

MODULE DESCRIPTION

General

School	Geotechnical Sciences
Department	Forest and Natural Environment Sciences

Module Information

Title	Evaluation and assessment of ecosystem services
Course Code	C.Y.4
Level of Studies	Undergraduate
Teaching Period	Winter
Attendance Type	Compulsory
Prerequisites	-

Orientation	Weekly Hours		Year	Semester	ECTS
	Lectures	Laboratory work			
Landscape architecture and restoration	2	2	2 ^o	3 ^o	5

Faculty Instructors

Professor Vassiliki Kazana & 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Erasmus

- The course is offered to exchange programme students

Learning Outcomes

It is now widely accepted that Ecosystem Services are particularly important for human well-being and therefore natural resource design and management analysis should ensure that these services are provided when sustainable development is pursued. However, their evaluation and economic assessment process involves significant challenges as these services are not marketed and therefore it requires different tools and approaches.

Upon successful completion of the course, students are expected to:

- understand the nature and role of ecosystem services for sustainable development
- become acquainted with the classification systems of ecosystem services
- become acquainted with the approaches and tools for evaluating and assessing ecosystem services
- be able to use theoretical and practical knowledge to conduct studies and research on the evaluation and economic assessment of ecosystem services.

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)

Basic concepts of ecosystem services evaluation. Nature and role of ecosystem services in human well-being and sustainable development. Ecosystem classification systems. Assessment through the ecosystem services suitability approach. Suitability mapping of ecosystem services. Assessment through the total economic value approach, direct values, indirect values, option values, bequest values, existence values, intrinsic values. Economic valuation tools, quantitative value method, benefit transfer method, damage cost avoided, replacement cost and substitute cost methods, market price method, productivity method, willingness to pay methods (Travel Cost, Contingent Valuation, Choice Modelling). Scenario analysis. Case studies.

Keywords

Environmental Economics, valuation of non-market goods / services

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	26
Field Trip/Short Individual Assignments	40
Independent Study	33
Total	125

* 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. Masiero M., Pettenela, D., Boscolo, M., Barua, S. K., Animon, I., Matta, R. (2019). Valuing Forest Ecosystem Services: A training manual for planners and project developers. FAO UN.

2. Grunewald, K., Bastian, O. (2015) *Ecosystem Services – Concept, Methods and Case Studies*. Springer
3. Dimopoulos P., Kokkoris, I. (2018) *Mapping and valuation of ecosystems and their services*. Katagramma Publishing (in Greek).
4. Ninan, K.N. (2014). *Valuing ecosystem services. Methodological issues and case studies*. Edward Elgar Publishing Ltd.
5. Kazana, V. and Kazaklis, A. (2005). Chapter 15, Greece, in Merlo, M. and Croitorou, L. (eds). *Valuing Mediterranean forests- Towards total economic value*, CABI Publishing UK.