DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Details				
Code	**Academic Year**			**Semester**
BAU203	2			2
Title	**T**	**A**	**L**	**ECTS**
Building Construction I	3	1	1	6

Language	German					
Level	**Undergraduate**	✓	**Graduate**		**Postgraduate**	
Department / Program	Civil Engineering					
Forms of Teaching and Learning	Formal					
Course Type	**Compulsory**	✓	**Elective**			
Objectives	Cross-section design of steel and reinforced concrete components					
Content	After the material strength properties of components such as wood, steel and reinforced concrete, which are used in structural engineering, have been determined, the students are provided with general information on the design principles of the component (Eurocode 2, 3 and 5). First, cross-section dimensioning for steel components, which stability is not endangered, are dimensioned under the influence of bending (M), shear force (V), normal force (N), M-V or M-N according to Eurocode 3. Second, cross-sectional design of reinforced concrete components are carried out under the influence of central pressure, pressure with a smaller eccentricity, pressure with a large eccentricity, pure bending, tension with a large eccentricity, tension with a smaller eccentricity, central tension and shear force according to the design methods specified in Eurocode 2. Finally, steel and reinforced concrete components are examined under the influence of torsional moments.					
Prerequisites	-					
Coordinator						
Lecturer(s)	Asst. Prof. Dr. Serdar Ulusoy					
Assistant(s)	Uğur Günay					
Work Placement						

Recommended or Required Reading	
Books / Lecture Notes	Lecture notes, construction tables for engineers with calculation instructions and examples
Other Sources	
Additional Course Material	
Documents	
Assignments	

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

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	30
Quiz		
Assignments		
Attendance		
Recitations		
Projects		
Final Exam	1	70
	Total	**100**

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	5	70
Self-Study	14	3	42
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	1	2	2
Recitations			
Laboratory			
Projects			
Final Exam	1	2	3
		Total Work Load	**117**
		ECTS Points (Total Work Load / Hour)	**6 ECTS**

Learning Outcomes

1	Knowledge of regulations in structural engineering such as Eurocode 2, 3 and 5

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2	Knowledge of building materials and their characteristic strength properties
3	Acquisition of the necessary knowledge and skills for cross-section design of steel components that are not endangered by stability.
4	Acquisition of the necessary knowledge and skills for cross-section design of reinforced concrete components that are exerted under different loads.
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Weekly Content	
1	introduction “General information on structural engineering”
2	Assessment basis
3	Materials (wood and steel)
4	Materials (reinforced concrete, masonry, glass and membrane)
5	Bond between steel and concrete
6	Cross-section design for steel components "Cross-sectional classification"
7	Cross-section design for steel components "Elastic-elastic design method"
8	Cross-section design for steel components "Elastic-plastic design method"
9	Cross-section design for reinforced concrete components "Cross-section design under compression and tension"
10	Cross-section design for reinforced concrete components "Section design under bending"
11	Cross-section design for reinforced concrete components "Section design under bending"
12	Cross-section design for reinforced concrete components "Cross-section design under shear force"
13	Torsion in steel construction
14	Torsion in reinforced concrete construction
15	

Contribution of Learning Outcomes to Program Objectives (1-5)							
	P1	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**

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