TOROS ÜNİVERSİTESİ

Faculty Of Fıne Arts, Desıgn And Archıtecture
Archıtecture

Course Information

STATICS I					
Code	**Semester**	**Theoretical**	**Practice**	**National Credit**	**ECTS Credit**
		Hour / Week			
ARC147	Fall	2	0	2	2

Prerequisites and co-requisites	None
Language of instruction	Turkish
Type	Required
Level of Course	Bachelor's
Lecturer	Instructor Hüseyin SAÇ
Mode of Delivery	Face to Face
Suggested Subject	None
Professional practise (internship)	None
Objectives of the Course	To learn the principles of calculating the balance of particles, rigid bodies and structural systems and to calculate the internal forces in isostatic structural systems.
Contents of the Course	introduction and Main Principles; Vectors and Forces; Force Systems; Equilibrium of Particles and Rigid Bodies; Center of gravity; Internal Forces; Truss Systems; Moments of Inertia; Friction;

Learning Outcomes of Course

#	Learning Outcomes
1	Students analyze structural systems such as trusses, beams and cables.
2	Students calculate the center of gravity, moment of inertia, the resultant forces.
3	Students compute the support reactions of structural systems.
4	Students analyze structural systems such as trusses, beams and cables.

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	introduction and Basic Concepts; Statics of Particles; Vector Operations; Components and Resultant	Lecture and problem solving
2	Rigid Bodies and Equivalent Force Systems; Moment According to a Point; Moment According to an Axis; Moment of Force Pair	Lecture and problem solving
3	Equivalent Force Pairs; Reduction of the System of Forces to a Force and a Force Pair; Varignon Theorem;	Lecture and problem solving
4	Center of gravity; Center of Gravity of Curves, Fields and Objects	Lecture and problem solving
5	Equilibrium of Rigid Bodies in Plane and Space; Free Body Diagram	Lecture and problem solving
6	Multi-Piece Carrier Systems; Degree of Hyperstatics; Bearing Responses	Lecture and problem solving
7	Internal Forces in Planar Elements; Relations between External Load and Internal Forces; Section Effect Diagrams	Lecture and problem solving
8	Plane and Space Lattices; Simple, Compound and Complex Lattices; Solution Methods (Node Method, Cutting Method)	Lecture and problem solving
9	Midterm	written examination
10	Moments of Inertia of Fields; Parallel Axis Theorem; Inertial Moments of Compound Fields; Inertia Radius	Lecture and problem solving

11	Moments of Inertia of Fields; Parallel Axis Theorem; Inertial Moments of Compound Fields; Inertia Radius	Lecture and problem solving
12	Moments of Inertia of Fields; Parallel Axis Theorem; Inertial Moments of Compound Fields; Inertia Radius	Lecture and problem solving
13	Rotation of Axes, Prime Axes and Moments of Inertia; Moment of Inertia of Masses	Lecture and problem solving
14	Rotation of Axes, Prime Axes and Moments of Inertia; Moment of Inertia of Masses	Lecture and problem solving
15	Friction	Lecture and problem solving
16	Final Exam	written examination

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Prof.Dr.Fikret Keskinel, Doç.Dr.Tekin Özbek Mühendisler için Mekanik Statik (çeviri)		
2	Doç. Dr. Necla Kadıoğlu, Prof. Dr. Hasan Engin, Prof. Dr. Mehmet Bakioğlu, Mukavemet Problemleri Cilt I, Cilt II, Birsen Yayınevi, 2004.		

Method of Assessment

#	Weight	Work Type	Work Title
1	20%	Mid-Term Exam	Mid-Term Exam
2	5%	Mid-Term Practise	Mid-Term Practise
3	10%	Homework	Homework
4	5%	Mid-Term Practise	Mid-Term Practise
5	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Students analyze structural systems such as trusses, beams and cables.	10	1,2,3
2	Students calculate the center of gravity, moment of inertia, the resultant forces.	10	1,2,5
3	Students compute the support reactions of structural systems.	10	3,5
4	Students analyze structural systems such as trusses, beams and cables.	10	4,5

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	6	6
8	Midterm Exam	1	2	2
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0

12	Midterm Exercise	2	2	4
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	4	4
16	Final Exam	1	2	2
				60