UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				2021/22
Subject (*)	Plant Biotechnology		Code	610441020s
Study programme	Máster Universitario en Bioloxía Molecular, Celular e Xenética (semipresencial)			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Optional	3
Language				
Teaching method	Hybrid			
Prerequisites				
Department	Bioloxía			
Coordinador	Bernal Pita da Veiga, María de los Ángeles	E-mail	angeles.bernal@udc.es	
Lecturers	Bernal Pita da Veiga, María de los Ángeles Pomar Barbeito, Federico	E-mail	angeles.bernal@udc.es federico.pomar@udc.es	
Web				
General description	Biotechnologies useful in vgetal biology and uses			
Contingency plan	(i) Adaptation to realise in the case of no face to face: 1. Modifications in the contents there will be modification of contents. 2. Methodologies educational Methodologies that keep : they keep all but on-line. Educational methodologies that modify the practices would become on-line working on videos and realising activities entregables related with the same. The activities in groups reduced also would work on-line via Teams. 3. Mechanisms of personalised attention to the alumnado Tutorial will be road Teams or by email 4. Modifications in the evaluation does not modify Observations of evaluation: Partial and on-line final examinations. 5. Modifications of the bibliography or webgrafía: there will be modifications. All the information is in the Moodle (ii) planned Adaptation in the centre for the cases in which it surpass the aforo of the classroom assigned for the matter: Attribution of two or more classrooms to the matter and impartición of the class through TEAMS for the students that was not in the classroom with the professor. In the case to exist problems of aforo in the spaces designated for the realisation of face-to-face activities, will reserve additional spaces in which the students can follow the activities through the platform TEAMS. In the case of the practical activities, the groups will unfold to adapt to the capacity of the laboratory			

Study programme competences	
Code	Study programme competences

Learning outcomes			
Learning outcomes	Study programme competences		
Capacidade de xestión da información: reunir e interpretar datos, información e resultados relevantes, obter conclusións e emitir informes razoados sobre cuestións científicas e biotecnolóxicas		BR10 BR10 BR10 BR10	
Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade	AR16 AR16	BR10	CC11 CC11
Capacidade para comprender o estado actual da Biotecnoloxía Vexetal e utilizar a terminoloxía básica empleada na materia	AR16 AR16	BR10	CC11
Capacidade de expresarse correctamente, tanto de forma oral como escrita, nas linguas oficiais da comunidade autónoma			CC11 CC11

Contents	
Topic	Sub-topic
Módulo 1. Desenrolo histórico da Biotecnoloxía Vexetal	1. A 1ª e 2ª Revolución Verde 2. Que é a Biotecnoloxía Vexetal?

Módulo 2. Aspectos técnicos da Biotecnoloxía Vexetal	1. Inxeniería xenética en plantas: conceptos xenerales 2. Métodos de obtención de plantas transxénicas
Módulo 3. Principais aplicacions da Biotecnoloxía Vexetal	1. Aplicacions das plantas transxénicas 2. Fitorremediación

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Introductory activities	C1 C8	2	0	2
Online forum	C1 C8	0	1	1
Document analysis	A1 A4 A5 A8 B1 B3 B8 B9 C6 C2	0	30	30
Objective test	A8 B1 B8 C1	2	0	2
Collaborative learning	A4 A5 A8 B1 B3 B8 B9 C2 C1	0	30	30
Personalized attention		10	0	10
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Introductory activities	
Online forum	
Document analysis	
Objective test	
Collaborative learning	

Personalized attention	
Methodologies	Description
Introductory activities Objective test	

Assessment			
Methodologies	Competencies	Description	Qualification
Objective test	A8 B1 B8 C1		0
Online forum	C1 C8		0

Assessment comments

Sources of information

Basic	- (2013). Genetic Improvements in Agriculture. The Plant Cell - (2010). The past, present and future of crop genetic modification. New Biotechnology Volume 27, Number 5 - (2014). A Really Useful Pathogen, Agrobacterium tumefaciens.. American Society of Plant Biologists. The Plant Cell - (2000). Plantas transgénicas. Preguntas y respuestas. Boletín de la Sociedad Española de Biotecnología - Serrano M, Piñol T, (1991). Biotecnología vegetal. Ed. Síntesis - Caballero JL, Muñoz J, Valpuesta V, (2001). Introducción a la biotecnología vegetal: métodos y aplicacio. Ed.Publicaciones y Obra Social y Cultural Cajasur - Slater A., Scout N, Fowler M., (2003). Plant biotecnology: the genetic manipulation of plants. Ed. Oxford UniversityPress - Reinhard Renneberg, Darja SüBbier (2008). Biotecnologíapara principiantes. Reverte
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

(*)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.