

Vocational School / Construction Technology
2024 - 2025 Academic Year
MECHANICS and STATICS
Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
MECHANICS and STATICS	İNŞ1127180	Fall Semester	3+0	3	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Berk KESKİN				
Name of Lecturer(s)	Assist.Prof. Berk KESKİN				
Assistant(s)					
Aim	It is aimed to teach necessary fundamental calculations for the design of structural components.				
Course Content	This course contains; Fundamentals of Mechanics, Vectors and Calculations with Vectors, Fundamentals of Force, force systems resultant for 2nd and 3rd dimensions, Fundamentals of Moment and Force Couple (for 2nd and 3rd dimension), Equivalent force systems, Equilibrium of A Point, Supports and Reactions at Supports, Equilibrium of Rigid Bodies (2 Dimensions), Equilibrium of the Rigid Bodies (Beams) and Examples, Simple frames, machines and truss systems, Centers Of Gravity, Moment of Inertia, Problems and Solutions, Review Of The Term.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. The student will be able to apply conversions between units of measurement.			12, 14, 9	E, G	
2. The student will be able to use mechanical magnitudes on SI Units.			12, 14, 9	E, G	
3. The student will be able to express concepts of force and moment.			12, 14, 9	E, G	
4. The student will be able to analyse necessary mathematical calculations using forces.			12, 14, 9	A, E, G	
5. The student will be able to calculate support reactions of isostatic beams.			12, 14, 9	A, E	
Teaching Methods	12: Problem Solving Method, 14: Self Study Method, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework, G: Quiz				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Fundamentals of Mechanics				
2	Vectors and Calculations with Vectors				
3	Fundamentals of Force, force systems resultant for 2nd and 3rd dimensions				
4	Fundamentals of Moment and Force Couple (for 2nd and 3rd dimension)				
5	Equivalent force systems				
6	Equilibrium of A Point				
7	Supports and Reactions at Supports				
8	Equilibrium of Rigid Bodies (2 Dimensions)				
9	Equilibrium of the Rigid Bodies (Beams) and Examples				
10	Simple frames, machines and truss systems				
11	Centers Of Gravity				
12	Moment of Inertia				
13	Problems and Solutions				
14	Review Of The Term				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources
R. C. Hibbeler - Mühendislik Mekaniği: Statik (2016), Literatür Yayıncılık. Omurtag, M. H., "Mühendisler için Mekanik Statik", Sixth Edition (2015), Birsen Yayınevi. Omurtag, M. H., "Mühendisler için Mekanik Statik Çözümlü Problemler", Sixth Edition (2015), Birsen Yayınevi.