

Course Code	Course Name	Year/Semester	Theory	Practice	Credits	ECTS
ARC 2401	BUILDING CONSTRUCTION SYSTEMS AND TECHNOLOGIES I	2019-2020/FALL	1	2	2	5

Level of Course: Undergraduate

Course Type: Core Course

Language of the English

Course:

Course time: Thursday- 13.30-16.30

Course

Classroom: ARC STD III

Office Hours: Monday 15.00-16.30

Mode of Delivery: Presentation, Assignments, Studio Works

Prerequisites and

Co-requisites:

Course
Coordinator: Lecturer Oya KESKİN

Name of
Lecturer(s): Lecturer Oya KESKİN

Course Teaching
Assistant:

Course
Objectives: The course will introduce the student to 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.

Course
Description: The overall intention is to demonstrate that the successful completion of an architectural design relies upon a successful constructional design (structural system, building service systems, building elements, constructional methods, and materials) and its imaginative use being consistent with the architectural design concept. It is hoped that at the earliest consideration of the appropriate constructional design may then become integral with the student's architectural design projects.

Learning
Outcomes:

- Having knowledge about the relationship between building-environment-user and performance requirements of buildings.
- Ability to understand and analyze the building system and sub-systems.
- Having knowledge about principles of structural systems and ability to use this information.
- Having knowledge about principles of advanced structural systems.
- Having knowledge about concept and terms related to the profession.

Language: English

**Recommended
Text Books:**

- 1- Allen, E., Iano, J., "Fundamentals of Building Construction, Materials and Methods", John Wiley and Sons, 1990.
- 2- Blanc, A., "Internal Components", Mitchell's Building Series, Longman, 1994.
- 3- Ching, F. D. K., "Building Construction Illustrated", Van Nostrand Reinhold, 1991.
- 4- Chudley, R., "Construction Technology I, II, III, IV", Longman Ltd., 1999.
- 5- Foster, J. S., Raymond Harrington, R., "Structure and Fabric, Part 2", Mitchell's Building Series, Longman, 1996.
- 6- Foster, J. S., "Structure and Fabric, Part 1", Mitchell's Building Series, Longman, 1996.
- 7- Millais, M., "Building Structures", E&FN Spon, 1997.
- 8- Olin, H., Schmitt, J.L., Lewis, W. "Construction, Principles, Materials, and Methods, Van Nostrand Reinhold, 1995.
- 9- Osborn D., "Introduction to Building", Batsford Limited, 1985.
- 10- Reid, E., "Understanding Buildings - A Multidisciplinary Approach", Construction Press, 1984.
- 11- Smith, J., "Materials of Construction", Mc Graw Hill, 1988.
- 12- Binan, M., "Ahşap Çatılar", Birsen Yayınevi, 1990.
- 13- Binan, M., "Ahşap Kapılar", Yapı Endüstri Merkezi Yayınları, 1995.
- 14- Binan, M., "Doğramalar, Ahşap Pencere", Kipaş, 1985.
- 15- Binan, M., "Yapı Elemanları, Çizimler ve Açıklamalar", İTÜ Vakfı, 1986.
- 16- Erol, A.İ., "Yapılarda Taşıyıcı Sistem", Zonguldak Karaelmas Üniversitesi, 1997
- 17- Salvadori, M., Heller, R., "Mimarlıkta Taşıyıcı Sistemler", İTÜ Mimarlık F., 1982.
- 18- Sarı, A., "Merdivenler, Düşey Sirkülasyon Araçları", Yapı Endüstri Merkezi, 1998.
- 19- Toydemir, N., "Yapı Elemanı Tasarımında Malzeme", Literatür, 2000.
- 20- Türkçü, Ç., "Yapım", Mimarlar Odası İzmir Şubesi Yayınları, 1997.
- 21- Yücesoy, L., "Temeller, Duvarlar, Döşemeler", Yapı Endüstri Merkezi Yayınları, 1998.
- 22- Institut für internationale Architektur Dokumentation GmbH, München.
- 23- Catalog
- 24- Yapı Kataloğu
- 25- Yapı Endüstri Merkezi Yayın Bölümü, İstanbul.
- 26- Yapı Malzemeleri Kataloğu
- 27- TMMOB Mimarlar Odası İstanbul Büyükkent Şubesi, İstanbul.
- 28- www.insaat-yapi.gen.tr

**Planned Learning
Activities and
Teaching Method:**

Learning/Teaching Method: Lecture with extensive use of illustrations
Studio work; drawings + model
(the course will be conducted in a discussion format with the students, as well)

Project Development: A series of assignments with emphasis on the main topic will be offered in this course.

Class Participation: Regular attendance of all enrolled classes is expected. Do not be late to the class. **Attendance will be taken through your signature within the first quarter of the class; if you come later you will be considered half-attended.** At the end of the Semester, your attendance will be reported on UBS system. Attendance is compulsory and in case of absenteeism of more than **20% for the practice and %30 for the theory, the system will automatically grade you "FF"**. If you miss a class, it is your responsibility to 'make up' all work, including items discussed in class.

Academic integrity & plagiarism: Academic integrity is the pursuit of scholarly activity based on the values of: honesty, trust, fairness, respect and responsibility. Practicing academic integrity means never plagiarizing or cheating, never misrepresenting yourself, never falsifying information, never deceiving or compromising the work of others. Basically this means, either intentionally or unintentionally, using the words or ideas of someone else without giving credit, it's strictly forbidden.

Course Text books: There is no specific textbook for this course. Students are required to study the recommended reading textbooks.

Key Works: In this studio course lectures and assignments mainly focuses on to learning building elements.

Specific Rules:

1. Be punctual. Punctuality is a sign of respect toward yourself and the others.
2. Show respect for all the people and property around you.
3. Be responsible for your actions and meet all expectations.
4. Follow directions the first time they are given.
5. Students should use the Internet at school for academic purposes only.
6. It is forbidden to record classes with any type of device.

Communication: Students are encouraged to visit the professor during their Office Hours. If you cannot make it to announced office hours, please make individual arrangements via e-mail. However, do not expect the professor and the research assistant to respond at length via e-mail to questions of content, definition of terms, grading questions etc. If you have a question that requires a substantive response, please set up an appointment to speak with one of us.



**Course Contents*:
(Weekly Lecture
Plan)**

Date	Week	Chapter Topic	Take-home exercise
19.09.19	1	Introduction	
26.09.19	2	Building Life Cycle	A1: Analysing
03.10.19	3	Building Life Cycle	A2: User Requirements
10.10.19	4	Structural Systems	A3: Structural Model (Group Work)
17.10.19	5	Floor Systems	A4: Floor Model (Group Work)
24.10.19	6	External Wall System I	A5: Material Poster (Group Work)
31.10.19	7	External Wall System II	A6: External Wall Model (Group Work)
	8	MIDTERM EXAM	
14.11.19	9	Roof Systems I	A7: Roof Model (Group Work)
21.11.19	10	Roof Systems II	A8: Roof Model (Group Work)
28.11.19	11	Stairs / Ramps	A9: Stair Structure Model (Group Work)
05.12.19	12	Internal Wall System	A10: Material Poster (Group Work)
12.12.19	13	Windows and Doors	A11: Site Report (Group Work)
19.12.19	14	Studio Work	

2019 2020		FINAL EXAM
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* PLEASE NOTE: Details of the syllabus and course schedule are subject to minor changes that will be announced in class.

Assessment Methods and Criteria :	METHODS	EFFECTS ON GRADING
	Project Developments (Studio Work, Assignments, HomeWorks)	%40
	Midterm Exam	%30
	Final Exam	%30

ECTS Workload Table :	ACTIVITIES	NUMBER	HOUR	WORKLOAD
	Course Teaching Hours	12	3	36
	Project Development	11	5	55
	Midterm Exam Preparation	1	14	14
	Midterm Exam	1	1	1
	Final Exam Preparation	1	20	20
	Final Exam	1	1	1
	Total workload/25			125/25
	ECTS			5

GRADING AND EVALUATION

The students' progress will be evaluated throughout the semester. Students' grades lower than CC will be considered as failed.

Grade Scale:

90 - 100	AA	4,00
85 - 89	BA	3,50
80 - 84	BB	3,00
75 - 79	CB	2,50
65 - 74	CC	2,00
55 - 64	DC	1,50
50 - 54	DD	1,00
45 - 49	FD	0,50
0 - 44	FF	0,00

Course outline and evaluation criteria can be changed according to weekly progress by course instructor. If any change will occur, it will announce to students via e-mail.