

Vocational School / Construction Technology
2024 - 2025 Academic Year
STRENGTH of MATERIALS I
Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
STRENGTH of MATERIALS I	İNŞ1260930	Spring 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	To give an ability to apply the knowledge of strength of materials on construction applications.				
Course Content	This course contains; 1.h: Introduction, static review,2.h: Normal stress, the fundamentals,3.h Shear Stress,4.h: Strain, elastic modules,5.h: Mechanical properties of materials,6.h: Exercises,7.h: Statically indetermined system,8.h: Moment of inertia, simple bending forces,9.h: Shear and Moment Diagrams,10.h: Simple bending stresses,Simple Bending Cont.,Torsion,Torsion Cont.,14.h: Exercises.				
Course Learning Outcomes		Teaching Methods	Assessment Methods		
		12, 13, 9	E, G		
		12, 13, 14, 9	E, G		
		12, 14, 9	E, G		
		12, 14, 9	E, G		
1. To analyse basic behaviour of stress on structures		12, 13, 9	E, G		
2. To analyse mechanical properties of materials		12, 13, 9	E, G		
3. To analyse simple bending stresses		12, 13, 9	E, G		
4. To give an ability to calculate plane stress and mohr circle		12, 13, 9	E, G		
Teaching Methods	12: Problem Solving Method, 13: Case Study Method, 14: Self Study Method, 9: Lecture Method				
Assessment Methods	E: Homework, G: Quiz				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	1.h: Introduction, static review				
2	2.h: Normal stress, the fundamentals				
3	3.h Shear Stress				
4	4.h: Strain, elastic modules				
5	5.h: Mechanical properties of materials				
6	6.h: Exercises				
7	7.h: Statically indetermined system				
8	8.h: Moment of inertia, simple bending forces				
9	9.h: Shear and Moment Diagrams				
10	10.h: Simple bending stresses				
11	Simple Bending Cont.				
12	Torsion				
13	Torsion Cont.				
14	14.h: Exercises				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources	
R. C. Hibbeler, Mukavemet, Palme Yayınevi Mehmet H. Omurtag, Statik ve Mukavemet, Nobel Akademik Yayıncılık.	