AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Population Genetics								
Course Code	TBY314		Couse Level	First Cycle (Bachelor's Degree)					
ECTS Credit	3	Workload	70 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	In this course, students are going to learn the principles of population genetics and it is aimed to discuss the development and progression of important characters in populations.								
Course Content	Gene frequency determination in randomly matched populations and Hardy Weinberg Law, Graphical representation of populations, Multi allelicity, blood groups, Mutations, genetic migration, selection, heredity.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion								
Name of Lecturer(s)	Lec. Zühal GÜNDÜZ								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Warren J. Ewens . (2004). Mathematical Population Genetics.Springer;2nd edition Daniel L. Harti and Andrew G. Clark. (2006). Principles of population Genetics. Sinauer Associates.; 4th edition Matthew Hamilton. (2009). Population Genetics. Wiley-Blackwell, 1 edition Ching Chun Li..(1968). Population Genetics. University of Chicago Press; 6th edition

Week	Weekly Detailed Course Contents	
1	Theoretical	The frequency determination in random-mating population and Hardy-Weinberg equilibrium
2	Theoretical	The graphic display of populations
3	Theoretical	The relationship between dominancy and recessive, Synder ratio, co-dominancy
4	Theoretical	Multiple alleles, blood types
5	Theoretical	Selfing populations
6	Theoretical	Selfing populations and their matrix investigation
7	Intermediate Exam	Exam
8	Theoretical	Sex-linked inheritance
9	Theoretical	Two-pairs of genes
10	Theoretical	Mutation
11	Theoretical	Migration
12	Theoretical	Selection
13	Theoretical	Genetic drift
14	Theoretical	Inbreeding
	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	10	1	1	20
Midterm Examination	1	3	1	4
Final Examination	1	3	1	4
			Total Workload (Hours)	70
			[Total Workload (Hours) / 25*] = **ECTS**	3
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To be able to define population genetics term

2	To be able to apply Hardy Weinberg equlibrium
3	To be able to define self-mating populations and distinguish their self-mating matrix
4	To distinguish sex-linked inheritance
5	To be able to discuss the development and progression of important characters in populations

Programme Outcomes *(Agricultural Biotechnology)*	
1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	5	5	4	4	4
P2	3	3	4	4	5
P3	3	3	4	4	3
P4	4	4	4	4	4
P5	3	3	3	3	3
P6	3	3	2	2	2
P7	3	2	2	2	2
P8	3	2	2	2	2