



Course Code CVEE-463	Course Title Sustainable Buildings and Infrastructure	ECTS Credits 6
Department Engineering	Semester Fall, Spring	Prerequisites CVEE-151, CVEE-260
Type of Course Elective	Field Civil & Environmental Engineering	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 4 th	Lecturer(s) Dr Marios Valiantis
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 students to the green building concept
- Provide technical information on the design process and construction of sustainable buildings
- Identify and describe building materials and products used in the construction of green and ecological building designs
- Identify energy production systems and hydrologic systems used in sustainable buildings
- Identify construction operations and commissioning of sustainable buildings
- Provide the tools for comparative economic analysis between conventional and green buildings

Learning Outcomes:

After completion of the course students are expected to:

- Explain basic concepts related to sustainability and environmental concerns
- Apply assessment techniques for green building delivery systems
- Identify the benefits associated with sustainable buildings as oppose to conventional buildings
- Apply suitable construction materials, energy generation systems, and hydrologic systems for the delivery of sustainable buildings and infrastructures
- Perform economic analysis for comparative study between conventional and sustainable buildings
- Evaluate sustainable sites and landscapes
- Identify and describe major characteristics of sustainable buildings and infrastructures
- Identify major steps involved in the construction and commissioning of sustainable buildings

Course Contents:

- Ethics and sustainability
- The green building concept
- Environmental and resource concerns
- Green building assessment
- Conventional versus green building delivery systems
- Green building process
- Ecological design
- Sustainable sites and landscaping
- Energy issues and atmosphere
- The building hydrologic system
- Building materials and products
- Construction operations
- Building commissioning
- Economic analysis of green buildings

Learning Activities and Teaching Methods:

Lectures, in-class examples and exercises, discussion, projects

Assessment Methods:

Homework, exams, final exam, project reports

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
C. J. Kibert	Sustainable Construction: Green Building Design and Delivery, 2 nd Edition	Wiley	2008	978-0470114216