



Guía docente de la asignatura

Asignatura	Methods of Forest Management		
Materia	Methods of Forest Management		
Módulo	NIVELACIÓN		
Titulación	MÁSTER DATAFOREST		
Plan	376	Código	50408
Periodo de impartición	1st Semester	Tipo/Carácter	OBLIGATORIA
Nivel/Ciclo	MASTER	Curso	1º
Créditos ECTS	5		
Lengua en que se imparte	English		
Profesor/es responsable/s	Pablo Martín Pinto, Andrés Bravo Oviedo, Gonfa Kewessa		
Datos de contacto (E-mail, teléfono...)	pmpinto@pvs.uva.es bravo@mnch.csic.es		
Horario de tutorías	Wednesday - Thursday: 10 – 13 h		
Departamento	Vegetal production and natural resources		
Fecha de revisión por el Comité de Título	June 30th, 2026		



1. Situación / Sentido de la Asignatura

1.1 Contextualización / Context

This subject is considered essential for any student who intends to take this master's degree and has studied a previous education not directly related to the forestry field.

In these cases it is necessary an approach to essential and basic forestry aspects that are essential to understand the context in which forestry training in general and this master's degree in particular is included.

Throughout the course the student will internalize basic concepts such as forestry, sustainable management, conservation, and the use of both timber and non-timber resources. The main forms of inventory and tools necessary for this purpose will be discussed. Aspects such as reforestation for different purposes and the necessary treatments for the correct maintenance of the created mass will be addressed.

Finally, this subject is intended to be a support for other subjects that make up the master's degree and for which specific forestry training is required.

1.2 Relación con otras materias / Relationship with other subjects

This course is intended as a general basis of forestry knowledge and can also provide a specific basis for those subjects that will later deal with aspects of silviculture, forest inventory and forest geometry.

1.3 Prerrequisitos / Prerequisites

English required



2. Competencias / Skills

After completing the course, the student should have acquired the following competencies:

2.1 Generales / General

- ☐ Speak, read and write in English.
- ☐ Be able to analyze and synthesize scientific documents and apply the knowledge acquired.

2.2 Específicas / Specific

- ☐ Have a general vision of the forestry field in which he/she has not been previously trained.
- ☐ Know the basic techniques and tools of forest management.
- ☐ Correctly use instruments for measuring tree stands.
- ☐ Design an inventory of forest resources.



3. Objetivos / Aims

1. Related to Content

- Provide a **global overview of the forestry field**, introducing key concepts such as:
 - **Silviculture and reforestation**
 - **Forest mensuration and inventory**
 - **Forest management planning**
- Establish the **conceptual foundations necessary** for a better understanding of the other subjects taught in the master's program.

2. Related to Attitudes

- **Foster student interest** in the forestry sector by:
 - Demonstrating a positive and enthusiastic attitude from the instructor.
 - Encouraging students to take a stance through in-class questions and discussions.
 - Using engaging teaching materials (e.g., visual presentations, photographs).
 - Offering field visits to complement theoretical content.
- **Promote a positive attitude** towards future professional careers linked to research by:
 - Introducing students to current employment opportunities in the field.

3. Related to Methodology

- **Encourage participatory learning** through:
 - Active individual or small-group work.
 - Interactive practical sessions and in-class presentations.
 - Development of creative or integrative projects related to the subject.
- **Implement continuous assessment** based on student participation by:
 - Collecting exercises throughout the course.
 - Requiring the submission of a final case study or project.



4. Tabla de dedicación del estudiante a la asignatura





5. Bloques temáticos / Content Blocks

Block 1: Basic Concepts

ECTS Workload: 2 credits

a. Context and Justification

This block will cover the fundamental principles of forest stands, the purpose of silviculture, and the sustainable use of forest resources.

b. Learning Objectives

- Understand the foundations of silviculture.
- Understand the functioning of forest stands from both a static and dynamic temporal perspective.

c. Contents

- **Section 1.1:** Basic Concepts
- **Section 1.2:** Static Study
- **Section 1.3:** Dynamic Study

d. Teaching Methods

The objectives of this course will be achieved through participatory class sessions in which knowledge will be presented using slides, transparencies, handouts, and meaningful presentations. Each section will include specific learning objectives to contextualize the work. In addition, a bibliography will be provided to support these objectives and allow students to further explore the topics.

Students will actively participate in class through the presentation and discussion of ideas and by presenting individually developed assignments.

e. Work Plan

Weekly classes during the second semester, according to the schedule published on the official program website (www.research4forestry.eu).

f. Assessment

See Section 7.

g. Basic Bibliography

- Davis, L.S., Johnson, K.N., Bettinger, P.S., Howard, T.E. (2001). *Forest Management: To Sustain Ecological, Economic and Social Values*. McGraw-Hill. 804 pp.
- Hunter, M.L. (1999). *Maintaining Biodiversity in Forest Ecosystems*. Cambridge University Press. 698 pp.
- Kohm, K.A., Franklin, J.F. (1997). *Creating a Forestry for the 21st Century*.
- Nyland, R.D. (2002). *Silviculture: Concepts and Applications*. McGraw-Hill. 682 pp.

h. Supplementary Bibliography

Additional resources will be suggested in collaboration with students and instructors based on individual interests and academic profiles, acknowledging the diversity in educational backgrounds of students who may not have prior forestry training.

i. Required Resources

- Bibliographic materials
- Computer equipment
- Audiovisual materials

Block 2: Treatments and Reforestation

ECTS Workload: 1 credit

a. Context and Justification

This block will cover the different methods used to adapt forest stands to the proposed silvicultural objectives based on social demand. Additionally, it will address the main methods of restoring forest areas through reforestation.

b. Learning Objectives

- Understand the various silvicultural treatments applied in forest stands.
- Learn the methods of reforesting deforested areas by analyzing different alternatives.

c. Contents

- Section 2.1: Silvicultural Treatments
- Section 2.2: Forest Reforestation

d. Teaching Methods

The course objectives will be achieved through participatory class sessions where knowledge will be presented via slides, transparencies, handouts, and meaningful presentations. Each section will include objectives to contextualize the work, along with a bibliography to support learning and deepen acquired knowledge.

Students will actively participate in class through presentations, debates, and individual assignments.

e. Work Plan

Weekly classes during the second semester according to the schedule published on the program's website (www.research4forestry.eu).

f. Assessment

See Section 7.

g. Basic Bibliography

- Serrada, R. (2003). *Apuntes de selvicultura*. Fundación Conde del Valle de Salazar. Madrid. Available at <https://distritoforestal.es/biblioteca/selvicultura-y-pascicultura/apuntes-de-selvicultura>
- Smith, D.M., Larson, B.C., Kelty, M.J., Ashton, P.M.S. (1997). *The Practice of Silviculture: Applied Forest Ecology*. Wiley & Sons. 537 pp.

h. Supplementary Bibliography

Additional resources will be suggested collaboratively with students and instructors based on individual interests and profiles, considering the diversity of educational backgrounds without forestry foundations.

i. Required Resources

- Bibliographic materials
- Computer equipment
- Audiovisual materials

Block 3: Forest Mensuration

ECTS Workload: 1 credit

a. Context and Justification

In order to properly manage forest stands sustainably and meet desired objectives, an accurate diagnosis through forest inventory is necessary. This requires knowledge of dendrometry, mensuration, and stand measurement (epidometry).

b. Learning Objectives

- Understand the fundamentals of dendrometry, mensuration, and stand measurement.
- Know the instruments used for measurements necessary in forest inventories.
- Understand probabilistic inventory methodologies for different forest stand types.

c. Contents

- Section 3.1: Dendrometry
- Section 3.2: Mensuration
- Section 3.3: Stand Measurement (Epidometry)
- Section 3.4: Forest Inventory

d. Teaching Methods

The objectives will be met through participatory class sessions with knowledge delivered using presentations, transparencies, handouts, and meaningful talks. Each section will outline objectives to contextualize work, supported by relevant bibliography.

Students will participate actively through presentations, debates, and individual assignments.

Additionally, practical sessions will be conducted where students perform measurements of forest variables using the instruments studied.

e. Work Plan

Weekly classes during the second semester, following the schedule on (www.research4forestry.eu).

f. Assessment

See Section 7.

g. Basic Bibliography

- Dieguez, U., Barrio, M., Castedo, F., Ruiz, A.D., Álvarez, M.F., Álvarez, J.G., Rojo, A. (2003). *Dendrometry*. Mudi Prensa, 347 pp.
- De la Hoz et al. (2004). *Manual de ordenación de Montes de Andalucía*. Junta de Andalucía. 375 pp. Available at https://www.juntadeandalucia.es/medioambiente/web/Bloques_Tematicos/Publicaciones_Divulgacion_Y_Noticias/Documentos_Tecnicos/manual_ordenacion_montes_andalucia/manual_ord_montes.pdf
- Kershaw, J.A., Ducey, M.J., Beers, T.W., Husch, B. (2017). *Forest Mensuration*, 5th Edition. Wiley, 613 pp.
- Kangas, A., Maltamo, M., Eds. (2006). *Forest Inventory: Methodology and Applications*. Springer, 364 pp.

h. Supplementary Bibliography

Supplementary bibliography will be proposed depending on students' and instructors' interests and profiles, taking into account diverse academic backgrounds.

i. Required Resources

- Bibliographic materials
- Computer equipment
- Audiovisual materials

Block 4: Forest Management Planning

ECTS Workload: 1 credit

a. Context and Justification

This block will address the principles of forest management planning. The approach will cover different spatial scales—from the management plan of a single forest stand to planning and management at the regional level.



b. Learning Objectives

- Understand the contents of forest management plans.
- Learn the different possible management methods.
- Understand the fundamentals of forest planning and environmental management at a regional scale.

c. Contents

- Section 4.1: Contents of Management Plans
- Section 4.2: Management Methods
- Section 4.3: Planning and Environmental Management

d. Teaching Methods

Course objectives will be achieved through participatory sessions, with presentations, transparencies, handouts, and meaningful lectures. Each section will present objectives to contextualize work, with supporting bibliography.

Students will actively participate via presentations, debates, and individual assignments.

e. Work Plan

Weekly classes during the second semester following the schedule published at (www.research4forestry.eu).

f. Assessment

See Section 7.

g. Basic Bibliography

- Davis, L.S., Johnson, K.N., Bettinger, P.S., Howard, T.E. (2001). *Forest Management: To Sustain Ecological, Economic and Social Values*. McGraw-Hill. 804 pp.
- Hunter, M.L. (1999). *Maintaining Biodiversity in Forest Ecosystems*. Cambridge University Press. 698 pp.
- Madrigal, A. (1994). *Ordenación de Montes Arbolados*. Colección Técnica. ICONA. Madrid.

h. Supplementary Bibliography

Additional references will be provided based on students' and instructors' interests and profiles, considering the diverse educational backgrounds.

i. Required Resources

- Bibliographic materials
- Computer equipment
- Audiovisual materials

6. Temporalización (por bloques temáticos) Timing

BLOQUE TEMÁTICO	CARGA ECTS	PERIODO PREVISTO DE DESARROLLO
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Block 1	2	
Block 2	1	
Block 3	1	
Block 4	1	

7. Sistema de calificaciones / Evaluation

Evaluation will be based on a continuous system throughout the progression of the course.

- Proposed exercises will be collected
- Presentations delivered will be assessed
- A final case study will be evaluated

INSTRUMENTO/PROCEDIMIENTO	PESO EN LA NOTA FINAL	OBSERVACIONES
Proposed exercises	40%	
Presentations	30%	
Exam	30%	

Debe obtenerse una calificación mínima de 3 en cada una de las partes evaluadas para promediar

8. Consideraciones finales / final considerations

- Attendance: Lectures and in person classes on the ecampus form a core component of this course. Students must ensure that they are available to do the activities. They are welcome to share new ideas during class and are encouraged to read related papers.
- Technology in the fieldtrips: No cellphones are allowed. Please, turn off your cell phone prior to the start of field trip. 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 computerized detection mechanisms.

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 ecampus.

