MARMARA UNIVERSITY
SCHOOL OF ARCHITECTURE AND DESIGN
2020-2021 / Fall Semester
ARCH 205
SYLLABUS

Course Title	**Code**	**Semester**	**Hour (T+P)**	**Credit**	**ECTS**
Material and Technology I	ARCH205	Fall	2+2	3	4
Prerequisities					
Language of Instruction	English				
Course Type (Required / elective)	Required				
Course Coordinator					
Instructor /e-mail	Assist.Prof.Dr. H. Nur KIZILYAPRAK / nur.kizilyaprak@marmara.edu.tr				
Assistans	-				

Goals	The course will introduce to the student the concept of building and its sub-systems. It will enable the student to recognize the elements associated with the design and construction of a building, particularly building element systems. Within the scope of this course, the students will gain the ability to analyze the building as a system, to know the historical development of the structural systems, to understand the basic working principles and differences of structural systems and to use these basic information in architectural design process.
Learning Outcomes	The students who have succeeded in this course; 1. Understand and define the general structural systems of buildings 2. Gain the knowledge of structural components. 3. Learn the principles of structural components such as foundations, walls, floors and roofs. 4. Gain the skill of examining and decision making of components.
Course Content	• Introduction to building as a system and its sub-systems • Introduction to functional building elements • Historical development of structural systems • Principles of structural system; elements of structural system (foundation, column, arch, wall, curtain, beam, advanced structure system technologies, shell structures, cable structures, air supported structures e.t.c) • Technical drawing principles in 1/50 scale.

Assessment	**Assessment Components**	**No component may have more than 50% weight.**
	Homework and assignments	%10 (before midterm-%2,5+%2,5+%5) %30 (before final-%12+%12+%6)

Criteria		
	Midterm	%30
	Final Exam	%30
	TOTAL	%100

WEEKLY TOPICS AND PREPARATIONS		
Weeks	**Topics**	**Initial Studies**
Week 1 **4.10.2022**	**Lecture:** Introduction to Material and Technology	
Week 2 **11.10.2022**	**Lecture:** Site analysis	
Week 3 **18.10.2022**	**Lecture:** Building elements	
Week 4 **25.10.2022**	**Studio Work 1:** Building Analysis **Homework 1:** Building Analysis	
Week 5 **1.11.2022**	**Studio Work 2:** Stair Analysis and calculation method	
Week 6 **8.11.2022**	**Lecture:** Structural system	
Week 7 **15.11.2022**	**Lecture:** Load-bearing structures	
Week 8 **22.11.2022**	**Midterm**	
Week 9 **29.11.2022**	**Studio Work 3:** Load-bearing structures - Physical model	
Week 10 **6.12.2022**	**Studio Work 4:** Load-bearing structures - Technical drawings	
Week 11 **13.12.2022**	**Lecture:** Frame structures	
Week 12 **20.12.2022**	**Studio Work 5:** Frame structures - Physical model	
Week 13 **27.12.2022**	**Studio Work 6:** Frame structures - Technical drawings	
Week 14 **03.01.2023**	**Lecture:** Long span structures	
Week 15 **10.01.2023**	**Studio Work 7:** Long span structures - Physical model	
Week 16 **17.01.2023**	**Final**	

REFERENCES	
Main Textbook	Ching Francis D.K., Adams Cassandra, Building Construction Illustrated, John Wiley& Sons Inc., 2010.
Secondary Textbooks	Eldem Sedat H., Yapı, Devlet Güzel Sanatlar Akademisi, Birsen Yayınları, İstanbul, 2009. Allen, E., Fundamentals of Building Construction: Materials and Method, John Wiley & Sons, Canada, 1990. Simmons, H.L. Construction- Principles, Materials, and Methods, 7th ed, John Wiley, 2001.

ECTS / WORKING HOUR TABLE			
Activities	**Number of Weeks**	**Duration (Hour)**	**Working Hours**
Duration of the Course (Including Exams: 14 x Total Weekly Course Hour)	14	4	56
Extracurricular Working Hour (Preparatory Work, Review)	8	2	16
Assignments, Presentations, Internet Studies, etc.	14	3	42
Working Hours in Total			114
Working Hours in Total / 30			3.8
ECTS Credit of the Course			4