

Module: Challenge-based collaborative practical module						
Course:						
Educational profile: general						
ECTS: 10						
Education level: 5 EQF						
Prerequisites	Secondary education					
Target group	A course dedicated to people who want to gain and deepen their knowledge and experience in innovation methodologies applied to address challenges regarding Circular Economy in the plastic packaging sector.					
CLASS LANGUAGE	ENGLISH					
LECTURER	In each country, there will be, at least, an industry mentor and an academic mentor with the support of the professors/researchers from the universities.					
Number of hours of classes within individual forms of classes	Lectures	class	Workshops	Seminar	Project	Laboratories
	10				240	
COURSE OBJECTIVES	<p>C1. Acquiring the practice to work within companies in the plastic packaging sector</p> <p>C2. Acquiring personal development and maturity</p> <p>C3. Understanding and applying innovation methodologies to create a prototype or a solution to a challenge</p> <p>C4. Applying the knowledge acquired in academic training by favouring the acquisition of competences that will prepare the students for the exercise of professional activities, facilitate their employability and foster their capacity for entrepreneurship</p>					
Reference to learning outcomes	Description of learning outcomes				Verification of learning outcomes	
Knowledge						
CHM_K01	Theoretical approach to innovation methodologies based on Design Thinking				Prototype and presentation	

CHM_K02	Different techniques applied for the Definition, Ideation and Prototyping phases	Prototype and presentation
CHM_K03	Deepen their knowledge on Circular Economy and plastic packaging depending on the assigned challenge	Prototype and presentation
Skills		
CHM_S01	Students have the ability to work in a team	Prototype and presentation
CHM_S02	Students are able to gather, interpret and analyze relevant data to address a challenge	Prototype and presentation
CHM_S03	Students are able to apply their knowledge to their work in a professional manner	Prototype and presentation
CHM_S04	Students are able to develop and defend their arguments to solve problems in a team work framework	Prototype and presentation
CHM_S05	Students have the ability to find, contact and work with suppliers	Prototype and presentation
CHM_S06	Time and budget management	Prototype and presentation
CHM_S07	Students are able to convey information, ideas, problems and solutions to both specialist and non-specialist audiences	Prototype and presentation
CHM_S08	Students are able to generate innovative solutions with potential application at entrepreneurial level	Prototype and presentation
Responsibility and autonomy		
CHM_C01	Students take own responsibility for the work of the whole team	Prototype and presentation
CHM_C02	Students are autonomous to gather, interpret and analyze relevant data to address a challenge	Prototype and presentation
CHM_C03	Students are responsible to develop and defend their own arguments to solve problems in a team work framework	Prototype and presentation
CHM_C04	Students are responsible for time and budget management addressing a challenge	Prototype and presentation
Students' own workload (in didactic hours 1h did.=45 minutes)**		

Participation in lectures	10
Participation in the project	240
TOTAL:	250
ECTS points:	10

PREREQUISITES	Lectures	Project
COURSE CONTENT	<ol style="list-style-type: none"> 1. Design Thinking methodology applied to CE challenge addressing 2. Techniques for the Defining phase 3. Techniques for the Ideation phase 4. Techniques and means for the Prototyping phase 	<p>All students of the training programme will be grouped into what we call CHALLENGE INNOVATION teams (CHAINS) of 5 students.</p> <p>Each group will work in a collaborative way, guided by appointed academia and industry mentors, to find a solution to a specific industry challenge related to Circular Economy and plastic packaging. They will approach the challenge through an innovation methodology based on Design Thinking that englobes three phases:</p> <p>1- Definition phase (1 week): Fully understanding of the challenge, information gathering, ...</p> <p>2- Ideation phase (4 weeks): includes several divergence and convergence sub-phases to choose and define the idea for the solution</p> <p>3- Prototyping phase (4 weeks): validation and manufacturing of the ideated prototype</p>
LITERATURE (compulsory reading)	<p>Materials provided in Moodle</p> <p>Prud'homme van Reine, P., (2017) <i>The culture of design thinking for innovation</i>. https://journalengineering.fe.up.pt/index.php/jim/article/download/2183-0606/005.002_0006/281</p>	

<p>OPTIONAL LITERATURE (including at least two items in English, either books or articles)</p>	<ul style="list-style-type: none"> - The Field Guide to Human-Centered Design. <i>IDEO.org</i> https://www.designkit.org/resources/1 - The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems. <i>Michael Lewrick, Patrick Link and Larry Leifer</i> - The Design Thinking Toolbox: A Guide to Mastering the Most Popular and Valuable Innovation Methods. <i>Michael Lewrick, Patrick Link and Larry Leifer</i>
<p>SHORT BIO OF PERSONS WHO CONDUCT CLASSES, WHICH ARE RELATED TO THE MODULE SUBJECT</p>	<p>David Cenicer is a BA graduate, master on Teaching in Economics. Specialized on Circular Economy and Design Methodologies for innovation, currently embarked on an entrepreneurial project called Sustained focused on developing open innovation strategies with companies for boosting their transition to a circular model.</p> <p>Eva Gallego holds a University degree in Industrial Design Engineering and Product Development, a master's degree in Project Management and a master's degree in Education. She works at Campus Iberus in the Students, Entrepreneurship and Sustainability Area, where she has been the Project Manager, teacher and mentor of several projects related to Design and Creativity Methodologies, and has participated in two projects related to Circular Economy and ecodesign of plastic packaging.</p> <p>In each country there must be at least one academic and one business mentor for each CHAIN, and these may be assigned to all the CHAINs in each Hub.</p> <p>These bios are of the academic and business mentors who will work in the Spanish Hub. Their profiles can serve as an example for the choice of academic and business mentor profiles in the other countries.</p>
<p>TEACHING METHODS</p>	<p>Project Mentoring Synchronous/ face-to-face lessons</p>
<p>TEACHING AIDS</p>	<p>Classes by academic mentor Moodle plugins to external collaborative tools</p>

	Presentations Media Contents
FORM AND CONDITIONS OF ASSESSMENT	Prototype and presentation. The presentation may take different forms (video and/or elevator pitch, ...) The evaluation will take into account not only the final product, but the whole process and the ability to present it for specialist and non-specialist audiences.