AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Research and Experimental Methods in Agricultural Biotechnology								
Course Code	TBY329		Couse Level	First Cycle (Bachelor's Degree)					
ECTS Credit	4	Workload	100 *(Hours)*	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	At the end of this course the students will be able to learn "How the research and experiments are conductuted, whic factors should be considered, how they perform the statistical analyses, interpret and report the statistical findings from such analyses								
Course Content	The definition and importance of research, trial varieties used in agricultural biotechnology, experimental designs and their characteristics, evaluation of test results.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Problem Solving								
Name of Lecturer(s)									

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

Recommended or Required Reading	
1	Yıldız, N. ve Bircan, H. 1991. Araştırma deneme metotları, Atatürk Üniversitesi Ziraat Fakültesi Yayınları, 697, Erzurum
2	BİTKİ KORUMA ARAŞTIRMALARINDA GENEL BİLGİLER - DENEMELERİN KURULUŞU VE DEĞERLENDİRME ESASLARI (Meliha KARMAN)

Week	**Weekly Detailed Course Contents**	
1	Theoretical	The definition and importance of research
2	Theoretical	Basic statistical concepts and introduction of experimentation
3	Theoretical	Planning of experiments
4	Theoretical	Completely randomized block design
5	Theoretical	Basic concepts of variance analysis
6	Theoretical	Randomized completed block design
7	Theoretical	Multi comparison tests
8	Intermediate Exam	Midterm
9	Theoretical	Latin square design
10	Theoretical	Two and three factors factorial design
11	Theoretical	Factorial design in different level
12	Theoretical	Split-split block design
13	Theoretical	Covariance analysis
14	Theoretical	Replicated experiments
15	Theoretical	Evaluation of trial results

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Lecture - Practice	14	1	2	42
Assignment	2	1	1	4
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = **ECTS**	4
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Understanding of importance of agricultural experimentation
2	To gain ability in planning and solution of agricultural research
3	Do statistical analysis of data obtained from the experiments
4	Interpret results of statistical analyses
5	Understand results of scientific research

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	4	4	4	4
P2	4	4	3	3	3
P3	4	4	4	3	3
P4	1	1	1	1	1
P5	3	3	4	4	4
P6	1	1	4	4	4
P7	2	2	2	2	2
P8	3	3	2	2	2