



**AMERICAN UNIVERSITY
OF CYPRUS**

Course Code MBS 401	Course Name Materials & Building Systems	ECTS Credit 6
Pre-Requisite -	Course Type Compulsory	Language of Instruction English
Year of Study 3 rd	Level of Course 5 th Semester	Mode of Delivery On Campus

Course Objectives:

The course offers an introduction to the principles and practices applied to the constructed environment, providing an overview of the subjects of materials, components, assemblies, environmental systems, and construction theory. Through weekly lectures on topics related to materials and building systems, the course examines the anatomy of a building and the way building systems impact the design of the interior space. Through a study of historical precedents, this course examines how the evolution of materials, technologies, and integrated systems has impacted design solutions. Beyond an introduction to the various building systems- including structural, mechanical, plumbing, and the course will explore how acoustic, lighting, and thermal design impacts the quality of the interior environment.

Learning Outcomes:

- Have acquired knowledge of key materials, building components, and construction methods
- Be able to understand and use materials, components, assemblies, and building systems to advance the design development of small and medium-scale buildings and achieve sustainable outcomes.
- Be able to understand the importance of climate-responsive design and environmental factors on the design development of buildings and integrate environmental design principles into their design

Teaching Methodology:

Lectures

Course Content:

- Materials (Glass, Wood, concrete, metal, stone, plastic): physical properties, histories, environmental impacts, and application
- Building components
- Construction methods
- Building Systems (heat and air flow, thermal comfort and insulation, lighting and acoustics): characteristics and application

Assessment Methods:

Participation, Midterm Exam, Quizzes, Final Exam

Required Textbooks/Reading:

Title	Author(s)	Publisher	Year
Fundamentals of Building Construction: Materials and Methods	Allen, Edward, and Joseph Iano	John Wiley & Sons	2003
Building Systems for Interior Designers	Corky Binggeli	John Wiley & Sons	2016
Heating, Cooling, Lighting: Design Methods for Architects.	Lechner, Norbert.	John Wiley & Sons	2000
Materials for design,	Victoria, Ballard Bell and Patrick, Rand	, Rand, Materials for design, 2006, New York: Princeton Architectural Press	2006