



POLITÉCNICA

INTERNATIONAL
CAMPUS OF
EXCELLENCE

COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S.I. Montes, Forestal y
Medio Natur.

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

133000208 - Training For The Professional Digital Competence

DEGREE PROGRAMME

13AC - Master Universitario En Economía Circular

ACADEMIC YEAR & SEMESTER

2025/26 - Semester 1

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1. Description

1.1. Subject details

Name of the subject	133000208 - Training For The Professional Digital Competence
No of credits	6 ECTS
Type	Optional/elective
Academic year of the programme	Second year
Semester of tuition	Semester 3
Tuition period	September-January
Tuition languages	English
Degree programme	13AC - Master Universitario en Economía Circular
Centre	13 - E.T.S.I. Montes, Forestal Y Medio Natur.
Academic year	2025-26

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Justo Garcia Navarro (Subject coordinator)	151.02.101.0	justo.gnavarro@upm.es	Sin horario. Any day, by appointment.

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

2.3. External faculty

Name and surname	Email	Institution
Anabel Patricia Castillo Rodríguez	anabel.castillo@upm.es	UPM-ETSIAAB
Francisco David Sanz Arauz	david.sanz.arauz@upm.es	UPM-ETSA
Ruth Carrasco Gallego	ruth.carrasco@upm.es	UPM-ETSII

3. Skills and learning outcomes *

3.1. Skills to be learned

CB06 - Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación

CB08 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios

CB09 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades

CB10 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.

CE06 - El alumno será capaz de analizar proyectos de inversión y realizar modelos de negocio en el ámbito de la economía circular.

CE07 - El alumno adquirirá la capacidad del liderazgo de equipos y la toma de decisiones en la organización.

CG01 - El alumno tendrá capacidad para analizar y evaluar las implicaciones de implantar un modelo de economía circular desde el punto de vista normativo, económico, industrial y tecnológico.

CT02 - El alumno tendrá capacidad para utilizar herramientas de gestión administrativa y económica de los recursos humanos, materiales y financieros en la propuesta y ejecución de proyectos.

CT03 - El alumno tendrá capacidad para gestionar la información procedente de diversas fuentes, valorando su relevancia, fiabilidad y pertinencia para un propósito determinado, analizándola y organizándola.

CT05 - El alumno tendrá capacidad para planificar y organizar trabajos y proyectos, estableciendo los objetivos y la programación, asignando tareas y recursos y responsabilizándose de la correcta toma de decisiones.

CT07 - El alumno tendrá capacidad para utilizar la lengua inglesa para la comunicación oral y escrita a nivel avanzado en entornos académicos y profesionales.

3.2. Learning outcomes

RA29 - Desarrollar un plan de identidad digital relevante, incluyendo objetivos a corto y largo plazo./ Develop a relevant digital identity plan, including short and long-term objectives.

RA31 - Desarrollar un entorno personal de aprendizaje relevante, incluyendo TICs y recursos educativos en abierto, para la formación continua en el ámbito profesional./ Develop a relevant personal learning environment (PLE), including ICTs and open educational resources, for the continuous professional development.

RA32 - Aplicar buenas prácticas para presentaciones orales./ Apply good practices for oral presentations.

RA33 - Seleccionar recursos educativos en abierto de calidad y pertinentes, para el aprendizaje para toda la vida en economía circular./ Select pertinent and quality open educational resources for lifelong learning purposes on a circular economy.

RA30 - Evaluar el entorno personal de aprendizaje propio para fines académicos y profesionales./ Evaluate the own current personal learning environment for professional and training purposes.

* 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

4.1. Brief description of the subject

This is a transversal course for master programs in engineering and architecture based on the development of the cross-cutting competencies, the personal learning environment, and the digital identity, with the support of MOOC and other ICTs.

4.2. Syllabus

1. MODULE 1: PERSONAL, SOCIAL AND CIVIC COMPETENCES

1.1. LESSON 1. Key competences: personal, social and civic competences.

- 1.1.1. - The European framework of key competences. Knowledge, skills, attitudes, behaviour and values.
- 1.1.2. - Identification of capacities needs and limits in the field of key competences.
- 1.1.3. - The three levels of professional development: personal, organizational and societal.
- 1.1.4. - Teamwork and networking.
- 1.1.5. - The key role of personal, social and civic competences in the Circular Economy.

2. MODULE 2: PERSONAL LEARNING ENVIRONMENTS

2.1. LESSON 2.1. Personal Learning Environments (PLEs).

- 2.1.1. - Introduction to PLE: definition.
- 2.1.2. - PLEs and Information and Communication Technologies (ICTs).
- 2.1.3. - The PLE and its application in the context of the MUEC MCP.

2.2. LESSON 2.2. Guidelines for building a PLE.

- 2.2.1. - Information management.
- 2.2.2. - Content curation.
- 2.2.3. - Analysis of existing tools and applications available on the network.
- 2.2.4. - Tips when building a PLE.
- 2.2.5. - Building the PLE of the student.

3. MODULE 3: MANAGEMENT OF PROFESSIONAL DIGITAL IDENTITY

3.1. LESSON 3. What is and how to manage the digital identity.

3.1.1. - What is digital identity?

3.1.2. - Reputation and online visibility.

3.1.3. - Tools for managing the digital identity: LinkedIn, Academia.edu, ResearchGate.

3.1.4. - Digital identity management.

4. MODULE 4: ORAL PRESENTATIONS AND WORKS DEFENSE

4.1. LESSON 4. Oral presentations and public defence of works.

4.1.1. - Preparation of documentation. Tools for presenting assignments.

4.1.2. - Oral presentation of the pursued digital identity and the PLE of the student.

5. MODULE 5: TRAINING IN CROSS-CUTTING COMPETENCIES

5.1. LESSON 5. MOOC I (CROSS-CUTTING COMPETENCIES).

5.1.1. - Training in cross-cutting competencies with the support of the PLE. Documentation of sources.

5.1.2. - PLE - MOOC I and MUEC MCP relationship.

5.1.3. - Course: Introduction to Personal Branding (University of Virginia):

<https://www.coursera.org/learn/personal-branding>

6. MODULE 6: TRAINING IN CIRCULAR ECONOMY OF MINERALS AND CONSTRUCTION PRODUCTS

6.1. LESSON 6. MOOC II (CIRCULAR ECONOMY).

6.1.1. - Training in Circular Economy of Minerals and Construction Products with the support of the PLE. Documentation of sources.

6.1.2. - PLE - MOOC II and MUEC MCP relationship.

6.1.3. - Course: Circular Economy: An Introduction (Delft University of Technology, TU Delft):

<https://www.coursera.org/learn/personal-branding>

5. Schedule

5.1. Subject schedule*

Week	Type 1 activities	Type 2 activities	Distant / On-line	Assessment activities
1				
2				
3				
4				
5				
6				
7		Activity 0.0: Initial questionnaire of the course. Duration: 00:10 Additional activities		
8	Weekly control Duration: 00:30 Additional activities	Activity 0.1: T4PDC blog post. Personal presentation. Duration: 01:30 Additional activities Activity 1.0: Previous questionnaire on personal, social and civic competences. Duration: 00:10 Additional activities Activity 1.1: Competency objectives in the field of the course. Duration: 01:30 Additional activities Activity 1.2: See the documentary #MiEmpleoMiFuturo: a documentary about robots, economy, middle class ... and the end of the world. Duration: 00:30 Additional activities Activity 1.3: T4PDC blog post. Personal reflection on the professional future. Duration: 01:30 Additional activities Activity 2.0: Previous PLE questionnaire. Duration: 00:10 Additional activities	LESSON 0. Course presentation. Duration: 02:00 Lecture LESSON 1. Key competences: personal, social and civic competences. Duration: 03:00 Lecture LESSON 5. MOOC I (CROSS-CUTTING COMPETENCIES). Duration: 10:00 Additional activities	Weekly control Other assessment Progressive assessment Presential Duration: 00:30
9	Weekly control Duration: 00:30 Additional activities	Activity 2.1: Initial PLE. Duration: 04:30 Additional activities Activity 2.2: Improved PLE. Duration: 04:30 Additional activities	LESSON 2.1. Personal Learning Environments (PLEs). Duration: 03:00 Cooperative activities LESSON 2.2. Guidelines for building a PLE. Duration: 03:00 Cooperative activities	Weekly control Other assessment Progressive assessment Presential Duration: 00:30

10	<p>Weekly control Duration: 00:30 Additional activities</p>	<p>Activity 2.3: T4PDC blog post. Presentation of the PLE. Duration: 01:30 Additional activities</p> <p>Activity 3.0: Previous questionnaire on digital identity. Duration: 00:10 Additional activities</p> <p>Activity 3.1: Draft of the Digital Identity Plan. Duration: 03:00 Additional activities</p> <p>Activity 3.2: Evaluation of your own digital identity and that of your classmates. Duration: 01:30 Additional activities</p> <p>Activity 3.3: T4PDC blog post. Definitive Digital Identity Plan. Duration: 01:30 Additional activities</p> <p>Activity 4.1: Preparation of the T4PDC Course Work (initial version). Duration: 03:00 Additional activities</p>	<p>Tutoring Session: PLE. Duration: 03:00 Cooperative activities</p> <p>Activity 5.1: T4PDC blog post explaining contents and learning results of MOOC I, and linking the new PLE with the learning experience derived from MOOC I. Duration: 01:00 Additional activities</p> <p>LESSON 3. What is and how to manage the digital identity. Duration: 03:00 Lecture</p> <p>LESSON 4. Oral presentations and public defense of works. Duration: 03:00 Lecture</p> <p>LESSON 6. MOOC II (CIRCULAR ECONOMY IN THE CONSTRUCTION SECTOR). Duration: 10:00 Additional activities</p>	<p>Weekly control Other assessment Progressive assessment Presential Duration: 00:30</p>
11	<p>Weekly control Duration: 00:30 Additional activities</p>	<p>Activity 4.2: Preparation of the T4PDC Course Work (improved version). Duration: 03:00 Additional activities</p>	<p>Tutoring Session: Oral presentations, review of MOOCs and group discussion. Duration: 03:00 Cooperative activities</p> <p>Activity 6.1: T4PDC blog post explaining MOOC II content and learning outcomes, and linking the new PLE with the learning experience derived from MOOC I. Duration: 01:00 Additional activities</p>	<p>Weekly control Other assessment Progressive assessment Presential Duration: 00:30</p>
12				
13				
14				
15	<p>GLOBAL EVALUATION / WORKS' DEFENSE Duration: 01:00 Additional activities</p>	<p>Final activity EO. Final questionnaire on competences, digital identity, use of ICTs. Duration: 00:10 Additional activities</p>		<p>GLOBAL EVALUATION / WORKS' DEFENSE Individual presentation Progressive assessment Presential Duration: 01:00</p> <p>GLOBAL EVALUATION / WORKS' DEFENSE Individual presentation Global examination Presential Duration: 02:00</p>

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
8	Weekly control	Other assessment	Face-to-face	00:30	10%	5 / 10	CB06 CB08 CB09 CB10 CT02 CT03 CT05 CT07
9	Weekly control	Other assessment	Face-to-face	00:30	10%	5 / 10	CB06 CB08 CB09 CB10 CT02 CT03 CT05 CT07
10	Weekly control	Other assessment	Face-to-face	00:30	10%	5 / 10	CB06 CB08 CB09 CB10 CT02 CT03 CT05 CT07
11	Weekly control	Other assessment	Face-to-face	00:30	10%	5 / 10	CB06 CB08 CB09 CB10 CT02 CT03 CT05 CT07
15	GLOBAL EVALUATION / WORKS' DEFENSE	Individual presentation	Face-to-face	01:00	60%	5 / 10	CG01 CB06 CB08 CB09 CB10 CE06 CE07

							CT02 CT03 CT05 CT07
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6.1.2. Global examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
15	GLOBAL EVALUATION / WORKS' DEFENSE	Individual presentation	Face-to-face	02:00	100%	5 / 10	CB08 CB09 CB10 CE06 CE07 CT02 CT03 CT05 CT07 CB06 CG01

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
GLOBAL EVALUATION / WORKS' DEFENSE	Individual work	Face-to-face	02:00	100%	5 / 10	CG01 CB06 CB08 CB09 CB10 CE06 CE07 CT02 CT03 CT05 CT07

6.2. Assessment criteria

All the teaching programmed as face-to-face may be taught indistinctly as physical or remote face-to-face (online). The same occurs with the evaluation activities, which may be carried out face-to-face or online in accordance with the criteria established by the teachers, or due to external circumstances. For this academic year, everything is planned in person.

The students will follow the subject carrying out the activities and evaluation controls progressively. In them, their attitude towards the subject will be valued in the first place: that is, effort, involvement and willingness to achieve the stated learning objectives. In addition, the initiative, the rigor in the work, the viability of their proposals, and the application of the knowledge acquired will be valued, confirming the acquisition of basic, general, transversal and specific competences.

In the event that students do not follow the subject continuously and attend the global evaluation directly, it will be understood that the students have renounced following the subject program and have chosen to achieve the objectives by themselves and following the guidelines of the subject (this document), so only the acquisition of the formulated competences will be valued.

In addition to the weights described in the assessment tests, the other aspects to consider for the student's final grade will be considered as follows:

BRIEF DESCRIPTION OF ASSESSABLE ACTIVITIES	MOMENT	PLACE	WEIGHT IN THE MARK
Participation / attitude	Continued	Face-to-face / online	10 %
By assessing assignment and activities	Continued	Face-to-face / online	45 %
By assessing a test / final exam	Punctual	Face-to-face / online	45 %

CRITERIA FOR THE MARK

The scores will be expressed numerically in accordance to Article 5 of the Royal Decree 1125/2003, of the 5th of September, for which the European system of credits and the grading system of the official university degrees and validity are established.

The final marks of the student will consider the following criteria:

- Participation / attitude percentage. The student must complete the defined program following the itinerary and options that he/she decides according to his/her personal and professional interests: 10 %.
- Percentage of the mark that will be obtained by evaluating works and activities: 45%.
- Percentage of the mark that will be obtained by evaluating a test / final exam: 45%.
- Attendance to classes and tutorials: It is recommended that the student participate in not less than the 80% of the scheduled sessions in any case. The tutorials may be face-to-face or online, and are encouraged for the continuous evaluation of the student, through a closer and tailor-made academic monitoring.

Evaluation system	MINIMUM Weighting	MAXIMUM Weighting
Participation / attitude	5	15
Assignments	30	60
Final Exam	30	60

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Documentary archive	Bibliography	An updated list of bibliographic resources will be provided every year.
Moodle	Web resource	Collaborative workspace for the development of the program.
Media	Equipment	The usual from the Department and the School for teaching postgraduate subjects

8. Other information

8.1. Other information about the subject

SHORT DESCRIPTION OF THE ORGANIZATIONAL MODALITIES AND TEACHING METHODS USED

LECTURES

This course is blended, and the lectures include face-to-face sessions (4), as well as the following of the educational resources on the different lessons included in the program.

Allocation foreseen: 10 hours.

PRACTICAL LECTURES

The practical lectures consist of carrying out the activities proposed in each of the lessons of the program, including specific planned face-to-face or online sessions for the monitoring and assistance of the student.

Allocation foreseen: 150 hours.

AUTONOMOUS WORKS

Optimization of the digital identity, visibility and online reputation of the student; development of their own PLE.

Allocation foreseen: 30 hours.

TEAMWORKS

Group activities will be carried out aimed at the critical evaluation of autonomous work.

Allocation foreseen: 5 hours.

TUTORIALS

The tutorials, which will be face-to-face or online sessions depending on the interests of the students, will follow the 'flipped classroom' strategy, since the educational materials are offered online and these sessions will be basically intended for the discussion of contents, the revision of assignments and the definition of new proposals or objectives.

Allocation foreseen: 15 hours.

SELF-STUDY AND AUTONOMOUS WORK

Self-study and autonomous work of the student are the basis of the course, and the rest of the activities and other didactic resources depend on its results.

The following of the offered program must be completed with the search, selection and reading of materials that complement the objectives defined by the student under the tutoring of the professor.

Allocation foreseen: 380 hours.

CONSTROLS AND EXAMS

The main assignments of the course (optimization of the digital identity, visibility and online reputation; development of the own PLE) will finalise with a presentation and oral defense by the students who, in addition to self-assessing their work, will be evaluated by a Jury and by their classmates.

Allocation foreseen: 10 hours.