

DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Details				
Code		Academic Year		Semester
BAU552		1		2
Title		T	A	L
Design of Cable Stayed Bridges		3	-	6
Language				
English				
Level		Undergraduate	Graduate	Postgraduate
			✓	
Department / Program		Civil Engineering		
Forms of Teaching and Learning		Formal		
Course Type		Compulsory	Elective	
				✓
Objectives		<p>The students are taught advanced bridge building topics. Bridge construction is one of the supreme disciplines of civil engineering, in which the planning of cable-stayed bridges, i.e. tension band, stay cable and suspension bridges, is dealt with here in particular. Manual calculation methods for calculating the internal forces and the preliminary dimensioning of cable-stayed bridges are taught in order to understand the load transfer on the one hand and to check the results of FEM calculations on the other. This also includes the detailed treatment of the theory of cable statics and cable dimensioning as a basis for assessment.</p>		
Content		<ul style="list-style-type: none"> - Structure and geometry of a cable, cable statics and design - Design, construction and dimensioning of cable-stayed bridges; - Design of pedestrian bridges - Consideration of wind-induced vibrations (transverse vibrations, galloping, fluttering): calculation method - Stability criteria, constructive countermeasures - Discussion of new bridge types such as integral, extradosed and movable bridges 		
Prerequisites		-		
Coordinator				
Lecturer(s)		Dr. Alex Hückler		
Assistant(s)				
Work Placement				
Recommended or Required Reading				
Books / Lecture Notes				
Other Sources		-		
Additional Course Material				
Documents		-		
Assignments		-		
Exams		-		
Course Composition				

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

Assessment

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

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures			
Self-Study			
Assignments			
Presentation / Seminar Preparation			
Midterm Exam			
Recitations			
Laboratory			
Projects			
Final Exam			
Total Work Load			180
ECTS Points (Total Work Load / Hour)			6

Learning Outcomes

1	
2	
3	

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Weekly Content

1	
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14	
15	

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1							
2							
3							
4							
5							
6							
7							



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8							
9							
10							
11							
12							
Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						
Compiled by:							
Date of Compilation:							