

DEPARTMENT OF MATERIALS SCIENCE AND TECHNOLOGY
COURSE SYLLABUS

Course Details					
Code		Academic Year		Semester	
MWT306		3		6	
Title		T	A	L	ECTS
Construction Materials		2	1	1	6
Language	German				
Level	Undergraduate	X	Graduate	Postgraduate	
Department / Program	Materials Science and Technology				
Forms of Teaching and Learning	Face to face				
Course Type	Compulsory		Elective	X	
Objectives	Students will be able to choose a stress-based material selection for constructive applications. They will evaluate specific characteristics of the nominated material classes and know their influence over thermomechanical treatments.				
Content	Overview of the various material and material classes and their characteristics with regard to structural applications				
Prerequisites					
Coordinator					
Lecturer(s)					
Assistant(s)					
Work Placement	No				
Recommended or Required Reading					
Books / Lecture Notes					
Other Sources					
Additional Course Material					
Documents					
Assignments					
Exams					
Course Composition					
Mathematics und Basic Sciences				%	
Engineering				100%	
Engineering Design				%	
Social Sciences				%	
Educational Sciences				%	

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Natural Sciences			%
Health Sciences			%
Expert Knowledge			%
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	15	2	30
Self-Study	10	10	100
Assignments	2	6	12
Presentation / Seminar Preparation			
Midterm Exam	1	2	2
Recitations	15	1	15
Laboratory	15	2	30
Projects	1	2	2
Final Exam			
		Total Work Load	191
		ECTS Points (Total Work Load / Hours)	6
Learning Outcomes			
1	Being able to select materials for construction applications and to evaluate the specific properties of candidate material classes		
2			
3			
4			
5			
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7			
8			

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9	
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11	
12	

Weekly Content

1	Metals: steel, light metals, superalloys and carbides
2	Non-metals: ceramics (oxide and non-oxide), thermal barrier coatings, Carbon Products, Fibers, Composites, High Temperature Resistant Materials
3	General design considerations: Relevant material properties (wear and tear) Corrosion resistance, environmental compatibility
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15	

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

	P1	P2	P3	P4	P5	P6	P7
1	1		3	2			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

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



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Compiled by:	
Date of Compilation:	