chemical Engineering in the sustainable development of society.
- Ability to lead and manage work organization and human resources.
- Ability to manage research, development and technological innovation.

QUALIFICATION

The final examination of the subject (EF) has a value of 40% of the final grade.

Exercises and cases (ASA) of this course consists of classroom activities on issues related to planning and project development with a 10% weight on the final grade 10%.

A project group definition, planning and development (TP) will have to be submitted at the end of the course with an oral presentation. The weight in the final grade is 40%.

Finally the active participation (P) in class has a weight of 10% of the final grade.

In the event that a student does not pass the subject with a grade equal to or greater than 5, they will have to do an additional exam. Then the grade of the course will coincide with the final grade of this examination.

SKILLS ASSESSMENT

- CB8 - Final grade for the course
- CG1 - Media ASA, TP and P.
- CT3 - Note ASA
- CT4 - Note ASA
- CT5 - Note ASA
- EC8 - EF Note
- EC9 - EF Note

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BIBLIOGRAPHY (Recommended and accessible to students.)

- Strategies and tactics in management and project management. "Project Management". LJ Amendola. 658012 Love.
- Manual for efficient project management and works. FJ Gonzalez. Gon 658,012.
- Using network analysis in project management. HR Hoare 658,076 Hoa.
- www.pmi.org
- Cos, M., "Project Management", Synthesis, Madrid, 1999.
- Eisner, H., "Systems engineering and project management" AENOR, Madrid, 2000.
- Implementation Guide Project. AENOR. Spain. 1998
- Philips. JJ, Bothell.TW, Lynne Snead. G. The Project Management. 2nd Ed., Butterworth Heinemann, USA, 2002.
- Sunday Wormwood, A., "Management and project management. A Practical Approach ", Spain, 2005
- Nokes and Greenwood., "The Definitive Guide to Project Management", Madrid, 2007

DOCUMENT HISTORY

PREVIOUS CHANGES

LAST REVISION
05/08/2018 Manuel Guerris Larruy