



**Teaching Guide**

Identifying Data					2019/20
Subject (*)	Industrial Innovation		Code	730497213	
Study programme	Mestrado Universitario en Enxeñaría Industrial (plan 2018)				
Descriptors					
Cycle	Period	Year	Type	Credits	
Official Master's Degree	2nd four-month period	First	Obligatory	3	
Language	SpanishGalicianEnglish				
Teaching method	Face-to-face				
Prerequisites					
Department	Empresa				
Coordinador	Lamas Rodriguez, Adolfo	E-mail	adolfo.lamasr@udc.es		
Lecturers	Lamas Rodriguez, Adolfo	E-mail	adolfo.lamasr@udc.es		
Web					
General description	Xestión da Innovación. O plan estratéxico tecnolóxico. Identificación de ideas innovadoras. Financiamento da innovación. Explotación dos resultados. O marco español para a innovación.				

**Study programme competences / results**

Code	Study programme competences / results
A16	EG8 - Capacity for the management of Research, Development and Technological Innovation.
B1	CB6 - 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.
B2	CB7 - That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.
B3	CB8 - That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.
B4	CB9 - That the students know how to communicate their conclusions -and the knowledge and ultimate reasons that sustain them- to specialized and non-specialized audiences in a clear and unambiguous way.
B5	CB10 - That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
B6	G1 - Have adequate knowledge of the scientific and technological aspects in Industrial Engineering.
B9	G4 - Conduct research, development and innovation in products, processes and methods.
B12	G7 - Being able to perform general management, technical management and project management R & D & I functions in plants, companies and technology centers.
B13	G8 - Apply the knowledge acquired and solve problems in new or unfamiliar environments within broader and multidisciplinary contexts.
B14	G9 - 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 their knowledge and judgments.
B15	G10 - Knowing how to communicate the conclusions -and the knowledge and ultimate reasons that sustain them- to specialized and non-specialized publics in a clear and unambiguous way.
B16	G11 - Possess the learning skills that allow to continue studying in a self-directed or autonomous way.
C1	ABET (a) - An ability to apply knowledge of mathematics, science, and engineering.
C3	ABET (c) - An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
C6	ABET (f) - An understanding of professional and ethical responsibility.
C7	ABET (g) - An ability to communicate effectively.
C8	ABET (h) - The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
C9	ABET (i) - A recognition of the need for, and an ability to engage in life-long learning.

**Learning outcomes**



Learning outcomes	Study programme competences / results		
Capacidade para a xestión da Investigación, Desenrolo e Innovación Tecnolóxica.	AJ16	BJ1 BJ2 BJ3 BJ4 BJ5 BJ6 BJ9 BJ12 BJ13 BJ14 BJ15 BJ16	CJ1 CJ3 CJ6 CJ7 CJ8 CJ9

Contents	
Topic	Sub-topic
Os bloques ou temas seguintes desenrolan os contidos establecidos na ficha da Memoria de Verificación, que son:	Programas de Investigación, Desenrolo e Innovación tecnolóxica (I+D+i). Xestión da I+D+i: Plan Estratégico; Creatividade e I+D+i; Vixilancia Tecnolóxica, Xestión de Proxectos; Financiación; Aseguramento da I+D+i, Explotación da I+D+i. Tecnoloxías emerxentes no eido industrial.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A16 B1 B2 B3 B4 B5 B12 B13 B15 B14 B16 B6 B9 C1 C3 C6 C7 C8 C9	5	6	11
Case study	A16 B1 B2 B3 B4 B5 B12 B13 B14 B6 B9 C1 C3 C6 C7 C8 C9	10	34	44
Supervised projects	A16 B1 B2 B3 B4 B5 B12 B13 B14 B6 B9 C1 C3 C6 C7 C8 C9	5	15	20
Personalized attention		0	0	0

(\*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	Clases presenciais
Case study	O profesor analizará e explicará varios proxectos de investigación que o alumno tomará como referencia para elaborar un ou varios traballos en grupo.
Supervised projects	O traballo realizaráse en grupo e consistirá no deseño dun produto ou proceso innovador para una empresa galega.

Personalized attention
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Methodologies	Description
Supervised projects	La atención personalizada se realizará en horario de tutorías.
Guest lecture / keynote speech	A atención personalizada realizarase en horario de tutorías.
Case study	No caso de que o alumno solicite dispensa académica, o alumno recibirá atención personalizada específica por medio do foro del moodle, tutorías e correo electrónico.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Guest lecture / keynote speech	A16 B1 B2 B3 B4 B5 B12 B13 B15 B14 B16 B6 B9 C1 C3 C6 C7 C8 C9	Conocimientos teóricos de la materia. Examen tipo test.	20
Case study	A16 B1 B2 B3 B4 B5 B12 B13 B14 B6 B9 C1 C3 C6 C7 C8 C9	El trabajo se expondrá en clase al profesor y al resto de los alumnos. Su evaluación dependerá de: <ul style="list-style-type: none"> <li>- la calidad de la presentación</li> <li>- la documentación aportada</li> <li>- los resultados obtenidos</li> <li>- la originalidad e innovación</li> </ul>	80

Assessment comments
<p>A avaliación da materia farase según a media aritmética das notas obtidas nos traballos realizados.</p> <p>Se exixirá que o alumno obteña como mínimo unha nota de tres puntos sobre dez en cada un dos traballos.</p> <p>O ?Alumnado con recoñecemento de dedicación a tempo parcial e dispensa académica de exención de asistencia? comunicarán ó inicio do curso a súa situación os profesores da materia, segundo establece a "Norma que regula o réxime de dedicación ao estudo dos estudantes de grao na UDC? (Art.3.b e 4.5) e as ?Normas de avaliación, revisión e reclamación das cualificacións dos estudos de grao e mestrado universitario (Art. 3 e 8b).</p> <p>Para os alumnos nesta situación, proderá facer un traballo tutelado individual.</p>

Sources of information	
<b>Basic</b>	<p>Apuntes elaborados por Adolfo Lamas que se compartirán con el alumno a través de moodle.</p> <p><b>BIBLIOGRAFÍA ADICIONAL DE LA ASIGNATURA GESTIÓN DE LA INNOVACIÓN</b></p> <p>Arbonies A.L 1991 Nuevos Enfoques en la innovación de productos para la empresa industrial. Departamento de promoción y desarrollo económico</p> <p>Centro de Diseño Industrial S.A. 1995, Manual de Gestión del Diseño</p> <p>Baxter M., 1995 Product Design. Chapman &amp; Hall</p> <p>Escorsa, P, Herbolzheimer, E y Solé F. 1995 Diseño industrial y su gestión en la PYME española Diez casos reales. Esade</p> <p>Fundación COTEC, 1998 El sistema español de Innovación. Diagnóstico y Recomendaciones.</p> <p>EDDI, 1998, La mejora de la gestión del proceso de diseño en la PYME.</p> <p>Montaña, J.Cómo diseñar un producto. Manuales IMPIN</p> <p>Nueno, P, Diseño y Estrategia empresarial. Manuales IMPI</p> <p>Oficina Española de Patentes y Marcas <a href="http://www.oepm.es">http://www.oepm.es</a></p>
<b>Complementary</b>	<ul style="list-style-type: none"> <li>- Henry Chesbrough (2003). Open Innovation: The New Imperative for Creating and Profiting from Technology. USA: Harvard Business School Press Books</li> <li>- Mary Jo Frederich, Peter Andrews. (2009). Innovation Passport: The IBM First-of-a-Kind (FOAK) Journey From Research to Reality. USA: IBM Press</li> </ul>

Recommendations
Subjects that it is recommended to have taken before



<b>Subjects that are recommended to be taken simultaneously</b>
<b>Subjects that continue the syllabus</b>
<b>Other comments</b>
<p>?Para axudar a conseguir un entorno inmediato sostenido y cumprir có obxectivo da acción número 5: ?Docencia e investigación saludable e sustentable ambiental e social? do "Plan de Acción Green Campus Ferrol":A entrega dos traballos documentales que se realicen nesta materia:Se solicitarán en formato virtual e/ou soporte informáticoSe realizará a través de Moodle, en formato dixital sen necesidade de imprimilosAdemás durante o curso:Se debe facer un uso sostenible dos recursos y a prevención de impactos negativos sobre o medio naturalSe debe tener en conta a importancia dos principios éticos relacionados cos valores da sostenibilidade nos comportamentos personales e profesionalesSe incorpora perspectiva de xénero na docencia desta materia (se usará linguaxe non sexista, se utilizará bibliografía de autores de ambos sexos, se propiciará a intervención en clase de alumnos e alumnas?)Se traballará para identificar e modificar prexucios e actitudes sexistas, e se influirá no entorno para modificalos y fomentar os valores de respecto e igualdade.Se deberán detectar situacións de discriminación e se propondrán accións e medidas para correxilas.</p>

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.