

**Proyecto docente de la asignatura**

Subject name	Forestry and Climate Change		
Subject area			
Module	Optional Module		
Qualification	Degree in Forest Engineering and Natural Environmet		
Plan	449	Code	47135
Teaching period	Second Semester	Tyep/Nature	Optional
Level/Stage	Degree	Curso	4º
ECTS Credits	3		
Language of Instruction	English		
Lecture in charge	Felipe Bravo Oviedo and Jorge Aldea Mayo		
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Tutorial timetable	www.uva.es >Grados o Masteres>Título correspondiente>Tutorías		
Department	Producción Vegetal y Recursos Forestales		
Knowledge area	Producción Vegetal		



1. Course justification

1.1 Context of the subject

Forestry and Climate Change is a course on silvicultural methods applied under environmental change. Mitigation and adaptation to climate change effects are key in the forest management systems. During the course, students will insight on the basic aspects of the effects of climate change on forest systems and how to help mitigate its effects. In addition, the students' abilities will be strengthened to obtain, elaborate, criticize and communicate scientific ideas to specialized and non-specialized audiences.

1.2 Relationship with Academic Program

The course will develop a broad range of insights useful to forestry and natural resources students. Basic concepts of Forest Inventory, Silviculture and Forest Management will be used as foundation for the course.

1.3 Pre-requisites

None but English proficiency is assumed

2. College Learning Outcomes

1.3 Generals

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.

3. Course Outcomes and Objectives

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



4. General Outline of Topics Covered

Contents:

Climate change: variations of climate and human impact on climate. Protocols and agreements at regional, national and international level. The Kyoto Protocol and its extensions. Forest systems and carbon flows. Impacts of climate change on forests and forestry. Quantification of carbon stored in forests. Adaptation to climate change through forest management. Mitigation of climate change through forest management. Forest Projects for Clean Development Mechanisms (CDM) and Reducing Emissions from Deforestation and Reduced Degradation (REDD +).

Written assignment:

Each student will complete an individual project. Instructions will be provided at the beginning of the course. The project will be a Mitigation project adapted to carbon market requirements. A short, 10 minutes, oral presentation of your report is also mandatory.

Additionally a short report about biomass equations elaborations will be required.

Recommended readings:

- 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

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)

5. Methods of Instruction

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

6. Student dedication to the Course

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. Grading Criteria

Student Evaluation	Percentage on the final course grade	Comments
Intermediate reports	10	
Writing assignment	40	
Final Exam	50	

Grading Criteria

Written assignment and class presentation are mandatory. It is not possible to pass the course with final examination only.

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 offence. 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 computerised detection mechanisms.

8. Final considerations

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