UNIVERSITY of NICOSIA

Course Code	Course Title	ECTS Credits
CVEE-151	Building Construction Principles	6
Department	**Semester**	**Prerequisites**
Engineering	Fall, Spring	None
Type of Course	**Field**	**Language of Instruction**
Required	Civil & Environmental Engineering	English
Level of Course	**Year of Study**	**Lecturer(s)**
1st Cycle	1st	Dr Antonia Sophocleous-Lemonari
Mode of Delivery	**Work Placement**	**Co-requisites**
Face-to-face	N/A	None

Objectives of the Course:

The main objectives of the course are to:

1. Develop an understanding of residential structures commonly constructed
2. Provide the principles of planning in solving specific construction problems
3. Identify and demonstrate hand and power tools
4. Identify and classify building materials
5. Layout building lines using a set of plans, and tools
6. Introduce bill of materials and estimate cost of construction
7. Construct a structure following a set of plans

Learning Outcomes:

After completion of the course students are expected to:

1. Identify types of residential structures commonly constructed in the area
2. Apply the principles of planning in solving specific construction problems
3. Identify and demonstrate correct use of hand and power tools
4. Identify and classify building materials
5. Layout building lines using a set of plans and tools
6. Derive a bill of materials and estimate cost of construction
7. Construct a small structure following a set of plans such as a shed, playhouse or small cabin

Course Contents:

- Introduction: general considerations and analysis of the Building Construction context.
- Organization elements of the building worksite. Demolition of existing constructions, excavations-earthworks, specialized machinery for building construction, scaffolds.
- Safety, hygiene and health protection at work.
- Building foundations: types, morphological characteristics. Ground water control, waterproofing of building elements in contact with the ground.
- Bearing structure of buildings: Types, materials, building components.
- Reinforced concrete, elements of the reinforced concrete regulation, wooden or metal forms for in situ concrete cast.
- Stairs. Elements, types, design, construction, support.
- Masonry. Types, materials, thermal, noise and moisture protection.
- Fenestration. Types and functions, criteria of selection, materials for frame and glazing, thermal and optical properties, components, solar protection, shutters, details.
- Roofs. Inclined roofs, types and morphologies, wooden, metal and reinforced concrete roofs, structural elements. Thermal and moisture protection of pitched roofs. Roof design, details. Flat roofs, types and morphologies, materials, thermal and moisture protection, design, details.

Learning Activities and Teaching Methods:

Lectures, Projects, Discussion

Assessment Methods:

Homework, Project assignments, exams, final exam.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Francis D.K. Ching ,B.S. Onouye and D. Zoubelbouhler	Building Construction Illustrated. Patterns, Systems and Design	John Wiley & Sons Inc	2009	9780470-18785-2
Roy Chudley, Roger Greeno	Advanced Construction Technology	Prentice Hall	2006	10-049529565-5

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
A. Charlett	Fundamental Building Construction	Taylor & Francis	2007	0-203-96609-0