

DEPARTMENT OF MOLECULAR BIOTECHNOLOGY  
COURSE SYLLABUS

Course Details				
<b>Code</b>	<b>Academic Year</b>			<b>Semester</b>
MBT367	3			5
<b>Title</b>	<b>T</b>	<b>A</b>	<b>L</b>	<b>ECTS</b>
Evolution	3	0	2	6
<b>Language</b>	German			
<b>Level</b>	<b>Undergraduate</b>	X	<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>	X
<b>Objectives</b>	Having an understanding of Mendel and molecular genetics in animal populations.			
<b>Content</b>	<ol style="list-style-type: none"> <li>1. Populations and gene pools</li> <li>2. Hardy-Weinberg Equilibrium</li> <li>3. Populations not in Hardy-Weinberg equilibrium</li> <li>4. Mutation, Natural selection</li> <li>5. Genetic drift</li> <li>6. Wallace, Darwin and On the Origin of Species</li> <li>7. Models for species formation</li> <li>8. Isolation mechanism</li> <li>9. Measurement of genetic variation</li> <li>10. Protein polymorphism</li> <li>11. Evolution and genetic variation</li> <li>12. Molecular techniques in evolution research</li> </ol>			
<b>Prerequisites</b>	-			
<b>Coordinator</b>	Undefined			
<b>Lecturer(s)</b>	Undefined			
<b>Assistant(s)</b>				
<b>Work Placement</b>	-			
Recommended or Required Reading				
<b>Books / Lecture Notes</b>	Evolutionsbiologie, Volker Storch, Ulrich Welsch Lecture notes			
<b>Other Sources</b>				
Additional Course Material				
<b>Documents</b>				
<b>Assignments</b>				
<b>Exams</b>				

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Course Composition			
Mathematics and Basic Sciences			%
Engineering			%
Engineering Design			%
Social Sciences			%
Educational Sciences			%
Natural Sciences		100	%
Health Sciences			%
Expert Knowledge			%
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	
		<b>Total</b>	<b>100</b>
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	13	5	65
Self-Study	13	6	78
Assignments	0	0	0
Presentation / Seminar Preparation	0	0	0
Midterm Exam	1	10	10
Recitations	0	0	0
Laboratory	0	0	0
Projects	1	12	12
Final Exam	1	10	10
		<b>Total Work Load</b>	<b>175</b>
		<b>ECTS Points (Total Work Load / Hour)</b>	<b>6</b>
Learning Outcomes			
1	Having an understanding of species formation and isolation		
2	Having an understanding of the relationship between genetics and evolution		

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3	Gaining knowledge about Mendel and molecular genetics
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**Weekly Content**

1	Populations and gene pools
2	Hardy-Weinberg Equilibrium
3	Populations not in Hardy-Weinberg equilibrium
4	Mutation, Natural selection
5	Genetic drift
6	Wallace, Darwin and On the Origin of Species
7	Models for species formation
8	Isolation mechanism
9	Measurement of genetic variation
10	Protein polymorphism
11	Evolution and genetic variation
12	Molecular techniques in evolution research

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

	P1	P2	P3	P4	P5	P6	P7
1	5	5	5	5	0	5	0
2	5	5	5	5	0	5	0
3	5	5	5	5	0	5	0

**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>

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