

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY
COURSE SYLLABUS

Course Details				
Code	Academic Year			Semester
MBT222	2			4
Title	T	A	L	ECTS
Molecular Biotechnology I	2	1	2	6
Language	German			
Level	Undergraduate	X	Graduate	Postgraduate
Department / Program	Molecular Biotechnology			
Forms of Teaching and Learning	Face-to-Face			
Course Type	Compulsory	X	Elective	
Objectives	The students learn research areas of different fields in biotechnology along with the appropriate application methods. They get to know model organisms used in biotechnological processes.			
Content	Research areas of different fields in biotechnology and their applications Model organisms Fermentation Technologies Cleaning of biotechnological equipment Production of antibiotics, biogas, bioplastic and enzymes			
Prerequisites	No			
Coordinator	Dr. Heidi ZINECKER			
Lecturer(s)	Dr. Heidi ZINECKER			
Assistant(s)	Research Assist. Betül ULUCA, Research Assist. Melis IŞIK TOKSOY			
Work Placement	No			
Recommended or Required Reading				
Books / Lecture Notes	Biotechnologie für Einsteiger, Renneberg Lecture notes			
Other Sources	-			
Additional Course Material				
Documents	-			
Assignments	-			
Exams	-			
Course Composition				
Mathematics und Basic Sciences	-			%
Engineering	10			%
Engineering Design	-			%

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Social Sciences	-	%
Educational Sciences	-	%
Natural Sciences	90	%
Health Sciences	-	%
Expert Knowledge	100	%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	20
Quiz	0	0
Assignments	0	0
Attendance	0	0
Recitations	0	0
Projects	1	40
Final Exam	1	40
Total		100

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	4	56
Assignments	0	0	0
Presentation / Seminar Preparation	0	0	0
Midterm Exam	1	10	10
Recitations	0	0	0
Laboratory	10	2	20
Projects	1	10	10
Final Exam	1	10	10
Total Work Load			148
ECTS Points (Total Work Load / Hour)			5

Learning Outcomes

1	Having knowledge about different fields of biotechnology
2	Having the ability to apply the knowledge in basic sciences to applications in biotechnology
3	Having an understanding of biotechnology equipment

Weekly Content

1	Fields of biotechnology (red, green and white biotechnology)
2	Model organisms I

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3	Model organisms II
4	Selection of high-producer organisms
5	Basics of biotechnological production
6	Fermentation technologies
7	Cleaning of biotechnological equipment
8	Production of antibiotics
9	Cleaning of waste water
10	Production of biogas and bioplastic
11	Enzyme production, bioleaching

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

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

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: Research Assist. Ogün MORKOÇ

Date of Compilation: 10.05.2022