

DEPARTMENT OF CIVIL ENGINEERING

Course Details				
Code	Academic Year			Semester
BAU451	4			Fall
Title	T	A	L	ECTS
Water Resources	2	1	-	4
Language	German			
Level	Undergraduate	✓	Graduate	Postgraduate
Department / Program	Civil Engineering			
Forms of Teaching and Learning	Formal			
Course Type	Compulsory		Elective	✓
Objectives	Teaching the basics of urban water management			
Content	Hydraulic engineering: hydrology, river engineering, dams, hydropower plants, hydraulic engineering, coastal engineering Engineering hydrology: water cycle and household, precipitation, evaporation, infiltration, groundwater, runoff, basics of river basin modeling, runoff formation models, system hydrology, unit gait processes, translation and retention models, watercourse models, physically based hydrological models, agricultural hydraulic engineering Water management projects, interaction of urban water management, hydrological and hydraulic engineering aspects			
Prerequisites	"Fluid Mechanics"			
Coordinator				
Lecturer(s)				
Assistant(s)				
Work Placement				
Recommended or Required Reading				
Books / Lecture Notes	„Hydraulik für Bauingenieure: Grundlagen und Anwendungen“, Robert Freimann			
Other Sources				
Additional Course Material				
Documents				
Assignments				
Exams				
Course Composition				
Mathematics und Basic Sciences				%
Engineering	100			%

DEPARTMENT OF CIVIL ENGINEERING

Engineering Design		%
Social Sciences		%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	2	40
Quiz		
Assignments		
Attendance		
Recitations		
Projects		
Final Exam	1	60
Total		100

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	2	28
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	2	1	5
Recitations			
Laboratory			
Projects			
Final Exam	1	2	10
Total Work Load			85
ECTS Points (Total Work Load / Hour)			4

Learning Outcomes

1	Hydraulic engineering: scientific basics and their application in the planning, calculation and dimensioning of simple hydraulic engineering systems
2	Engineering hydrology: scientific foundations and their implementation for the planning, calculation and measurement of simple hydrological systems in rural and urban areas. Examples of applications from the water sector: Independent processing of simple engineering projects from the water sector
3	
4	

DEPARTMENT OF CIVIL ENGINEERING

5	
6	
7	
8	
9	
10	
11	
12	

Weekly Content

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
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							
8							
9							

DEPARTMENT OF CIVIL ENGINEERING

10							
11							
12							
Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						
Compiled by:							
Date of Compilation:	17.03.2020						