

MODULE DESCRIPTION

General

School	Geotechnical Sciences
Department	Forest and Natural Environment Sciences

Module Information

Title	Forest Energy Resource Management
Course Code	OPT. 10
Level of Studies	Undergraduate
Teaching Period	Spring
Attendance Type	Elective
Prerequisites	-

Orientation	Weekly Hours		Year	Semester	ECTS
	Lectures	Laboratory work			
Natural Resource Management, Protection & Climate Change	2	1	3 ^o	6 ^o	3

Faculty Instructor

Assistant Professor Dimitrios Raptis

Type of Module

- General Foundation
- Specific Foundation / Core
- Knowledge Deepening / Consolidation

Mode of Delivery

- Face to face
- Distance learning

Digital Module availability

- E-Study Guide
- Departments Website
- E-Learning

Language

	Teaching	Examination
Greek	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
English	<input type="checkbox"/>	<input type="checkbox"/>

Erasmus

- The course is offered to exchange programme students

Learning Outcomes

Upon successful completion of the course students are expected to:

- understand the basic concepts and factors that affect the supply and demand of wood for energy
- become familiar with the concept of the sustainability of forest biomass for energy production, the management practices of wood biomass logging for energy and the use of forest residues for energy.
- understand the land use policy planning framework for energy forest plantations and the potential for improving the production of forest bioenergy and carbon sequestration capacity of forests in Greece and internationally.

List of General Competences

- Apply knowledge in practice
- Work autonomously
- Work in teams
- Work in an international context
- Work in an interdisciplinary team
- Respect natural environment
- Advance free, creative and causative thinking

Module Content (Syllabus)

Forest biomass availability and financial feasibility for its use for energy production. Factors that affect the supply and demand of wood for energy. Forest biomass sustainability for energy production. Use of forest residues for energy. Management practices of wood biomass logging for energy. Volume and energy measurement specifications for wood fuel and wood fuel products. Improving the production of forest bioenergy and carbon sequestration capacity of forests in Greece and internationally. Land use policy planning for energy forest plantations.

Keywords

Forest biomass ,forest bioenergy, forest residues

Educational Material Types

- Book
- Notes
- Slide presentations
- Video lectures
- Multimedia
- Interactive exercises
- Other:

Use of Information and Communication Technologies

- Use of ICT in Course Teaching
- Use of ICT in Laboratory Teaching
- Use of ICT in Communication with Students
- Use of ICT in Student Assessment

Module Organization

Please fill in the workload of each course activity

Course Activity	Workload (hours)
Lectures	26
Laboratory work	13
Field Trip/Short Individual Assignments	20
Independent Study	16
Total	75

* 1 ECTS unit corresponds to 25 hours of workload

Student Assessment Methods

- Written Exam with Multiple Choice Questions
- Written Exam with Short Answer Questions
- Written Exam with Extended Answer Questions
- Written Assignment
- Report
- Oral Exams
- Laboratory Assignment

Suggested Bibliography (Eudoxus and additional bibliography)

1. Κοδοσάκης, Δ. 1994. Διαχείριση Φυσικών Πόρων και Ενέργειας. Εκδόσεις Σταμούλη.
2. GIZ/GBEP (2014). Towards sustainable modern wood energy development. German Federal Ministry for Economic Cooperation and Development, 92p.
3. IRENA (2019). Bioenergy from boreal forests: Swedish approach to sustainable wood use. International Renewable Energy Agency, Abu Dhabi.