UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: PROJECT MANAGEMENT
Code: 310630
Type: CORE COURSE
ECTS credits: 6
Degree: 2338 - MASTERS DEGREE PROGRAMME IN INDUSTRIAL ENGINEERING (AB)
Academic year: 2020-21
Center: 605 - SCHOOL OF INDUSTRIAL ENGINEERS. AB
Group(s): 10
Year: 2
Duration: First semester
Main language: Spanish
Second language: English
Use of additional languages:
English Friendly: Y
Web site: https://campusvirtual.uclm.es/
Bilingual: N

Lecturer: **JOSE IGNACIO MUÑOZ HERNANDEZ** - Group(s): **10**

Building/Office	Department	Phone number	Email	Office hours
Edificio Politécnico 2-A29	MECÁNICA ADA. E ING. PROYECTOS	Vía Teams	joseignacio.munoz@uclm.es	Any time of the week, upon request via e-mail, according to availability.

2. Pre-Requisites

In order for students to acquire the skills and learning objectives stated and described in this file, it is highly recommended to have completed the subject of “Proyectos” or “Oficina Técnica”, and have acquired knowledge for the calculation, design and development of an engineering project.

Likewise, it would be desirable for students to have a minimum level of English B1 or equivalent.

3. Justification in the curriculum, relation to other subjects and to the profession

This subject belongs to the "Management" module, associated with the specific competencies described in the Annex to Ministerial Order CIN / 311/2009 of February 9, 2009, which establishes the requirements of the curriculum leading to the obtaining of official university degrees that qualify for the exercise of the profession of Industrial Engineer, published in the BOE on 02/18/2009. This document explicitly mentions that one of the compulsory subjects of any curriculum of the Master's degree in Industrial Engineering must be Project Management.

The following considerations justify the subject in this curriculum:

In an internationally globalized environment, with high competition between companies and with restrictions on the availability of material, human and financial resources, skills related to optimal management of the resources involved in any type of project are sorely needed.

With this subject, the student will develop skills in the field of Project Management (PM). PM is understood as "the art of directing and coordinating human and material resources, throughout the life cycle of the project to achieve the predetermined objectives of scope, cost, time, quality and satisfaction of the project stakeholders".

It is intended to provide the student with the necessary tools to exercise with guarantees the work of Project Manager that is booming so much in all types of sectors in which the industrial engineer has professional capacity.

The content of the subject complies with the bodies of knowledge of the most prestigious national and international associations of Project Management, such as:

- AEIPRO: Asociación Española de Ingeniería de Proyectos (Spain)
- IPMA: International Project Management Association (Europe)
- PMI: Project Management Institute (USA / America)

4. Degree competences achieved in this course

Course competences

Code	Description
A03	To lead, plan and supervise multidisciplinary teams.
A05	To perform strategic planning and apply it to construction, production and environmental quality and management systems.
A06	To manage the technical and economic aspects of projects, installations, plants, companies and technology centres.
A07	To exercise functions of general, technical and R&D Project management in plants, companies and technology centres.
C01	Ability to organise and manage human resources. Knowledge of occupational risk prevention.
C02	Knowledge and skills for integrated project management.
C04	Possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.
C05	Apply the achieved knowledge and ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study
C06	Be able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of knowledge and judgments
C07	Know how to communicate the conclusions and their supported knowledge and ultimate reasons to specialized and non-specialized audiences in a clear and unambiguous way
C08	Have the learning skills which allow to continue studying in a self-directed or autonomous way
CB06	Knowledge and skills to organise and manage enterprises.

CB07	Strategy and planning knowledge and skills applied to different organisational structures.
CB08	Knowledge of commercial and labour law.
CB09	Knowledge of financial and costs accounting.
CB10	Knowledge of information systems for management, industrial organisation, production, logistics and quality management systems.
D01	Ability to design, construct and exploit industrial plants.
D02	Knowledge of construction, building, installations, infrastructures and urban planning in the scope of industrial engineering.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Acquire knowledge of the different tasks and roles to be performed in a project-based organization.

Manage the uncertainty associated with the potential risks and opportunities at each stage of a project. Identify, classify and hierarchize in accordance with probability and impact. Manage ways to avoid, mitigate or transfer project risks and opportunities.

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Use the tools necessary for project planning, programming, analysis and supervision and for control of project deadlines, cost and quality.

Be able to use the 'horizontal' management skills required for optimal integrated project management: motivation, negotiation, leadership, etc.

Be able to effectively communicate, present and defend ideas and concepts related to project management in public.

Develop the skills required to design, execute and exploit industrial buildings and facilities, using knowledge previously acquired in other subjects in a practical and coordinated way.

Be able to recognise the necessary resources and limitations of each type of project.

6. Units / Contents

Unit 1: INTRODUCTION TO PROJECT MANAGEMENT AND BASIC CONCEPTS OF INDUSTRIAL PROJECTS.

Unit 2: PROJECT MANAGEMENT, PROJECT MANAGER AND ORGANIZATION STRUCTURES.

Unit 3: PROJECT RESOURCES, STRUCTURES AND PM PROCESSES.

Unit 4: PROJECT TIME MANAGEMENT, MONITORING AND CONTROL.

Unit 5: PROJECT COST MANAGEMENT. HIRING AND PURCHASING. SITE WORK MANAGEMENT.

Unit 6: MANAGEMENT OF RISKS AND UNCERTAINTY IN PROJECTS.

ADDITIONAL COMMENTS, REMARKS

CONTENTS OF VERIFIED MEMORY	TOPICS
Introduction to Project Management. Basic concepts.	1
Project Management, project manager, and organization structures	2
ndustrial plants. Design, Execution and Management.	1
Identification and Assignment of Resources.	3
Planning and Technical Programming of Projects.	4 y 6
Monitoring and Adjustments. Control Mechanisms.	4
Critical Chain Method. Use Restrictions.	4
Cost Management. Budget Division. Contingencies.	5 y 6
Site Work Management. Hiring. Types of Execution. Contracts.	5
Construction and Contracting of Facilities and Industrial Infrastructures.	5

Deliverable: Project Charter.
Deliverable: Project Management Plan.
Deliverable: Project Risk Management.

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	A03 A05 A06 A07 C01 C02 C04 C05 C06 C07 C08 CB06 CB07 CB08 CB09 CB10 D01 D02	1	25	N	-	Participatory master class, with blackboard and projector
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	A05 A06 C01 C02 C04 C05 C06 C07 CB07 CB08 CB10 D01 D02	0.32	8	Y	Y	Problem solving in the classroom in a participatory way with traditional tools and realization of project work
Computer room practice [ON-SITE]	Work with simulators	A03 A05 A06 C01 C02 C04 C05 C06 C07 C08 CB07 CB08 CB10 D01 D02	0.48	12	Y	Y	Practices with specific software
Other on-site activities [ON-SITE]	Workshops and Seminars	A03 A05 A06 A07 C01 C02 C05 C06 C07 C08 CB07 CB08 CB09 CB10 D02	0.16	4	N	-	Talks and / or seminars given by professionals with experience in Project Management
Group tutoring sessions [ON-SITE]	Guided or supervised work	A03 A05 A06 C02 C05 C06 C07 CB07 CB08 CB09 D01 D02	0.16	4	N	-	Group tutorials (or individualized if necessary). Direct interaction teacher-student
Progress test [ON-SITE]	Assessment tests	A03 A05 A06 A07 C01 C02 C04 C05 C06 C07 C08 CB07 CB08 CB09 CB10 D01 D02	0.28	7	Y	N	Written tests, practical laboratory tests and presentation and defense of individual or group academic works
		A05 A06 C01 C02 C04 C05					

Writing of reports or projects [OFF-SITE]	Group Work	C06 C07 C08 CB07 CB08 CB09 CB10 D01 D02	3.6	90	Y	Y	Autonomous personal study of the student and supervised works
		Total:	**6**	**150**			
		Total credits of in-class work: 2.4					**Total class time hours: 60**
		Total credits of out of class work: 3.6					**Total hours of out of class work: 90**

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Theoretical papers assessment	40.00%	40.00%	Evaluation of academic work carried out by students outside of class and supervised by the teacher individually or in small groups.
Practicum and practical activities reports assessment	20.00%	20.00%	Reports of practical cases proposed in class will be presented, evaluating the way in which the techniques and tools worked in class are applied.
Final test	40.00%	40.00%	Written exam with theoretical questions, practices, practical cases and / or problems.
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

Continuous evaluation of all training processes that will be weighted to obtain a final grade between 0 and 10 according to the current legislation (Real Decreto 1125/2003 de 5 de septiembre).

The evaluation of the student is the result of the course follow-up and / or the exam or written test that will consist of theoretical questions and practical exercises.

The course follow-up is based on:

- Evaluation of the assimilation of concepts and procedures through written tests.

- Evaluation of the acquisition of practical skills through an ad-hoc built profile of competences that considers the documentation submitted by the student, individually or in small groups, through reports, the work developed, and the skills and attitudes shown during assessments and guided practical activities.

- Evaluation of academic work carried out by students outside of class and supervised by the professor, individually or in small groups. The student must make, deliver, and defend before the professor a report with some of the proposed exercises. The professor will assess the presentation, exhibition, defense, and difficulty of the chosen exercises.

The final grade of the student is from 0 to 10 points, taking into account the following remarks:

- The grade obtained in the progress tests is saved until the ordinary call. To pass and be able to weight the subject of each partial, a minimum grade of 4 points must be obtained.

- The grade obtained in the elaboration of reports of practices is saved until the extraordinary call.

- The grade obtained in the elaboration of reports or works (the project of the subject) is saved until the extraordinary call.

Non-continuous evaluation:

All practical activities reports that count for the final qualification can be performed at home, since the software will be accessible free of charge for individual installations.

Specifications for the resit/retake exam:

The students who have not attended and delivered the practice reports and / or the project of the subject will attend it.

In order to pass the subject in the extraordinary call, they must deliver the practice reports and the project of the subject in addition to take the final test that will include all the contents of the subject.

Students who do not attend the extraordinary session will be considered as NOT TAKEN.

Specifications for the second resit / retake exam:

As in the extraordinary call.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours
Computer room practice [PRESENCIAL][Work with simulators]	12
Other on-site activities [PRESENCIAL][Workshops and Seminars]	4
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	4
Progress test [PRESENCIAL][Assessment tests]	7
Writing of reports or projects [AUTÓNOMA][Group Work]	90

Unit 1 (de 6): INTRODUCTION TO PROJECT MANAGEMENT AND BASIC CONCEPTS OF INDUSTRIAL PROJECTS.

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	5
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	2
Unit 2 (de 6): PROJECT MANAGEMENT, PROJECT MANAGER AND ORGANIZATION STRUCTURES.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	1
Unit 3 (de 6): PROJECT RESOURCES, STRUCTURES AND PM PROCESSES.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	1
Unit 4 (de 6): PROJECT TIME MANAGEMENT, MONITORING AND CONTROL.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	2
Unit 5 (de 6): PROJECT COST MANAGEMENT. HIRING AND PURCHASING. SITE WORK MANAGEMENT.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	1
Unit 6 (de 6): MANAGEMENT OF RISKS AND UNCERTAINTY IN PROJECTS.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	1
Global activity	
Activities	**hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	25
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	8
Computer room practice [PRESENCIAL][Work with simulators]	12
Other on-site activities [PRESENCIAL][Workshops and Seminars]	4
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	4
Progress test [PRESENCIAL][Assessment tests]	7
Writing of reports or projects [AUTÓNOMA][Group Work]	90
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Francisco Manuel Salazar Castañeda	Gestión de Proyectos con Project (Bajo el enfoque del PMI)	Marcombo	Lima (Perú)	978-84-267-2578-3	2018	Manual de MS Project, aplicado a la Gestión de Proyectos
Gregory M. Horine	Gestión de Proyectos	Anaya	Madrid	978-84-415-2607-5	2010	Compendio de conocimientos sobre la gestión de proyectos
Juan Luis Cano et al.	Curso de Gestión de Proyectos	AEIPRO	Zaragoza	84-95475-35-9	2003	Manual práctico
Manuel de Cos Castillo	Teoría General del Proyecto. Vol.: I	Editodial Síntesis, S.A.	Madrid	84-7738-332-4	1999	Visión académica
Marcos Serer Figueroa	Gestión Integrada de Proyectos	Edicions UPC	Barcelona	84-8301-453-X	2001	Autor con dilatada experiencia en la dirección de proyectos de ingeniería internacionales
Mario Vanhoucke	Integrated Project Management Sourcebook	Springer	Londres	978-3-319-27372-3	2016	Guía técnica de programación, control y gestión de riesgos en proyectos
Project Management Institut, Inc.	Guía de los Fundamentos para la Direccíón de Proyectos www.pmi.org	Project Management Institut, Inc.	Pennsylvania (EEUU)	978-1-62825-194-4	2017	6ª edición del cuerpo de conocimiento más utilizado, a nivel internacional, por los profesionales de la Dirección Integrada de Proyectos o "Project Management"
Project Management Institut, Inc.	Project Management Body of Knowledge www.pmi.es	Project Management Institut, Inc.	Pennsylvania (EEUU)	978-1-62825-184-5	2017	6ª edición, en inglés, del cuerpo de conocimiento más utilizado, a nivel internacional, por los profesionales de la Dirección Integrada de Proyectos o "Project Management"

Rafael de Heredia Scasso	Dirección Integrada de Proyectos	Alianza Editorial Madrid	84-7484-129-1	1999	3ª Edición. Primer profesional del Project Management en España
	MOODLE - Plataforma docente https://campusvirtual.uclm.es				Incluirá la documentación necesaria para el seguimiento de las clases magistrales y la ejecución y desarrollo de problemas, ejercicios y casos prácticos.