School of Fine Arts Design and Architecture / Architecture (English)

2023 - 2024 Academic Year

BUILDING TECHNOLOGY I

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
BUILDING TECHNOLOGY I	ARC2265290	Spring Semester	2+2	3	4

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Assist.Prof. Pelin KARAÇAR
Name of Lecturer(s)	Lect.Dr. Gizem ŞİMŞİR
Assistant(s)	
Aim	The aim of the course is to familiarize students with the general structure and construction concepts, to learn more about the design and construction principles as a whole, including the basic system of the traditional pile builders and skeleton structures, including the walls and the roof system, basic measures against soil types and groundwater and practice principles. In addition, he will be aware of the Regulation on the Buildings to be Performed in the Disaster Areas and he will see the related sections of the masonry in detail. In the course, it is aimed to understand how the design of the carrier system affects the design of the structure, the application examples and the homework.
Course Content	This course contains; Explanation of objective and scope of the course Explanation of content and method of the course Introduction to architectural load-bearing systems, general concept and description. ,Introduction to masonry structure Comparison of masonry structure and skeleton structure Concept of shell in masonry structure and masonry walls(Stone, brick, adobe, concrete block, pumice block walls…) ,Rules of making space for openings in masonry structure, beam, lintel and arches ,Masonry structure foundations ,Water problem in masonry structure , pedestal details, waterproofing ,Slab systems in masonry structure ,MIDTERM EXAM,Introduction to skeleton structure Description of skeleton structure elements (column, beam, shear wall…) Description of axis system İskelet yapı kuruluşunun prensipleri, kolon-kiriş-perde duvar yerleşimi ve boyutlandırma) ,Timber skeleton structure system Steel skeleton structure system Light-weight steel structure system Dimensioning of elements, spans ,Floor systems in skeleton structure ,Vertical circulation elements,Foundation systems in skeleton structure ,Foundation problems and water problem in skeleton structure ,Introduction to roof systems.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
Using ergonomic and anthropometric data; how to design architectural spaces in psychological, social and cultural contexts, ergonomic standards, legislations, universal design principles and future developments in human design in architectural design.	12, 13, 14, 2, 6, 9	A, E, F, G

Teaching Methods	12: Problem Solving Method, 13: Case Study Method, 14: Self Study Method, 2: Project Based Learning Model, 6: Experiential Learning, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam, E: Homework, F: Project Task, G: Quiz

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Explanation of objective and scope of the course Explanation of content and method of the course Introduction to architectural load-bearing systems, general concept and description.	
2	Introduction to masonry structure Comparison of masonry structure and skeleton structure Concept of shell in masonry structure and masonry walls (Stone, brick, adobe, concrete block, pumice block walls…)	
3	Rules of making space for openings in masonry structure, beam, lintel and arches	
4	Masonry structure foundations	
5	Water problem in masonry structure , pedestal details, waterproofing	
6	Slab systems in masonry structure	
7	MIDTERM EXAM	
8	Introduction to skeleton structure Description of skeleton structure elements (column, beam, shear wall…) Description of axis system İskelet yapı kuruluşunun prensipleri, kolon-kiriş-perde duvar yerleşimi ve boyutlandırma)	
9	Timber skeleton structure system Steel skeleton structure system Light-weight steel structure system Dimensioning of elements, spans	
10	Floor systems in skeleton structure	
11	Vertical circulation elements	
12	Foundation systems in skeleton structure	
13	Foundation problems and water problem in skeleton structure	
14	Introduction to roof systems	

Evaluation Methods	**Weight(%)**
Midterm Exam	50
General Exam	50

Resources
To be distributed by the lecturerFundamentals of Building Construction: Materials and Methods, Edward Allen, 2008. Building Construction Illustrated, Francis Ching, 2008, Architectural Detailing: Function - Constructability - Aesthetics, Edward Allen, 2006 Architect's Handbook of Construction Detailing, David Kent Ballast, 2009 Yapım Malzemeler Yöntemler Çözümler İlkeler, Çetin Türkçü, Ahşap Çatılar, Nihat Bayülgen Yapı elemanı tasarımında malzeme, Nihat Todemir