



## IDENTIFYING DATA

### Repopulation

Subject	Repopulation			
Code	P03G370V01603			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	3rd	2nd
Teaching language				
Department	Natural Resources and Environment Engineering			
Coordinator	González Prieto, Óscar			
Lecturers	Bartolome Mier, Javier González Prieto, Óscar Valero Gutiérrez del Olmo, Enrique María			
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Web				
General description	(*)Los objetivos generales de la asignatura son: a) Conocer las bases, objeto y fundamentos de las Repoblaciones Forestales b) Conocer las características, métodos y medios necesarios para llevar a cabo las distintas operaciones relacionadas con las repoblaciones forestales c) Conocer los principios generales de la obtención de semilla forestal y producción de planta forestal en vivero.			

## Competencies

Code				
B1	Ability to understand the biological, chemical, physical, mathematical and representation systems necessary for the development of professional activity, as well as to identify the different biotic and physical elements of the forest environment and renewable natural resources susceptible to protection, conservation and exploitations in the forest area.			
B2	Ability to analyze the ecological structure and function of forest systems and resources, including landscapes.			
C20	Ability to know, understand and use the principles of forestry machinery and mechanization.			
C21	Ability to know, understand and use the principles of: reforestation. Gardening and nurseries. Forest improvement			
D5	Capacity for information management, analysis and synthesis			
D8	Ability to solve problems, critical reasoning and decision making			
D10	Autonomous Learning			

## Learning outcomes

Expected results from this subject	Training and Learning Results		
New	B1	C20	D5
	B2	C21	D8
			D10

## Contents

Topic	
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Module I Planning and implementation of afforestation

- Theme 1. Concept and choice of species  
 Lesson 1.1. Concept of afforestation and commentary  
 Lesson 1.2. Background and need for afforestation  
 Lesson 1.3. Objectives of afforestation  
 Lesson 1.4. Species selection
- Topic 2. Methods of re-population  
 Lesson 2.1. Types of methods  
 Lesson 2.2. Selection of method
- Topic 3. Treatment of pre-existing vegetation  
 Lesson 3.1. Rationale and objectives  
 Lesson 3.2. Classification of clearing procedures  
 Lesson 3.3. Description of the clearing procedures
- Topic 4. Soil preparation  
 Lesson 4.1. Rationale and objectives  
 Lesson 4.2. Classification of soil preparation procedures  
 Lesson 4.3. Description of soil preparation procedures  
 Lesson 4.4. Hydrological aspects of land clearing and soil preparation
- Topic 5. Introduction of new species  
 Lesson 5.1. Density of introduction  
 Lesson 5.2. Plantings  
 Lesson 5.3. Plantations
- Item 6. Further care of restocking and complementary work  
 Lesson 6.1. Subsequent care of restocking  
 Lesson 6.2. Complementary works
- Topic 7. Environmental impact of reforestation  
 Lesson 7.1. Introduction and regulations  
 Lesson 7.2. Considerations on the environmental impact of forest R.  
 Lesson 7.3. Affected Factors  
 Lesson 7.4. Impact assessment  
 Lesson 7.5. Methodological conclusion

Module II Seeds

- Topic 8. General information on forest seeds  
 Lesson 8.1. Harvest  
 Lesson 8.2. Extraction and cleaning  
 Lesson 8.3. Storage  
 Lesson 8.4. Conservation Treatments  
 Lesson 8.5. Analysis  
 Lesson 8.6. Germination treatments  
 Lesson 8.7. Sowing

Module III Nurseries

- Topic 9. General information on forest nurseries  
 Lesson 9.1. Definition and classes  
 Lesson 9.2. Water  
 Lesson 9.3. Floor  
 Lesson 9.4. Location, shape and size  
 Lesson 9.5. Bare root planting  
 Lesson 9.6. Cultivation of plant in packaging  
 Lesson 9.7. Staked  
 Lesson 9.8. Quality of the forest plant  
 Lesson 9.9. Mycorrhization

**Planning**

	Class hours	Hours outside the classroom	Total hours
Lecturing	25.5	47.5	73
Problem solving	8	14	22
Studies excursion	8	8	16
Problem based learning	1	11.5	12.5
Case studies	10.5	14	24.5
Objective questions exam	0.5	0	0.5
Short answer tests	0.5	0	0.5
Laboratory practice	1	0	1

\*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	Description
Lecturing	<p>The master lesson is the common form of development of the expository function, in which the teacher develops a series of concepts related to the contents of the Subject, and the student adopts a receptive role of this information.</p> <p>The use of audiovisual media (slides, transparencies, videos, video canon, etc.) will be constant in these classes since the retention of information is much greater when combining oral and visual stimuli.</p> <p>The masterful lesson serves to conceptually develop a theme, give global versions, develop a working methodology. etc.</p> <p>Depending on the progress of the course, the content of each didactic unit will be provided in advance and in writing, either as notes or as a bibliography, which enables the student to attend classes with previous reading of the topic. On the other hand, if the student knows that what is taught can be found in a book when studying, his attitude in the classroom will be directed to understand the explanation, having to take only marginal notes of what is expanded.</p> <p>In the case of this subject, the use of audiovisual media such as digital presentations, multimedia, transparencies, rear projection, etc. Should expedite the exposure of topics with a marked descriptive character, or in which drawings and schemes of complicated implementation are needed.</p> <p>The classes of directed discussion, will be made at least one throughout the course and consists of the presentation of a topic, which must meet characteristics of real problem, richness in contradictions or reasons for controversy, should be of interest to the students, who Must know the activity well enough and be sufficiently qualified to express opinions about it.</p> <p>The technique is oriented to overcoming uncritical memorization, fostering participation in the group and verbalization of ideas as a means that favors their assimilation. In addition, an important part of the pupils is a difficulty in expression and writing, which can contribute to overcome through this didactic resource. The role of the teacher as the conductor or moderator of the discussion is fundamental allowing all kinds of opinions on the subject.</p> <p>In addition, and in a complementary way to the lecture, after the presentation of controversial topics or of special interest for the students, it is interesting to organize discussions of reduced scope, questions, etc. Such an activity, which is simpler to perform than the previous one, can be considered more as a resource of elaboration and control within the master's lesson than as a technique of a nature alien to it.</p> <p>Other tools that help to reinforce the contents included in the master lessons are.</p> <ul style="list-style-type: none"> <li>- Case study / situation analysis / directed discussion: Formulation, analysis, resolution and debate of a problem or exercise related to the thematic of the subject.</li> <li>- Solving problems and / or exercises in an autonomous way: Formulation, analysis, resolution and debate of a problem or exercise related to the subject matter of the subject.</li> <li>- Presentations / expositions: Oral presentation by the students of a specific subject or work (usually written presentation).</li> <li>- Multimedia Sessions: Use of videographic / online material on aspects of the subject</li> <li>- Study exits / field practices: Visits-outings to the field for the observation and study of aspects previously studied / analyzed</li> </ul>
Problem solving	<p>Resolution of problems and / or exercises Formulation, analysis, Resolution and debate of a problem or exercise related to the theme of the Subject, by the students.</p> <p>Exercises and problems will be carried out on topics such as: static study of forest masses, dynamic study of the forest masses, etc</p>

Studies excursion	<p>The practice of the techniques, theoretically learned, must be carried out in contact with the professional practice which can only be obtained by actual practice of the techniques (or their direct observation) wherever they are carried (Industry, forest masses, etc.)</p> <p>The practice of techniques, theoretically learned, must be carried out in close contact with professional practice which can only be obtained by practicing techniques (or their direct observation) wherever they are carried out (industry, forest masses, etc.).</p> <p>The maximum number of field practices or practical trips should be carried out, without which theoretical teaching is insufficient to achieve the teaching objectives.</p> <p>The field practices are therefore intended to establish the concepts of the subject, give students the opportunity to get in touch with the professional world and foster relationships between students and teacher student outside the center. The realization of practical trips make sense when they really contribute new knowledge that are impossible to acquire in the School itself.</p>
Problem based learning	<ul style="list-style-type: none"> <li>- Organization of specific seminars or conferences</li> <li>- Presentations / exhibitions: Oral presentation by the students of a theme Concrete or work (usually written presentation).</li> <li>- Multimedia Sessions: Use of videographic / online material on aspects of the subject</li> <li>- Days of study of aspects previously studied / analyzed in field trips</li> </ul>
Case studies	Case study / situational analysis - Case study / situation analysis or directed discussion: Formulation, analysis, resolution and debate of a problem or exercise related to the subject matter of the subject ..

### Personalized attention

Methodologies	Description
Case studies	
Problem solving	
Studies excursion	

### Assessment

	Description	Qualification	Training and Learning Results
Lecturing	(*)	0	
Problem based learning	(*)	0	
Case studies	(*)	30	C21
Objective questions exam	(*)	30	C21
Short answer tests	(*)	40	C21

### Other comments on the Evaluation

### Sources of information

#### Basic Bibliography

#### Complementary Bibliography

### Recommendations

#### Subjects that are recommended to be taken simultaneously

Botany/P03G370V01303

Forestry Ecology/P03G370V01402

#### Subjects that it is recommended to have taken before

Biology: Plant Biology/P03G370V01201