



POLITÉCNICA

INTERNATIONAL  
CAMPUS OF  
EXCELLENCE

COORDINATION PROCESS OF  
LEARNING ACTIVITIES  
PR/CL/001

ingeniería  
diseño  
industrial

E.T.S. de Ingeniería y Diseño  
Industrial

# ANX-PR/CL/001-01

## LEARNING GUIDE

### SUBJECT

**565002072 - Intellectual Capital And Knowledge Management**

### DEGREE PROGRAMME

56IE - Grado En Ingeniería Eléctrica

### ACADEMIC YEAR & SEMESTER

2025/26 - Semester 1

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## 1. Description

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### 1.1. Subject details

<b>Name of the subject</b>	565002072 - Intellectual Capital And Knowledge Management
<b>No of credits</b>	3 ECTS
<b>Type</b>	Optional/elective
<b>Academic year of the programme</b>	Fourth year
<b>Semester of tuition</b>	Semester 7
<b>Tuition period</b>	September-January
<b>Tuition languages</b>	English
<b>Degree programme</b>	56IE - Grado en Ingeniería Eléctrica
<b>Centre</b>	56 - E.T.S. De Ingeniería Y Diseño Industrial
<b>Academic year</b>	2025-26

## 2. Faculty

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### 2.1. Faculty members with subject teaching role

<b>Name and surname</b>	<b>Office/Room</b>	<b>Email</b>	<b>Tutoring hours *</b>
Irene Martin Rubio (Subject coordinator)	C-201	irene.mrubio@upm.es	Tu - 12:00 - 12:30 Appointment.

\* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

## 3. Skills and learning outcomes \*

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### 3.1. Skills to be learned

CE15 - Conocimientos básicos de los sistemas de producción y fabricación industrial.

CE16 - Conocimientos básicos y aplicación de tecnologías medioambientales y sostenibilidad.

CE17 - Conocimiento adecuado del concepto de empresa, marco institucional y jurídico de la empresa. Organización y gestión de empresas.

CG10 - Creatividad

CG5 - Comunicar conocimientos y conclusiones, tanto de forma oral como escrita, a públicos especializados y no especializados de modo claro y sin ambigüedades.

CG6 - Poseer las habilidades de aprendizaje que permitan continuar estudiando a lo largo de toda la vida para un desarrollo profesional adecuado

CG7 - Incorporar las TIC y las tecnologías y herramientas de la Ingeniería Industrial en sus actividades profesionales.

CG8 - Uso de la lengua inglesa a nivel escrito y oral.

CG9 - Organización y planificación de proyectos y equipos humanos. Trabajo en equipo y capacidad de liderazgo.

### 3.2. Learning outcomes

RA267 - Capacity of relationship with speakers in English

RA83 - Capacidad de análisis, crítica y síntesis.

RA80 - Actitudes de razonamiento crítico y actuaciones creativas para abordar y resolver problemas.

RA288 - Knowledge Management Capacity.

RA85 - Capacidad para adaptarse y entender otras culturas y situaciones.

RA87 - Capacidad de defender ideas y puntos de vista indicando pros y contras de las distintas opciones.

RA84 - Capacidad de trabajar en equipos unidisciplinares, multidisciplinares o multiculturales.

RA82 - Capacidad de expresarse correctamente de forma oral y escrita en distintas situaciones y en diferentes foros, utilizando las convenciones propias de los distintos géneros textuales.

RA81 - Comunicación efectiva, tanto por escrito como oralmente, de conocimientos, procedimientos, resultados e ideas.

RA86 - Capacidad de relación con hablantes en inglés.

RA89 - Conocimientos y capacidades para entender las ideas principales de textos de carácter general.

RA88 - Actitudes de razonamiento crítico y actuaciones creativas basadas en situaciones abiertas.

RA61 - Capacidad de explicar su situación profesional y académica por escrito y oralmente.

RA44 - Conocimientos básicos de los sistemas de producción industrial.

RA287 - Being able to make presentations of the work done

RA90 - Capacidad de producción de textos sobre temas generales.

\* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

## 4. Brief description of the subject and syllabus

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### 4.1. Brief description of the subject

Organizations in the Knowledge Age, in Industry 4-0 need a new management model for generating, capturing, and leveraging intellectual capital assets in order to stay competitive. In this course, we review the fundamental elements required for developing a comprehensive system for creating and applying sustained levels of intellectual capital in this mellenium. A central question is how to measure this knowledge, this is Intellectual Capital.

### 4.2. Syllabus

1. 1.Introduction: Knowledge has become the resource, rather than a resource.
2. The concept of Organization.
  - 2.1. Sustainability Strategy.
3. Knowledge Management.
4. Organizational Learning.
5. Intellectual Capital.

## 5. Schedule

### 5.1. Subject schedule\*

Week	Type 1 activities	Type 2 activities	Distant / On-line	Assessment activities
1	<b>Introduction</b> Duration: 02:00 Additional activities			
2	<b>1. Knowledge has become the resource, rather than a resource.</b> Duration: 02:00 Additional activities			
3	<b>1.Introduction: Knowledge has become the resource, rather than a resource.</b> Duration: 02:00 Additional activities			<b>Presentations 1.1- optional</b> Group presentation Progressive assessment Presential Duration: 01:00
4	<b>2, The concept of Organization.</b> Duration: 02:00 Additional activities			
5	<b>Case Study</b> Duration: 02:00 Additional activities			
6	<b>Case Study</b> Duration: 02:00 Additional activities			
7	<b>3. Knowledge Management.</b> Duration: 02:00 Additional activities			
8	<b>Case Study</b> Duration: 02:00 Additional activities			<b>Presentations 1.2- optional.</b> Group presentation Progressive assessment Presential Duration: 02:00
9	<b>4.Organizational Learning.</b> Duration: 02:00 Additional activities			
10	<b>5. Intellectual Capital</b> Duration: 02:00 Additional activities			
11	<b>Case Study</b> Duration: 02:00 Additional activities			<b>Presentations 2- compulsory.</b> Group presentation Progressive assessment Presential Duration: 05:00
12	<b>Case Study</b> Duration: 02:00 Additional activities			<b>Presentations 3- Compulsory</b> Group presentation Progressive assessment Presential Duration: 02:00

13	<b>Case Study</b> Duration: 02:00 Additional activities			<b>Exam - Compulsory.</b> Written test Progressive assessment Presential Duration: 03:00
14	<b>Review - Intellectual Capital</b> Duration: 02:00 Additional activities			
15				<b>Exam</b> Written test Global examination Presential Duration: 02:00
16				
17				

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

## 6. Activities and assessment criteria

### 6.1. Assessment activities

#### 6.1.1. Assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
3	Presentations 1.1- optional	Group presentation	Face-to-face	01:00	5%	5 / 10	CG6 CG7 CG9 CG10 CE16 CE17
8	Presentations 1.2- optional.	Group presentation	Face-to-face	02:00	5%	5 / 10	CG5 CG6 CG7 CG8 CG9 CG10 CE16
11	Presentations 2- compulsory.	Group presentation	Face-to-face	05:00	25%	5 / 10	CG5 CG6 CG7 CG8 CG9 CG10 CE15 CE16 CE17
12	Presentations 3- Compulsory	Group presentation	Face-to-face	02:00	25%	5 / 10	CG5 CG6 CG7 CG8 CG9 CG10 CE15 CE16 CE17
13	Exam - Compulsory.	Written test	Face-to-face	03:00	40%	5 / 10	CG5 CG6 CG7 CG8 CG9 CG10 CE15 CE16



Exam: Test-Multiple Choice, Questions & Case Study.

The student pass the course, if the average mark is 5.

Evaluation by only Final Exam :

Exam. Minimum mark to pass the exam:5 (marks between 0-10)

Exam: Test-Multiple Choice, questions & Case Study

## 7. Teaching resources

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### 7.1. Teaching resources for the subject

Name	Type	Notes
Martín Rubio, Irene, Slides in OCW	Web resource	<a href="http://ocw.upm.es/organizacion-de-empresas/intellectual-capital-and-knowledge-management/class-material">http://ocw.upm.es/organizacion-de-empresas/intellectual-capital-and-knowledge-management/class-material</a>
Martín Rubio, I. (2021). Challenges in Green Intellectual Capital and Knowledge Management in Sustainability and Industry 4.0. In book: De Castro y Masspi "Knowledge Management and Corporate Social Responsibility", IGI GLOBAL	Bibliography	

Companies Sustainability & Financial Reports	Web resource	Case Studies all around the world
Nonaka, I. & Takeuchi H. (1995). The Knowledge creating company: How Japanese Companies Create the Dynamics of Innovation. New York: Oxford University Press.	Bibliography	
European Commission (2021b) "Green Growth and Circular Economy" <a href="https://ec.europa.eu/environment/green-growth/index_en.htm">https://ec.europa.eu/environment/green-growth/index_en.htm</a>	Bibliography	
Davenport, T. H., & Prusak, L. (1998). Working knowledge: How organizations manage what they know. Harvard Business Press.	Bibliography	
Yubing Yu, Min Zhang & Baofeng Huo (2021) The impact of relational capital on green supply chain management and financial performance, Production Planning & Control, 32:10, 861-874	Bibliography	
Wenger, Etienne, C. (1998). Communities of practice: Learning, meaning and identity. Cambridge University Press.	Bibliography	
Edvinsson, L. & Malone, M.S. (1997). Intellectual Capital: Realizing your Company's True Value by Finding its Hidden Brainpower. New York: Harper Business.	Bibliography	
Stewart, A.T. (1997). Intellectual Capital, The New Wealth of Organizations. New York: Bantam Doubleday Publishing.	Bibliography	

## 8. Other information

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### 8.1. Other information about the subject

Sessions will follow Flipped Classroom methodology

Students are encouraged in a Project to consider proposals that can accomplish with SDG (Sustainable

Development Goals):

<https://sdgs.un.org/es/goals>

Students are encouraged to review Sustainability Reports all around the world.