Teaching Guide			
Identifying Data			2022/23
Subject (*)	Management, Innovation and Entrepreneurship in Biocompanies	Code	610475506
Study programme	Mestrado Universitario en Biotecnoloxía Avanzada		

Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Obligatory	4.5

Language	Spanish		
Teaching method	Face-to-face		
Prerequisites			
Department	Departamento profesorado másterEmpresa		
Coordinador	Teijeiro Álvarez, Mercedes	E-mail	mercedes.teijeiro@udc.es
Lecturers	Gallego Veigas, Pedro Pablo López Lozano, Ángeles Teijeiro Álvarez, Mercedes	E-mail	mercedes.teijeiro@udc.es
Web			
General description	In increasingly globalized and competitive environments, the figure of the entrepreneur acquires a leading role in the economic and social context of a community, especially the creation of high value-added companies based on development scientific and technological advances in strategic sectors such as growth promoter. This course is part of the Master in Advanced Biotechnology. The main contributions of the course are: understanding the importance of entrepreneurial culture, learning to start a business and analyzing the context, as well as evaluating the opportunities and risks of entrepreneurial actions.		

Study programme competences	
Code	Study programme competences
A12	Coñecer e saber aplicar os sistemas de control de calidade vixente.
A13	Saber xestionar e traballar con garantías en calquera laboratorio biotecnolóxico do ámbito público ou privado.
A14	Ter unha visión integrada dos procesos de I+D+i desde o descubrimento de novos coñecementos básicos ata o desenvolvemento de aplicacións concretas deste coñecemento e a introdución no mercado de novos produtos biotecnolóxicos.
A15	Saber deseñar unha investigación prospectiva de mercado para un produto biotecnolóxico.
A16	Coñecer e analizar os aspectos financeiros que se están expansionando no mercado biotecnolóxico.
A17	Saber buscar e obter información das principais bases de datos sobre patentes e elaborar a memoria de solicitude dunha patente dun proceso biotecnolóxico.
A38	Xerar e desenvolver ideas, converténdoas en algo novo para conseguir solucións concretas que transformen a vida e o seu entorno, e que se materialicen na posta en marcha dunha empresa.
A39	Innovar constantemente, avaliando beneficios e riscos e aportando novas ideas e formas de facer as cousas.
B1	Capacidade de análise e síntese (localización de problemas e identificación das causas e a súa tipoloxía).
B2	Capacidade de organización e planificación de todos os recursos (humanos, materiais, información e infraestruturas).
B3	Capacidade de xestión da información (con apoio de tecnoloxías da información e as comunicacións).
B4	Capacidade de planificación e elaboración de estudos técnicos en biotecnoloxía microbiana, vexetal e animal.
B5	Capacidade de identificar problemas, buscar solucións e aplicalas nun contexto biotecnolóxico profesional ou de investigación.
B6	Capacidade de comunicación oral e escrita dos plans e decisións tomadas.
B7	Capacidade para formular xuízos sobre a problemática ética e social, actual e futura, que propón a Biotecnoloxía.
B8	Capacidade de comunicación eficazmente coa comunidade científica, profesional e académica, así como con outros sectores e medios de comunicación.
B9	Capacidade de Traballo en equipo multidepartamental dentro da empresa.
B10	Capacidade de Traballo nun contexto de sostibilidade, caracterizado por: sensibilidade polo medio ambiente e polos diferentes organismos que o integran así como concienciación polo desenvolvemento sostible.

B11	Racionamento crítico e respecto profundo pola ética e a integridade intelectual.
B12	Adaptación a novas situacións legais, ou novidades tecnolóxicas así como a excepcionalidades asociadas a situacións de urxencia.
B13	Aprendizaxe autónoma.
B14	Liderazgo e capacidade de coordinación.
B15	Sensibilización cara á calidade, o respecto medioambiental e o consumo responsable de recursos e a recuperación de residuos.
C3	Using ICT in working contexts and lifelong learning.
C4	Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective.
C5	Understanding the importance of entrepreneurial culture and the useful means for enterprising people.
C6	Acquiring skills for healthy lifestyles, and healthy habits and routines.
C7	Developing the ability to work in interdisciplinary or transdisciplinary teams in order to offer proposals that can contribute to a sustainable environmental, economic, political and social development.
C8	Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.

Learning outcomes			
Learning outcomes	Study programme competences		
Organize and manage biotechnology companies	AC13 AC14 AC16 AC39	BC1 BC2 BC5 BC6 BC9 BC12 BC14 BC15	CC5 CC6
Identify the different phases of the process of creating new biological products of commercial and biotechnological interest	AC14 AC15 AC17	BC1 BC4	CC5
Use the basic tools necessary to generate new business ideas based on knowledge of the procedures, aid and incentives for the launch of a new biotechnological product	AC15 AC16 AC17 AC38 AC39	BC3 BC5 BC12 BC13	CC3 CC7
Design the business model of a company and analyze its potential within the biotechnological sector on a national and international scale	AC12 AC14 AC15 AC16 AC17 AC39	BC1 BC2 BC3 BC4 BC5 BC6 BC8 BC9 BC10 BC12 BC13	CC3 CC4 CC7 CC8
Recognize the processes associated with the transfer of research, development and innovation	AC14 AC15 AC17	BC11 BC12	CC3 CC8
Assume the value of entrepreneurial culture and its impact on society	AC12 AC14 AC38 AC39	BC5	CC3 CC4 CC7

Develop basic strategies for self-employment and entrepreneurship based on innovation	AC14 AC16 AC17 AC38 AC39	BC4 BC5 BC7 BC8 BC11 BC12 BC13 BC14 BC15	CC3 CC7

Contents	
Topic	**Sub-topic**
Introduction to Entrepreneurship in Biotechnology	importance of biotechnological entrepreneurship in the social and economic advances of a society Situation of the EU and Spain Types of entrepreneurship according to purpose and level of innovation
Innovation	Innovation R&D bases. global vision of R&D programs. European projects. A Technology transfer Valorization of transferable knowledge and its protection
Phases of entrepreneurship in biotechnology	Life cycle of a biotech company Stages of biotechnological entrepreneurship. Innovation and transferable knowledge.
Organization and management of a biotech company	Components of a business model and examples Analysis of the environment and feasibility studies Structure and development of a business plan Canvas Model
HR management in the company	HR management Leadership and efficient work teams Efficient communication Conflict resolution

Planning				
Methodologies / tests	**Competencies**	**Ordinary class hours**	**Student?s personal work hours**	**Total hours**
Guest lecture / keynote speech	A12 A16 A38 A39 B4 B8 B9 B11 B12 C5 C6 C8	30	20	50
Events academic / information	A14 B2 C4 C5 C6 C7 C8	5	0	5
Case study	A12 A13 A14 A15 A16 A17 A38 A39 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 C3 C4 C7	1	15.5	16.5

Supervised projects	A12 A13 A14 A15 A16 A17 A38 A39 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 C3 C4 C7	5	36	41
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	Oral presentation (using audiovisual material and student interaction) designed to transmit knowledge and encourage learning. Presentations of this type are variously referred to as ?expository method?, ?guest lectures? or ?keynote speeches?. (The term ?keynote? refers only to a type of speech delivered on special occasions, for which the lecture sets the tone or establishes the underlying theme; it is characterised by its distinctive content, structure and purpose, and relies almost exclusively on the spoken word to communicate its ideas.)
Events academic / information	Activities involving attendance at and participation in academic and information events (conferences, congresses, symposia, lectures, presentations, etc.), aimed at increasing student knowledge of specific elements of course content. Provides students with relevant learning experiences by bringing them into contact with latest thinking in particular areas of study.
Case study	The students in a group, independently prepare a document on the creation of an innovative company or project in order to demonstrate that they have acquired the skills inherent to entrepreneurship.
Supervised projects	Supervised learning process aimed at helping students to work independently in a range of contexts (academic and professional). Focused primarily on learning ?how to do things? and on encouraging students to become responsible for their own learning.

Personalized attention	
Methodologies	**Description**
Supervised projects	All doubts will be answered during the tutoring schedule via Teams

Assessment			
Methodologies	**Competencies**	**Description**	**Qualification**
Case study	A12 A13 A14 A15 A16 A17 A38 A39 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 C3 C4 C7	O estudo de caso consistirá na realización (memoria) e presentación (oral) dun plan de negocio no que se vexan reflectidos todos os contidos abarcados na materia. Empregarase unha rúbrica para valorar tanto os contidos da memoria escrita como da exposición oral.	100

Assessment comments
The assessment criteria are the same for all assessment opportunities. Honors will be awarded to those students who, passing a 9, achieve the maximum qualification in the first opportunity in each of the universities. The presentation and defense will be held both on the first and the second opportunity on the dates published in the academic calendar on the master's website.

Sources of information

Basic	- de la Huerta, P. (2021). Emprender en biotecnología. LID - Hormiga, E., Batista, R. y Sánchez, A. (2008). El capital intelectual en las empresas de nueva creación: influencia de los activos intangibles en el éxito empresarial. Fundación FYDE - Trías, F. (2007). El libro negro del emprendedor. Urano S.A. - Rovira, A. y Miralles, F. (2011). El mapa del tesoro. Grijalbo - Rovira, A. y Trías, F. (2004). La buena suerte. Urano S.A. - Ferrante, L. (2012). Aprenda de la mafia para alcanzar el éxito en su empresa. Random House Mondadori - Pascual, J. (2021). Innovationa and collaboration in the digital era. Business&Economics
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Industrial Biotechnology /610475105 Biotecnological Processes and Products/610475106
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Biotechnological company audit/610475202 Legal and ethical aspects in Biotechnology/610475203
Other comments
The delivery of the documentary work carried out in this subject: a. It will be requested in virtual format and/or computer support. b. It will be done through Moodle, in digital format without the need to print them out. c. The importance of ethical principles related to sustainability values in personal and professional behaviour must be taken into account. d. Work will be done to identify and modify gender biases and attitudes and influence the environment to change them and promote values of respect and equality. e. The full integration of students who, for physical, sensory, mental or socio-cultural reasons, experience difficulties in gaining adequate, equal and beneficial access to university life will be facilitated.The coordinators of this course are:UDC: Profesora Mercedes Teijeiro UVigo: Profesor Pedro P Gallego