MODULE DESCRIPTION

General

School	Geotechnical Sciences
Department	Forest and Natural Environment Sciences

Module Information

Title	Digital Design
Course Code	C.Y.2
Level of Studies	Undergraduate
Teaching Period	Fall semester (3rd)
Attendance Type	Compulsory course
Prerequisites	None

Orientation	Weekly Hours		Year	Semester	ECTS
	Lectures	Laboratory work			
Landscape Architecture & Restoration	2	3	2nd	3rd	5

Faculty Instructor

Athanasios D. STYLIADIS

Type of Module

- [x] General Foundation
- [ ] Specific Foundation / Core
- [ ] Knowledge Deepening / Consolidation

Mode of Delivery

- [x] Face to face
- [x] Distance learning

Digital Module availability

- [x] E-Study Guide
- [ ] Departments Website
- [ ] E-Learning

Language

	Teaching	Examination
Greek	☑	☑
English	☑	☑

Erasmus

- [x] The course is offered to exchange programme students

Learning Outcomes

• Familiarity with the functionalities and graphical user interfaces (GUIs) of modern digital design platforms.
• Development of the graphical information & algorithms discussion (in two dimensions).
• The rules for viewing and geometric transformations of the graphical information (in two dimensions).
• Discussion of real life applications in the Forest and Natural Environment sciences.

List of General Competences

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

Module Content (Syllabus)

• The raster-scan CRT technology.
• The two-dimensional display algorithms (Vector & Raster transformations, Scan-conversion algorithms).
• Graphic information & basic geometric transformations.
• Applications of geometric and optical transformations in two dimensions.
• Applications of compound transformations in two dimensions.
• Discussion of applications in Forest and Natural Environment sciences (e.g. area measurements, volume measurements, forest-cadastre land registry).

Educational Material Types

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

Use of Information and Communication Technologies

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

Module Organization

Please fill in the workload of each course activity

Course Activity	Workload (hours)
Lectures	30
Laboratory work	30
Field Trip/Short Individual Assignments	20
Independent Study	45
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
- [x] Report
- [x] Oral Exams
- [x] Laboratory Assignment

Suggested Bibliography (Eudoxus and additional bibliography)

- Athanasios D. Styliadis, «Computer Graphics», Ziti Publications, Thessaloniki, ISBN: 960-431-510-2, Eudoxus code: 11193.
- Ioannis PITAS, «Image Processing», ISBN: 978-960-91564-3-1, Eudoxus code: 8020.
- Themis PANAGIOTOPOULOS & George ANASTASAKIS, «Computer Graphics – Visual Reality».