MODULE DESCRIPTION

General

School	Geotechnical Sciences
Department	Forest and Natural Environment Sciences

Module Information

Title	Building materials & Elements of Concrete
Course Code	OPT.13
Level of Studies	Undergraduate
Teaching Period	6th Semester
Attendance Type	General Foundation / General Knowledge / Skills Development
Prerequisites	-

Orientation	Weekly Hours		Year	Semester	ECTS
	Lectures	Laboratory work			
Landscape Architecture and Restoration of landscape	2	1	3	6	3

Faculty Instructor

Dr. Ing. Dimitrios Kaziolas

Type of Module

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

Mode of Delivery

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

Digital Module availability

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

Language

	Teaching	Examination
Greek	☑	☑
English	☐	☐

Erasmus

- [ ] The course is offered to exchange programme students

Learning Outcomes

After the successful completion of the course, the student is expected to:
• know the building materials and their composition
• be able to select the appropriate building materials and how to compose them for the construction of structures in forest
• design and calculate forest construction works made of reinforced concrete

List of General Competences

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

Module Content (Syllabus)

Properties of minerals, categories of materials of construction, artificial and natural aggregate materials, cements, plasters, concrete, steel, reinforced concrete, masonry, insulation, elements and materials of building structures. Control of cross-section of reinforced concrete of structures in normal force, bending moment, shearing force. Anchoring of reinforced bars. Serviceability limit state due to distortions. Details of reinforcing of structural elements. Calculation and drawing of rectangular plates, rectangular sections of rectilinear beams. Construction details of structure elements. Measurement of quantities of materials.

Educational Material Types

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

Use of Information and Communication Technologies

- [x] Use of ICT in Course Teaching

- [ ] Use of ICT in Laboratory Teaching
- [x] 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
Individual Assignment	13
Independent Study	23
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
- [x] Written Exam with Extended Answer Questions
- [ ] Written Assignment
- [ ] Report
- [ ] Oral Exams
- [ ] Laboratory Assignment

Suggested Bibliography (Eudoxus and additional bibliography)

1. Wendehorst Reinhard, Spruck Helmut, Building Materials, H. GIOURDA & Co L.P. Publications, ISBN: 960-512-001-0
2. Chouliaras Ioannis G., Furnished Concrete Constructions, A. PAPASOTIRIOU Publications & Co, ISBN: 978-960-7530-31-8
3. Georgiadou Zoi, Structural and Decorative Materials, Stella Parikou Publications & Co. G.P., ISBN: 978-960-411-501-3