

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY  
COURSE SYLLABUS

Course Details					
<b>Code</b>				<b>Academic Year</b>	<b>Semester</b>
MBT474				4	8
<b>Title</b>	<b>T</b>	<b>A</b>	<b>L</b>	<b>ECTS</b>	
Population Genetics	3	0	2	6	
<b>Language</b>	German				
<b>Level</b>	<b>Undergraduate</b>	<b>X</b>	<b>Graduate</b>		<b>Postgraduate</b>
<b>Department / Program</b>	Molecular Biotechnology				
<b>Forms of Teaching and Learning</b>	Face-to-Face				
<b>Course Type</b>	<b>Compulsory</b>		<b>Elective</b>		<b>X</b>
<b>Objectives</b>	Having an understanding of basic principles and applications of population genetics.				
<b>Content</b>	Hardy-Weinberg Laws and their applications, genetic drift and effective populations size, population structure, natural selection, molecular evolution				
<b>Prerequisites</b>	-				
<b>Coordinator</b>	-				
<b>Lecturer(s)</b>	Undefined				
<b>Assistant(s)</b>	-				
<b>Work Placement</b>	-				
Recommended or Required Reading					
<b>Books / Lecture Notes</b>	Population Genetics, 2009. Matthew B. Hamilton. Wiley-Blackwell, UK.				
<b>Other Sources</b>					
Additional Course Material					
<b>Documents</b>					
<b>Assignments</b>					
<b>Exams</b>					
Course Composition					
<b>Mathematics and Basic Sciences</b>					%
<b>Engineering</b>					%
<b>Engineering Design</b>					%
<b>Social Sciences</b>					%
<b>Educational Sciences</b>					%
<b>Natural Sciences</b>	100				%

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY  
COURSE SYLLABUS

Health Sciences			%
Expert Knowledge			%
<b>Assessment</b>			
<b>Activity</b>	<b>Count</b>		<b>Percentage (%)</b>
Midterm Exam	1		40
Quiz	0		0
Assignments	0		0
Attendance	0		0
Recitations	0		0
Projects	0		0
Final Exam	1		60
		<b>Total</b>	<b>100</b>
<b>ECTS Points and Work Load</b>			
<b>Activity</b>	<b>Count</b>	<b>Duration</b>	<b>Work Load (Hours)</b>
Lectures	14	3	42
Self-Study	14	2	28
Assignments	0	0	0
Presentation / Seminar Preparation	0	0	0
Midterm Exam	1	15	15
Recitations	14	2	28
Laboratory	0	0	0
Projects	0	0	0
Final Exam	1	15	15
		<b>Total Work Load</b>	<b>128</b>
		<b>ECTS Points (Total Work Load / Hour)</b>	<b>6</b>
<b>Learning Outcomes</b>			
1	To be able to understand effects of mutation, drift, selection and population size on the genetic changes in a population.		
2	Being able to make statistical analyses of data encountered in population genetics and phylogenetics.		
<b>Weekly Content</b>			
1	Genotype frequencies: Hardy-Weinberg Laws and their applications.		
2	Fixation index		
3	Genetic drift and effective population size.		
4	Models of natural selection		
5	Molecular evolution		

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY  
COURSE SYLLABUS

6	Quantitative trait variation and evolution						
<b>Contribution of Learning Outcomes to Program Objectives (1-5)</b>							
	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>
<b>1</b>	5	5	5	5	3	5	0
<b>2</b>	5	5	5	5	3	5	0
<b>Contribution Level:</b> 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High							
<a href="https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&amp;curSunit=5707">https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&amp;curSunit=5707</a>							
<b>Compiled by:</b>	Research Assistant Betül Uluca						
<b>Date of Compilation:</b>	29.04.2022						