# **MODULE DESCRIPTION**

# General

School	Geotechnical Sciences
Department	Forest and Natural Environment Sciences

# **Module Information**

Title	GEOGRAPHIC INFORMATION SYSTEMS
Course Code	E.Y.1
Level of Studies	UNDERGRADUATE
Teaching Period	AUTUMN TERM
Attendance Type	COMPULSORY
Prerequisites	

Orientation	Wee	kly Hours	Year	Semester E	ECTS
Offentation	Lectures	Laboratory work			LCIS
ECOLOGY AND BIODIVERSITY CONSERVATION	2	2	3	5	4

# **Faculty Instructor**

PANTELEIMON XOFIS

# **Type of Module**

V	General Foundation
	Specific Foundation / Core
	Knowledge Deepening / Consolidation
	de of Delivery
~	Face to face
V	Distance learning
Dig	ital Module availability

V	E-Study Guide
V	Departments Website
	E-Learning

# Language

	Teaching	Examination
Greek	>	Y
English		

#### **Erasmus**



The course is offered to exchange programme students

### **Learning Outcomes**

Geographic Information Systems (GIS) are a modern and essential tool in the analysis and management of the environment, while the methods applied in GIS are constantly evolving. The course aims to give the student the necessary theoretical and technical knowledge so that he/she can create and analyze a GIS. Upon completion of the course the student: will know what a GIS is and will be able to create and find data. He/she will know methods of analyzing geographical data, transforming and modifying data in order to produce useful information from them. He/she will know the differences, advantages and disadvantages of different forms of geographic data. He/she will be able to create a geo-database. He/she will know what coordinate systems are and how to choose the right one in each case. Finally he/she will be able to visualize geographical data and produce cartographic backgrounds.

#### **List of General Competences**

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Mark Control	Apply	knowledge	e in	practice

Work autonomously

Work in teams

Work in an international context

Work in an interdisciplinary team

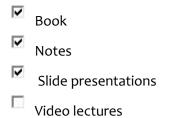
Respect natural environment

Advance free, creative and causative thinking

#### **Module Content (Syllabus)**

- The Concept and historical evolution of Geographic Information Systems
- Geographic data formats properties, advantages, disadvantages.
- Generate geographic data and search sources
- Coordinate systems, projection systems and georeferencing
- Descriptive information, tables, queries.
- Geographical data analysis and information generation
- Geo-databases
- Data visualization and production of cartographic backgrounds.
- Introduction to spatial analysis
- Introduction to spatial interpolation methods

# **Educational Material Types**



	Multimedia
V	Interactive exercises
	Other:
Use	e of Information and Communication Technologies
V	Use of ICT in Course Teaching
V	Use of ICT in Laboratory Teaching
100	Use of ICT in Communication with Students
7	Use of ICT in Student Assessment

# **Module Organization**

17

Please fill in the workload of each course activity

Course Activity	Workload (hours)
Lectures	26
Laboratory work	26
Field Trip/Short Individual Assignments	28
Independent Study	20
Total	100

<sup>\* 1</sup> ECTS unit corresponds to 25 hours of workload

# **Student Assessment Methods**

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

# Suggested Bibliography (Eudoxus and additional bibliography)

- 1. Longley, P. A., Goodchild, M. F., Maquire, D. J., Rhind, D. W. (2010) Συστήματα και Επιστήμη Γεωγραφικών Πληροφοριών. Εκδοσεις Κλειδαριθμος.
- 2. Κουτσόπουλος Κωστής Χ., (2017), Γεωγραφικά Συστήματα Πληροφοριών και Ανάλυση Χώρου 2η Εκδοση., Εκδόσεις ΠαπασωτηρίουForman, R. T. T. (1995) Land Mosaics, The ecology of landscapes and regions. Cambridge University Press

3. Συλλαίος Ν., Γήτας Ι., Συλλαίος Γ., (2007), Εισαγωγή στα γεωγραφικά συστήματα πληροφοριών και στην τηλεπισκόπηση, Εκδόσεις Γιαχούδη.		