



Course Code CVEE-101	Course Title Introduction to Civil and Environmental Engineering	ECTS Credits 4
Department Engineering	Semester Fall	Prerequisites None
Type of Course Required	Field Civil & Environmental Engineering	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 1 st	Lecturer(s) Dr Panayiotis Polycarpou
Mode of Delivery Face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- Introduce the students to civil and environmental engineering and its importance to society;
- Familiarize students with the fundamental areas of civil and environmental engineering, namely, structural, materials, geotechnical, transportation, hydraulics and environmental engineering;
- Acquaint students with the regulation for public safety and protection of the environment;
- Familiarize students with the Analysis and Design procedures;
- Stress to students the importance of regulation standards in design and responsibility of engineers;

Learning Outcomes:

After completion of the course students will be able to:

- describe the various sub-disciplines of civil and environmental engineering;
- provide some representative local examples projects for the major subfields
- recognize the contribution of the various subfields and how are being integrated in given project examples;
- understand various career paths and aspects of the profession;
- describe the analysis and design procedures for simple classical civil engineering and environmental engineering problems;
- state the existence and outline importance of specialists in civil and environmental engineering with several examples;

Course Contents:

Introduction to Course & Undergraduate curriculum. Historical data, The role of civil engineer in society, Terminology, Infrastructure Systems, Basic disciplines

Structural Engineering. Building materials, Type of structures, Loading types, Safety regulations, Analysis and design procedures. Application example(s).

Geotechnical engineering. Soil properties, Tests, Foundations, retaining structures, underground structures, Analysis and design procedures. Application example(s).

Surveying, Fundamentals of Geoinformatics and Field Surveying

Construction Engineering and Project Management. Construction sites, Site equipment, machinery, project management, activity planning, safety issues.

Transportation Engineering. Transportation Infrastructure, roads and highways, analysis, design and construction procedures.

Environmental Engineering. Natural environment, Hydrology, Water resource management, storm water runoff, drinking-water treatment, Wastewater management, treatment plants, analysis and design procedures.

Environmental Engineering. Air Pollution control, solid water management and recycling, tests analysis and design.

Coastal engineering, breakwaters, sea walls, ports, marine structures

General issues. Sustainability, Ethics, Interrelations between disciplines.

Learning Activities and Teaching Methods:

Lectures, in-class examples, exercises, discussion

Assessment Methods:

Homework, midterm exam, project assignment, final exam

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
M. R. Penn; P. J. Parker	Introduction to Infrastructure: An Introduction to Civil and Environmental Engineering	John Wiley & Sons	2011	978-0-470- 41191-9

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
N.S. Grigg et al.	Civil Engineering Practice in the Twenty-First Century	ASCE Press	2001	97807844706 88