DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Details						
Code			**Academic Year**		**Semester**	
BAU109			1		Fall	
Title			**T**	**A**	**L**	**ECTS**
Statics			3	2	-	6

Language	German					
Level	**Undergraduate**	✓	**Graduate**		**Postgraduate**	
Department / Program	Civil Engineering					
Forms of Teaching and Learning	Formal					
Course Type	**Compulsory**	✓		**Elective**		
Objectives	This course aims to provide an understanding of the fundamental mechanical concepts and equilibrium equations used in the analysis of static systems. It seeks to enable students to comprehend the principles of force and moment, construct free-body diagrams, and determine static equilibrium conditions. Furthermore, students are expected to develop analytical and systematic approaches to engineering problems.					
Content	This course encompasses the fundamental concepts and equations of mechanics for static systems. It covers the equilibrium conditions of supports, load-bearing and truss systems, as well as the calculation of reaction forces in rigid systems. Additionally, it includes the analysis of internal forces in complex geometrical systems under bending and twisting conditions.					
Prerequisites	-					
Coordinator	Prof. Dr. Murat HAMDERİ					
Lecturer(s)	Research Assist. Ferit YARDIMCI					
Assistant(s)	Research Assist. Uğur GÜNAY					
Work Placement						
Recommended or Required Reading						
Books / Lecture Notes	Müller, W. H., & Ferber, F. (n.d.). Technische Mechanik für Ingenieure (4. Aufl.). Hanser Verlag / Fachbuch Verlag Leipzig. Hibbeler, R. C. (2013). Technische Mechanik/2 - Festigkeitslehre (8. aktualisierte Aufl.). Pearson Studium. Mayr, M. (2000). Technische Mechanik: Übungsbeispiele und Aufgaben (2. stark erw. Aufl.). Hanser.					
Other Sources						
Additional Course Material						
Documents	-					
Assignments	-					
Exams	-					

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Course Composition		
Mathematics und Basic Sciences	40	%
Engineering	30	%
Engineering Design	30	%
Social Sciences		%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment		
Activity	Count	Percentage (%)
Midterm Exam	1	40
Quiz		
Assignments	1	20
Attendance		
Recitations		
Projects		
Final Exam	1	40
Total		100

ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	5	70
Assignments	1	22	
Presentation / Seminar Preparation			
Midterm Exam	1	3	10
Recitations	14	2	28
Laboratory			
Projects			
Final Exam	1	3	15
Total Work Load			168
ECTS Points(Total Work Load / Hour)			6

Learning Outcomes	
1	The students know the basic relationships of the technical mechanics of the rigid body (statics).
2	They are familiar with the interdependencies of forces, moments and load transfer in components and are able to carry out static analyzes on structures (bars and beams) themselves.

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3	Based on what they have learned, the students are able to familiarize themselves independently with other areas of technical mechanics and to take the aspects of technical mechanics into account in future projects.

WeeklyContent	
1	Introduction to basic concepts, Forces acting on the same point of application, Equilibrium of rigid bodies
2	Moment concept, Vector meaning of moment, Center of gravity
3	Force groups, Force groups
4	Moment balance, Vector meaning of moment, Center of gravity
5	Center of mass of a volume, Volumetric, superficial and linear center of gravity
6	Support reactions, Center of gravity
7	Headstock, carrier and cage systems, Lattice systems, Ritter cutting method, Tilt bar
8	Midterm Exam
9	Truss systems, Intrinsic effects in bending beams
10	Cross-section effects, Boundary and transition conditions
11	Internal Influences
12	Calculation of section effects in frame systems, Curved beam
13	Calculation of section effects in frame systems, Curved beam
14	Section effects, Section Effects
15	Section effects, Section Effects
16	Final Exam

Contribution of Learning Out comes to Program Objectives(1-5)							
	P1	P2	P3	P4	P5	P6	P7
1	5	3				4	
2	5	3				4	
3	5	3				4	4

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5728

Compiled by:	Uğur GÜNAY
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