

**1. General information****Course:** FOREST GENETICS AND IMPROVEMENT**Type:** CORE COURSE**Degree:** 365 - UNDERGRADUATE DEGREE PROGRAMME IN FOREST AND ENVIRONMENTAL ENGINEERING**Center:** 601 - E.T.S. AGRICULTURAL ENGINEERS AND MOUNTS AB**Year:** 3**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 62322**ECTS credits:** 6**Academic year:** 2021-22**Group(s):** 10**Duration:** First semester**Second language:** English**English Friendly:** Y**Bilingual:** Y**Lecturer:** JOSE ANTONIO FERNANDEZ PEREZ - Group(s): 10

Building/Office	Department	Phone number	Email	Office hours
IDR/Biotecnología	CIENCIA Y TECNOLOGÍA AGROFORESTAL Y GENÉTICA	2611	joseantonio.fperez@uclm.es	

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course**Course competences**

Code	Description
E30	
G01	Knowledge of foreign language
G02	
G03	Oral and written communication
G04	Analysis and synthesis capacity
G05	Organizational and planning skills
G06	Information management capacity
G07	Problem solving
G08	Decision making
G10	Teamwork
G11	Interpersonal skills
G12	
G13	Autonomous learning
G18	
G21	Ability to apply knowledge in practice
G22	Basic knowledge of the profession

5. Objectives or Learning Outcomes**Course learning outcomes**

Description

6. Units / Contents**Unit 1:****Unit 2:****Unit 2.1****Unit 3:****Unit 4:****Unit 5:****Unit 6:****Unit 7:****Unit 8:****Unit 9:****Unit 10:****Unit 11:****Unit 12:****Unit 13:**

Unit 14:
Unit 15:
Unit 16:
Unit 17:
Unit 18:
Unit 19:

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E30 G04 G05 G06	1.11	29.97	N	-	
Group tutoring sessions [ON-SITE]	Combination of methods	E30 G03 G04 G06 G10 G12 G13	0.46	12.42	Y	Y	
Workshops or seminars [ON-SITE]	Combination of methods	E30 G08 G10 G11 G12 G18 G21 G22	0.09	2.43	Y	Y	
Laboratory practice or sessions [ON-SITE]	Combination of methods	E30 G12 G13 G21	0.56	15.12	Y	Y	
Study and Exam Preparation [OFF-SITE]	Combination of methods	G08 G10 G11 G18	3.78	102.06	N	-	
Total:			6	162			
Total credits of in-class work: 2.22			Total class time hours: 59.94				
Total credits of out of class work: 3.78			Total hours of out of class work: 102.06				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non- continuous evaluation*	Description
Progress Tests	50.00%	0.00%	
Oral presentations assessment	20.00%	0.00%	
Assessment of active participation	5.00%	0.00%	
Laboratory sessions	25.00%	25.00%	
Final test	0.00%	75.00%	
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents	
Hours	hours
Group tutoring sessions [PRESENCIAL][Combination of methods]	12.42
Workshops or seminars [PRESENCIAL][Combination of methods]	2.43
Unit 1 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.19
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 2 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 3 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 4 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 5 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 6 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25

Study and Exam Preparation [AUTÓNOMA][Combination of methods]	5
Unit 7 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.46
Unit 8 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.5
Unit 9 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	7.56
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.5
Unit 10 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2.82
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	6
Unit 11 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4
Unit 12 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	8.27
Unit 13 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2.82
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.74
Unit 14 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2.82
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.9
Unit 15 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	7.56
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	3.9
Unit 16 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2.82
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4.42
Unit 17 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4
Unit 18 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	4
Unit 19 (de 19):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.25
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	14.37
Global activity	
Activities	hours
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	15.12
Class Attendance (theory) [PRESENCIAL][Lectures]	29.97
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	102.06
Workshops or seminars [PRESENCIAL][Combination of methods]	2.43
Group tutoring sessions [PRESENCIAL][Combination of methods]	12.42
Total horas: 162	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
J.A. Griffiths	Genética	MacGraw-Hill/Interamericana de España, S.A.	Madrid	0-7167-2285-2	2008	

W.S. Klug, M.R. Cummings, C.A. Spencer	Conceptos de Genética	Pearson Education	Madrid	84-8322-042-3	2008
CN de Protección de la Naturaleza	Estrategia española para la conservación y el uso sostenible de los Recursos Genéticos Forestales	MIMAM	Madrid	311-07-040-0	2006
J.I. Cubero	Introducción a la Mejora Genética Vegetal	Mundi-Prensa	Madrid	84-7114-812-9	1999
Jeffery Burley (ed.)	Encyclopedia of Forest Sciences	Elsevier	Amsterdam	9780121451608	2004
Robert H. Tamarin	Principios de Genética	Reverté	Barcelona	978-84-291-1850-6	1996