

TOROS ÜNİVERSİTESİ

Faculty Of Fine Arts, Design And Architecture
Architecture

Course Information

STATICS II					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
ARC248	Spring	2	0	2	2

Prerequisites and co-requisites	
Language of instruction	Turkish
Type	Required
Level of Course	Bachelor's
Lecturer	
Mode of Delivery	Face to Face
Suggested Subject	
Professional practise (internship)	None
Objectives of the Course	1. To introduce reinforced concrete as a structural material, develop an understanding of design of reinforced concrete structures. 2. To introduce the principles of ultimate strength theory and develop knowledge and ability to calculate reinforced concrete structural elements according to ultimate strength theory. 3. Ability to design suitable load bearing reinforced concrete elements for considered structures.
Contents of the Course	Introduction of reinforced concrete load bearing systems, stages of design, applicatin projects, load cases, principles of design and arrangement of load bearing systems, reinforced concrete slab systems, joint of RC structures, tall buildings, fundamentals of system behavior under lateral loads , reinforced concrete roofs, precast roof systems, purlins and plates, reinforced concrete frames, continuous frames, cantilevers, archs, shells, cylindrical shells, shells of double curvature, folded plates, principles of Turkish Seismic Code.

Learning Outcomes of Course

#	Learning Outcomes
1	To learn design of reinforced concrete structures.
2	To learn and develop ability to design suitable load bearing reinforced concrete elements for considered structures.
3	To learn the principles of ultimate strength theory and calculation of reinforced concrete structural elements according to this.
4	To develop ability to use of related building codes.

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Introduction, Properties, Related Building Codes. Principles of Ultimate Strength Theory, Introduction of Reinforced Concrete Load Bearing Systems, Stages of Design	
2	Stages of Design, Load Bearing System Application Project, Load Cases, Simple Bending, Dimensionless Coefficients.	
3	Principles of Design and Arrangement of Load Bearing RC Systems., Problem Session 1, Simple Bending, Dimensionless Coefficients.	
4	Reinforced Concrete Slab Systems, Combined Bending, Cross sections with Double Reinforcement.	
5	Joints of RC Structures, Combined Bending, Cross sections with Double Reinforcement	
6	Reinforced Concrete Tall Buildings, Fundamentals of System Behavior Under Lateral Loads. T sections, Columns	

	and Interaction Diagrams.	
7	Reinforced Concrete Roofs, Precast Roof Systems, Purlins and Plates. T sections, Columns and Interaction Diagrams.	
8	Reinforced Concrete Frames, Continuous Frames, Cantilevers, Archs, Beams Under Shear and Generating Beam Reinforcements.	
9	Midterm Exam	
10	Beams Under Shear and Generating Beam Reinforcements.	
11	Shells, Cylindrical shells.	
12	Shells of Double Curvature. One-way Slabs.	
13	Folded Plates. One-way Slabs.	
14	Principles of the Seismic Code.Two-way Slabs.	
15	Discussions of Design of Load Bearing Systems of Selected RC Structures	
16	Final Exam	

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1			
2			

Method of Assessment

#	Weight	Work Type	Work Title
1	20%	Mid-Term Exam	Mid-Term Exam
2	10%	Mid-Term Practise	Mid-Term Practise
3	10%	Homework	Homework
4	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	To learn design of reinforced concrete structures.	10	1
2	To learn and develop ability to design suitable load bearing reinforced concrete elements for considered structures.	10	1,2
3	To learn the principles of ultimate strength theory and calculation of reinforced concrete structural elements according to this.	10	3,4
4	To develop ability to use of related building codes.	10,12	4

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	2	28
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	1	14
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0

7	Preparation for Midterm Exam	1	4	4
8	Midterm Exam	1	1	1
9	Quiz	0	0	0
10	Homework	1	3	3
11	Midterm Project	0	0	0
12	Midterm Exercise	1	2	2
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	6	6
16	Final Exam	1	2	2
				60