



ECTS COURSE INFORMATION FORM

School/Faculty/Institute	Faculty of Arts, Design and Architecture	
Program	B.Sc. in Architecture	Required

Course Code	ARC 132
Course Title in English	Architectural Technology I
Course Title in Turkish	Mimarlık Teknolojisi I
Language of Instruction	English
Type of Course	Lecture
Level of Course	Undergraduate
Semester	Spring
Contact Hours per Week	Lecture: 2 Recitation: Lab: Studio:
Estimated Student Workload	106 hours per semester.
Number of Credits	4 ECTS
Grading Mode	Standard Letter Grade
Pre-requisites	None
Expected Prior Knowledge	None
Co-requisites	None
Registration Restrictions	Only Undergraduate Students
Overall Educational Objective	To know the basic components and concepts of building technology, with a focus on the structural system
Course Description	Architectural Technology 1 is a lecture course that is designed to be conducted in coordination with Architectural Design 2 studio. The participants encounter the fundamental concepts in statics within their studio design projects. The course is based on lectures and in-class work, enriched with studio activity, where a structural layout and its components are developed for integration into the design.
Course Description in Turkish	Mimari Teknoloji 1 dersi, Mimari Tasarım 2 stüdyosu ile koordinasyon içinde yürütülen bir uygulamalı derstir. Ders mimari teknoloji bileşenlerinin, başta strüktürel sistem olmak üzere mimari bütün içindeki anlamı, işlevi ve teknolojisini mercek altına alan anlatımlara ve paylaşımlara ortam sağlar. Teorik anlatım oturumlarına eklenen uygulama saatlerinde katılımcılar stüdyo projelerinin teknoloji bileşenleri ile ilgili çalışma yaparlar.
Course Learning Outcomes and Competences	Upon successful completion of the course, the learner is expected to be able to: <ol style="list-style-type: none">1. distinguish the impacts of applied research on architectural design;2. analyze the basic concepts and components of structural systems;3. reflect social, technical and environmental responsibility in the selection process of building materials and components.

Relation to Program Outcomes and Competences: N=None S=Supportive H=Highly Related

Program Outcomes and Competences	Level N/S/H	Assessed by Reviews, HW, Assignment.
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1. Ability to read, write and speak effectively in Turkish and English, equivalent to a B2 European Language Passport Level in English.	S	
2. Ability to question and interpret ideas considering diverse points of view; gather and use data, develop concepts related to people, places and the environment, and make individual decisions.	S	Assignment
3. Ability to use appropriate graphical methods including freehand and digital drawing techniques, (ECDL advanced) in order to develop ideas in addition to communicate the process of design.	S	
4. Ability to use fundamental principles of architectural design considering the place, climate, people, society as factors, and simultaneously express present principles in relevant precedents.	S	
5. Understanding of architectural principles belonging to global and local cultures shaped by the climatic, technological, socioeconomic, cultural factors, in addition to principles of historic preservation while developing architectural and urban design projects.	S	Assignment
6. Understanding the theories and methods used to describe the relationship between human behavior and physical environment; and concurrently understanding different needs, values, behavioral norms, social and spatial patterns of different cultures.	S	
7. Ability to apply various stages of design processes considering the client and user needs, which include space and equipment requirements besides site conditions and relevant laws and standards.	S	
8. Understanding the role of applied research in determining function, form and systems and their impact on human conditions and behavior.	H	Assignment
9. Understanding of the basic principles of static and dynamic structural behavior that withstand gravity and lateral forces, in addition to the evolution and applications of structural systems.	H	Assignment
10. Ability to apply the principles of sustainability in architectural and urban design projects that aim to preserve the natural and historic resources and provide healthful environments.	N	
11. Ability to apply the fundamental principles of building and safety systems such as mechanical, electrical, fire prevention, vertical circulation additionally to principles of accessibility into the design of buildings.	S	
12. Understanding the basic principles in the selection of materials, products, components and assemblies, based on their characteristics together with their performance, including their environmental impact and reuse possibilities.	H	
13. Ability to produce a comprehensive architectural project from the schematic design phase to design development phase, while integrating structural systems, life safety and sustainability principles.	S	
14. Understanding the principles of environmental systems such as energy preservation, active and passive heating and cooling systems, air quality, solar orientation, day lighting and artificial illumination, and acoustics; in addition to the use of appropriate performance assessment tools.	N	
15. Ability to choose appropriate materials, products and components in the implementation of design building envelope systems.	S	
16. Ability to understand the principles and concepts of different fields in multidisciplinary design processes and the ability to work in collaboration with others as a member of the design team.	S	
17. Understanding the responsibility of the architect to organize and lead design and construction processes considering the environmental, social and aesthetic issues of the society.	S	
18. Understanding the legal responsibilities of the architect effecting the design and construction of a building such as public health and safety; accessibility, preservation, building codes and regulations as well as user rights.	S	
19. Ability to understand the ethical issues involved in the design and construction of buildings and provide services for the benefit of the society. In addition to the ability to act with social responsibility in global and local scales that contribute to the well being of the society.	S	
20. Understanding the methods for competing for commissions, selecting consultants and assembling teams, recommending project delivery methods, which involve financial management and business planning, time management, risk management, mediation and arbitration.	S	

Prepared by and Date	İrem Korkmaz 10.03.2020	
Semester	Spring 2019 - 2020	
Name of Instructor	Dr. Kürşad ÖZDEMİR	
Course Contents	Week	Topic
	1.	STRUCTURE & FORM (CONCEPT, FORMS, MATERIALS, BIOMIMICRY)
	2.	STRUCTURE & ARCHITECTURE & PHYSICS (FORCES - REACTIONS
	3.	STRUCTURES - ARCHITECTURE - MATERIALS (CONTEMPORARY ARCHITECTURE)
	4.	STRUCTURE & ARCHITECTURE (CONCEPTS & REVIEW)
	5.	STRUCTURES - ARCHITECTURE - MATERIALS (CONTEMPORARY ARCHITECTURE)
	6.	STRUCTURES - ARCHITECTURE - MATERIALS (CONTEMPORARY ARCHITECTURE)
	7.	STRUCTURES - ARCHITECTURE - MATERIALS (CONTEMPORARY ARCHITECTURE)
	8.	STRUCTURE & ARCHITECTURE & PHYSICS (INTERNAL FORCES - REACTIONS)
	9.	STRUCTURES - ARCHITECTURE - MATERIALS (CONTEMPORARY ARCHITECTURE)
	10.	MATERIALS - TECHNOLOGY - STRUCTURAL ELEMENTS (STUDIO REVIEWS)
	11.	MATERIALS - TECHNOLOGY - STRUCTURAL ELEMENTS (STUDIO REVIEWS)
	12.	MATERIALS - TECHNOLOGY - STRUCTURAL ELEMENTS (STUDIO REVIEWS)
	13.	MATERIALS - TECHNOLOGY - STRUCTURAL ELEMENTS (STUDIO REVIEWS)
	14.	MATERIALS - TECHNOLOGY - STRUCTURAL ELEMENTS (STUDIO REVIEWS)
	15.	Final Examination Period
	16.	Final Examination Period
Required/Recommended Readings	<ul style="list-style-type: none"> • Silver, McLean, Whitsett (2013) Introduction to Architectural Technology, Laurence King, London • Allen, Zalewski(2010) Form and Forces, Wiley, NJ • Meistermann A (2010) Taşıyıcı Sistemler, YEM Yayın, İstanbul • Hegger, M., Drexler, H. And Zeumer, M. (2007) Basics Materials (Basics Series), Birkhäuser GmbH. • Lewis, P., Tsurumaki, M. and Lewis, D.J. (2016) Manual of Section. Princeton University Press. 	
Teaching Methods	<p>Architectural Technology is conducted in coordination with Architectural Design course, set to form a body of technology-design integration. The teaching method is based on knowledge transfer - discussion-development sequence, facilitated by active learning approach of flipped classroom. The assessment of technological components in Arc. Technology course provides practical feed-backs for integration into the design work. Taking initiatives and responsibility in the design development enables the participant to take part in active learning.</p>	
Homework and Projects	1 final, 1 mid-term, 3 Sketchbook Assignments	
Laboratory Work	-	
Computer Use	Yes	
Other Activities	-	
Assessment Methods	1. Performance in Course, (Consistency, Quality of Work, Initiative) 30 Points	

	2. Sketchbook Assignments (3) 40 Points 3. Final Assignment 30 Points (stands for final examination)
Course Administration	Kürşad ÖZDEMİR: Block A, Floor5, 505-506 Email: ozdemirku@mef.edu.tr Student participation is essential for this course. 80% attendance is compulsory for a successful outcome. Academic Dishonesty and Plagiarism: YÖK Disciplinary Regulation.

Activity	No/Weeks	Hours			Calculation	Explanation
	No/Weeks per Semester (A)	Preparing for the Activity (B)	Spent in the Activity Itself (C)	Completing the Activity Requirements (D)		
Lecture	14	2	2	2	84	A*(B+C+D)
Lab etc.					0	
Midterm(s)	0	0	0		0	A*(B+C+D)
Assingment, Project, Presentation	2	4	2	0	12	A*(B+C+D)
Final Submission	1	8	2	0	10	A*(B+C+D)
Total Workload					106	
Total Workload/25					4,24	
ECTS					4	