



Proyecto/Guía docente de la asignatura

Project/Course Syllabus

Asignatura <i>Course</i>	Forestry and Climate Change / Forestry and Global Change		
Materia <i>Subject area</i>			
Módulo <i>Module</i>	Optional Module		
Titulación <i>Degree Programme</i>	Degree in Forest Engineering and Natural Environment / International Semester		
Plan <i>Curriculum</i>	449/903	Code	47135/75027
Periodo de impartición <i>Teaching Period</i>	Second Semester	Type/Catagory	ELECTIVE
Nivel/Ciclo <i>Level/Cycle</i>	Bachelor Degree	Year	4º/International Semester
Créditos ECTS <i>ECTS credits</i>	3 ECTS		
Lengua en que se imparte <i>Language of instruction</i>	English		
Profesor/es responsable/s <i>Responsible Teacher/s</i>	Jorge Olivar		
Datos de contacto (E-mail, teléfono...) <i>Contact details (e-mail, telephone...)</i>	Dr. Jorge Olivar, jorge.olivar@uva.es Edificio E (office 114) Curriculum vitae: https://orcid.org/0000-0003-0193-6612 https://portaldelaciencia.uva.es/investigadores/181207/detalle		
Departamento <i>Department</i>	PRODUCCIÓN VEGETAL Y RECURSOS FORESTALES		
Fecha de revisión por el Comité de Título <i>Review date by the Degree Committee</i>	30.06.2026		



1. Situation / Meaning of the Course

1.1 Context

This course provides forest engineering students with the technical knowledge and practical tools needed to integrate climate considerations into forest management decisions. Students will learn to quantify forest carbon stocks, design silvicultural treatments for both climate adaptation and mitigation, and evaluate forest-based climate projects. The course bridges forest management science with international climate policy, preparing students to work with forest carbon projects, climate-adapted silviculture, and forest ecosystem services in their professional practice.

1.2 Relation with other courses

The course is related with general forestry courses.

1.3 Pre requirements

None but English proficiency is assumed

2. Skills

2.1 General

The General competences (G1 to G27) will be addressed on a global basis, and, particularly, efforts will be made to the compliance of:

G3 Be able to analyze and synthesize.

G4 To be capable of organizing and of planning.

G5 Be able to communicate effectively, orally and in writing, with both internal audiences.

G15 To show critical reasoning.

2.2 Specific

Students who successfully complete this course will be able to:

- Explain or describe in their own words the basic elements of global and climate change on forests and forestry
- Understand the basic of carbon sink calculations
- Be ready to go in depth on advance topics in adaptation and mitigation forestry.

3. Objectives

Ability to design, direct and apply silvicultural treatments to mitigate climate change and silvicultural treatments adapted to changing environmental situations.

4. Parts

Block 1:

Workload on ECTS: 3

a. Context

See course context

b. Learning aims

See course objectives

c. Contents

Climate change: variations of climate and human impact on climate.

International climate policy: Paris Agreement and NDCs.

Forest systems and carbon flows.

Impacts of climate change on forests and forestry.

Quantification of carbon stored in forests.

Nature-based solutions and forest ecosystem services.

Adaptation to climate change through forest management.

Mitigation of climate change through forest management.

Forest carbon markets: voluntary standards (VCS, Gold Standard) and Article 6 mechanisms.

REDD+ implementation and jurisdictional approaches.

Digital monitoring and remote sensing for forest climate projects.

d. Teaching methods

A combination of lectures, invited talks, students' active discussion and personal projects are used in this course. Students will be encouraged to share thoughts and opinions. Participation and interaction with others will be required.

e. Workplan

Classes will take place during the second quarter according with published schedule. Classroom will be determined yearly. Depending on the year, invited speakers could deliver invited seminars.

f. Evaluation

See below.

g Teaching material

g.1 Basic bibliography

- BRAVO, F., LEMAY, V., GADOW, K. VON, JANDL, R. (Eds) 2017. Managing Forest Ecosystems: The Challenge of Climate Change. Springer. 2nd Edition
- Robinson, A.P, Hamman J.D. 2011. Forest Analytics with R: An Introduction. Springer

**g.2 Further reading****g.3 Other telematic resources (knowledge pills, blogs, videos, digital magazines, mass courses (MOOC), ...)**

Lecture powerpoints will be posted on the e-campus (UVa campus virtual)

Additional readings and resources will be delivered to the students through the e-campus (UVa campus virtual)

h. Necessary resources

No special resources

i. Timing

THEMATIC BLOCK	ECTS LOAD	EXPECTED PERIOD OF TIME
ONE	3	2 nd Quarter

5. Teaching methods and methodological principles

Lectures, labs, writing assessment and field discussions.

6. Table of student dedication to the subject

In Class	Hours	Outside Class	Hours
Lectures	10	Preparation for assessment	30
Labs	15	Preparation of writing assignment.	11
Oral Presentations	5	Preparation of oral presentation	4
Total in class	30	Total outside class	45

7. Evaluation system

INSTRUMENTO/PROCEDIMIENTO (Tipo de actividades realizadas y evaluables)	PESO EN LA NOTA FINAL	OBSERVACIONES (se recomienda que ninguna parte evaluable supere el 40% en el 2º cuatrimestre)
Assignments on Campus Virtual		
Class Projects	30 %	Delivered on due date
Class Projects presentations	30 %	
Quizzes by topic	40 %	

Course Policies

- **Attendance:** Lectures form a core component of this course. Students must ensure that they are available to attend lectures and arrive with punctuality. They should pay close attention to the class schedule and read the material prior to class. They are welcome to share new ideas during class and are encouraged to read related papers.
- **Technology in the classroom:** No cellphones are allowed. Please, turn-off your cell phone prior to the start of class. You will be asked to leave the course for the day if you are using your phone.
- **Policy on Academic Ethics and Honesty:** The University of Valladolid (UVa) regards cheating as a serious academic offense. Anyone caught cheating will automatically receive a 0/10 for the quiz/exam/assignment and will be reported to the dean. Your responsibility, besides maintaining a high standard of personal honesty, includes taking precautions to prevent others from copying your work. A student's assessed work may be reviewed against electronic source material using computerized detection mechanisms.

8. Final comments

In case a student fails in the first call of the academic year in second call the written exam will stand alone for grading.

The use of Generative Artificial Intelligence (AI) is permitted for certain tasks in this course. To know which tasks, allow its use, it is recommended to carefully review the specifications of those tasks when they appear on the virtual campus, are announced in class, in the course schedule, and/or in the detailed syllabus. It is recommended to use only the tools for which the University of Valladolid holds a license and to understand the implications of each license regarding privacy and data usage by the tools. It is the student's responsibility to be aware of these specific permissions. Each assignment must include a declaration of which specific tools were used and how Generative AI was utilized. The exact method for doing this will be announced in class and on the e-campus.