

DEPARTMENT OF MATERIALS SCIENCE AND TECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	Academic Year			Semester
NWI301	3			5
Title	T	A	L	ECTS
Organic Chemistry for Biosciences	2	1	2	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	Definition of the historical connection between organic chemistry, physical chemistry and biology			
Content	Amino acids, peptides, enzyme chemistry; Nucleic acids, Gene detection technology and recent research trends in drug discovery			
Prerequisites				
Coordinator				
Lecturer(s)				
Assistant(s)				
Work Placement	No			
Recommended or Required Reading				
Books / Lecture Notes	Bioprozesstechnik, Chmiel, Spektrum			
Other Sources	Organische und bioorganische Chemie, Bräse, S, Bülle, J, Hüttermann A, (2008) Wiley-VCH			
Additional Course Material				
Documents				
Assignments				
Exams				
Course Composition				
Mathematics und Basic Sciences				20%
Engineering				20%
Engineering Design				20%
Social Sciences				%
Educational Sciences				%
Natural Sciences				%

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Health Sciences			%
Expert Knowledge			40%
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	7	14	98
Presentation / Seminar Preparation	1	1	1
Midterm Exam	1	2	2
Recitations	14	1	14
Laboratory	14	2	28
Projects			
Final Exam	1	2	2
		Total Work Load	173
		ECTS Points (Total Work Load / Hours)	6
Learning Outcomes			
1	to enable students to develop the knowledge and skills bioreactors.		
2			
3			
4			
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9			

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10	
11	
12	

Weekly Content

1	Biomimetic Chemistry-The Enzyme Models
2	Historical Connection and Weak Interactions in chemistry and biology
3	Molecular Recognition in Organic Chemistry
4	
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14	
15	

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

	P1	P2	P3	P4	P5	P6	P7
1	3	3			1	3	
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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Date of Compilation:	
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