

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY
COURSE SYLLABUS

Course Details					
Code				Academic Year	Semester
MBT361				3	5
Title	T	A	L	ECTS	
Microbiology II	3	0	2	6	
Language	German				
Level	Undergraduate	X	Graduate		Postgraduate
Department / Program	Molecular Biotechnology				
Forms of Teaching and Learning	Face-to-face				
Course Type	Compulsory		Elective		X
Objectives	As a continuation of Microbiology I, students gain detailed information about the application areas of microbiology. Gene editing mechanisms in bacteria are studied in detail. Then, examples are shown for the use of microorganisms in industrial microbiology, medicine and environmental technologies. An introduction to the molecular methods of microbial biotechnology. In laboratory practice, students learn to work with microorganisms, isolation and propagation methods, and gain their first biotechnological application experience on some easy examples.				
Content	<ul style="list-style-type: none"> ● Introduction to Molecular Microbiology ● Outer shell of the prokaryotes ● Outer shell of the prokaryotes II ● Transport across the membranes ● Transport of macromolecules ● Bacterial gene regulation ● Bacteria and the environment ● Bacteria as pathogens ● Antibiotics 				
Prerequisites	MBT204 Microbiology I				
Coordinator					
Lecturer(s)					
Assistant(s)	Res. Asst. Ogün Morkoç, Res. Asst. Şeyma İş				
Work Placement	-				
Recommended or Required Reading					
Books / Lecture Notes	- Allgemeine Mikrobiologie, Georg Fuchs, Georg-Thieme Verlag - Brock Mikrobiologie, Pearson Verlag - Angewandte Mikrobiologie - Mikrobiologisches Praktikum-Versuche und Theorie, SpringerSpektrum Verlag				
Other Sources					
Additional Course Material					

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Documents	-		
Assignments	-		
Exams	-		
Course Composition			
Mathematics and Basic Sciences	-		%
Engineering	-		%
Engineering Design	-		%
Social Sciences	-		%
Educational Sciences	-		%
Natural Sciences	100		%
Health Sciences	-		%
Expert Knowledge	100		%
Assessment			
Activity	Count		Percentage (%)
Midterm Exam	1		30
Quiz	-		-
Assignments	-		-
Attendance	-		-
Recitations	-		-
Projects	1		30
Final Exam	1		40
		Total	100
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	13	3	39
Self-Study	13	5	65
Assignments	-	-	-
Presentation / Seminar Preparation	-	-	-
Midterm Exam	1	10	10
Recitations	-	-	-
Laboratory	10	3	30
Projects	1	12	12
Final Exam	1	10	10
		Total Work Load	166
		ECTS Points (Total Work Load / Hour)	6

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Learning Outcomes

1	Having knowledge about application methods of microbiology
2	Having an understanding of working with microorganisms in laboratory

Weekly Content

1	Introduction to Molecular Microbiology
2	Outer shell of the prokaryotes
3	Outer shell of the prokaryotes
4	Transport across the membranes
5	Transport of macromolecules
6	Bacterial gene regulation
7	Bacterial gene regulation
8	Bacterial gene regulation
9	Bacterial gene regulation
10	Bacteria and the environment
11	Bacteria as pathogens
12	Antibiotics
13	Antibiotics

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

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

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

<https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5707>

Compiled by: Res. Asst. Şeyma İş

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