

Plan 572 MÁSTER EN GESTIÓN FORESTAL BASADA EN CIENCIAS DE DATOS/
 FOREST MANAGEMENT BASED ON DATA SCIENCE
 Asignatura 54279 LEARNING BY DOING: ADAPTIVE MANAGEMENT

Tipo de asignatura (básica, obligatoria u optativa)

ELECTIVE

Créditos ECTS

6 ECTS

Competencias que contribuye a desarrollar

Following the Dublin Descriptors, students of this course must:

- i) have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context;
- ii) can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;
- iii) have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements;
- iv) can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;
- v) have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

With this course students will acquire the following specific competences:

E5 Capacidad para usar correctamente instrumentos de medición de masas arboladas, así como las técnicas y herramientas de la gestión forestal/Ability to use properly measurement instruments in forest stands and tools and methods of forestry

E12 Capacidad para la comprensión y desarrollo de aplicaciones relacionadas con la gestión de datos de sistemas forestales/Ability to understand and develop applications related to the management of data from forest systems.

Objetivos/Resultados de aprendizaje

Students will be able to design, manage and apply techniques on (i) Adaptive Management, (ii) Forest Management under global change, (iii) silvicultural path design, (iv) quantitative silviculture and (v) monitoring, experimentation and data analysis.

Beside that, students will be able to critically select, read and assess scientific literature related with the course

Contenidos

PRINCIPLES (1 ECTS)

- Adaptive Management (AM) Foundations
- AM Types (Active vs Passive)
- Rooting on Forest Management traditional approach
- Policy, legal and institutional framework
- Social participation
- Differences between Adaptive Management and Management for adaptation

TOOLS (2 ECTS)

- Experimentation in forestry

- Sampling and monitoring
- Silvicultural path design and analysis
- Modelling and simulation
- Supervised and unsupervised classification (machine learning)

CASE STUDIES (3 ECTS)

- Mixing effect (Nelder wheels, triplets,...)
- Tree marking analysis (Marteloscope)
- Thinning response (Thinning experiments)
- Forest structure monitoring and assessment (Allometry, biomass equations, Coarse Woody Debris sampling)
- Site productivity (site index curves and site index classification)

Principios Metodológicos/Métodos Docentes

A combination of theory, problems, seminars and field trips jointly with independent study and group study will be used.

Criterios y sistemas de evaluación

Course requirements include active participation (10%), the presentation of a class summary (10%), a class project (30%) and a final exam (50%).

Recursos de aprendizaje y apoyo tutorial

See details at www.uva.es

Calendario y horario

See details at <http://www5.uva.es/etsiiaa/>

Tabla de Dedicación del Estudiante a la Asignatura/Plan de Trabajo

ACTIVIDADES PRESENCIALES/Interaction with Faculty members

HORAS/Hours

ACTIVIDADES NO PRESENCIALES/individual or group work

HORAS/Hours

Clases teórico-prácticas (T/M)/Theory

15

Estudio y trabajo autónomo individual/Individual study

60

Clases prácticas de aula (A)/Practical work (Problems,...)

10

Estudio y trabajo autónomo grupal/Group study

30

Laboratorios (L)/Labs

Prácticas externas, clínicas o de campo/Field trips

25

Seminarios (S)/Seminars

8

Tutorías grupales (TG)/Groups meetings

Evaluación/Evaluation

2

Total presencial

Responsable de la docencia (recomendable que se incluya información de contacto y breve CV en el que aparezcan sus líneas de investigación y alguna publicación relevante)

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