

DEPARTMENT OF CIVIL ENGINEERING

Course Details				
Code	Academic Year			Semester
BAU 206	2			Spring
Title	T	A	L	ECTS
Building Materials and Chemistry II	1	0	1	2
Language	German			
Level	Undergraduate	✓	Graduate	Postgraduate
Department / Program	Civil Engineering			
Forms of Teaching and Learning	Formal			
Course Type	Compulsory		Elective	✓
Objectives	-Knowledge of the chemical-physical structure of the building materials, their properties and their use in buildings. -Ability to critically select building materials and evaluate compatibility of building materials			
Content	- Principles of corrosion - Corrosion and corrosion protection of building metals - Concrete Exposure Classes - Durability of concrete - Special concretes - Non-destructive test methods - Maintenance and repair of buildings - Bitumen and bituminous building materials - Glass and ceramics			
Prerequisites	BAU201			
Coordinator				
Lecturer(s)				
Assistant(s)				
Work Placement	None			
Recommended or Required Reading				
Books / Lecture Notes	Bauchemie: Einführung in die Chemie für Bauingenieure und Architekten 19. August 2015 von Roland Benedix			
Other Sources	-			
Additional Course Material				
Documents	-			
Assignments	-			
Exams	-			
Course Composition				

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Mathematics und Basic Sciences		%
Engineering	30	%
Engineering Design	20	%
Social Sciences		%
Educational Sciences		%
Natural Sciences	20	%
Health Sciences		%
Expert Knowledge	30	%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	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	2	28
Self-Study			
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	1	1	1
Recitations			
Laboratory			
Projects			
Final Exam	1	2	2
Total Work Load			31
ECTS Points (Total Work Load / Hour)			2

Learning Outcomes

1	The Building Materials and Chemistry II based on the Building Materials and Building Chemicals I. Students can demonstrate the basic relationships between corrosion of metals and mineral building materials and are familiar with the production of the characteristic properties of building materials such as glass, ceramics and bitumen.
2	The students can name the exposure classes, derive basic relationships between chemical-structural properties and durability, and develop permanent concrete formulations on this basis.

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3	The functional principle and the applicability of various destructive and non-destructive test methods are theoretically mastered as well as the basics for the maintenance and repair of structures.
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Weekly Content

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

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

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

Compiled by:

Date of Compilation: