



**AYDIN ADNAN MENDERES UNIVERSITY**  
**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES**  
**FIELD CROPS**  
**FIELD CROPS**  
**FIELD CROPS MASTER**  
**COURSE INFORMATION FORM**

Course Title	Experimental Designs and Analysis in Field Crops								
Course Code	ZTB536	Course Level			Second Cycle (Master's Degree)				
ECTS Credit	8	Workload	202 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Students will be informed about the planning of experiments, the conduct of the trial, analysis and interpretation of experiment results.								
Course Content	Explanation of basic concepts related to statistic methods, determination of appropriate experimental design and creates a hypothesis, analysis and interpretation of one, two, and three factorial experiments results, Correlations and regressions, path analysis, description and use of statistical package used in statistical analysis.								
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	60

#### Recommended or Required Reading

1	Açıkgöz, N., E. İlker, A. Gökçöl, 2004. Biyolojik Araştırmaların Bilgisayarda Değerlendirilmeleri. ISBN: 973-483-607-8 E.Ü. Tohum Teknolojisi Araştırma ve Uygulama Merkezi Yayın No:2 Bornova-İzmir
2	1994. Tarımda Araştırma ve Deneme Metodları, , Ege Üniv. Ziraat Fak Yay No. 478, İzmir.KOÇ, A. 2004. Doğal Kaynakların Yönetimi lisansüstü ders notları. Atatürk Üniv. Zir. Fak. Tarla Bitkileri Böl. 52 s. Erzurum.
3	Yurtsever, N. 1984. Deneysel İstatistik Modelleri. Köy Hizmetleri Genel Müd.lüğü Yayınları. 220 s.Ankara
4	Singh, R.K. and Chaudhary, B.D. 1985. Biometrical Methods in Quantitative Genetic Analysis. Kalyani Publishers, New Delhi

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic concepts about experimental designs and analysis
	Practice	Literature search
2	Theoretical	Variance analysis and explanations of one factorial experiment: analysis and interpretation results obtained from completely randomized plot design and randomized block design.
	Practice	Sample problem solution.
3	Theoretical	Variance analysis and explanations of one factorial experiment: analysis and interpretation results obtained from augmented design.
	Practice	Sample problem solution.
4	Theoretical	Variance analysis and explanations of two factorial experiment: analysis and interpretation results obtained from split-plot design
	Practice	Sample problem solution.
5	Theoretical	Variance analysis and explanations of three factorial experiment: analysis and interpretation results obtained from factorial design.
	Practice	Sample problem solution.
6	Theoretical	Variance analysis and explanations of three factorial experiment: Place, year, place-year combinations
	Practice	Sample problem solution.
7	Theoretical	Multi-characterized analysis: correlation coefficient and significance test, simple multiple correlation coefficient
	Practice	Sample problem solution.
8	Intermediate Exam	MidTerm Exam
9	Theoretical	Factors and path analysis, application of path analysis in field crop cultivation and breeding
	Practice	Sample problem solution
10	Theoretical	Regression coefficients and significance test, and regression models.
	Practice	Sample problem solution



11	Theoretical	Using a regression model to estimate yield and genotype x environment interaction
	Practice	Sample problem solution
12	Theoretical	Analysis of data with SAS software package
	Practice	Sample problem solution
13	Theoretical	Analysis of data with SPSS software package
	Practice	Sample problem solution
14	Theoretical	Analysis of data with JMP software package
	Practice	Sample problem solution
15	Theoretical	Interpretation of the results of statistical analysis
	Practice	Sample problem solution
16	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	1	20	60	80
Reading	8	0	4	32
Midterm Examination	1	0	14	14
Final Examination	1	0	20	20
Total Workload (Hours)				202
[Total Workload (Hours) / 25*] = ECTS				8

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Students learn basic concepts about statistic methods.
2	Students inform about research planning and execution.
3	Students learn approaches about analysis of the data obtained from experiments and interpretation of results.
4	ublication of experiment results.
5	Publication of experiment results.

### Programme Outcomes (Field Crops Master)

1	To be able to improve and deepen the level of expertise in field crops on the basis of the departments licenses qualifications.
2	To be able to recognize the subjects related to field crops, to be able to solve these and make interpretation.
3	To be able to have the skills of acting independently, to have power to decide and to create.
4	To be able to work in teams between departments
5	To be able to give briefing about latest information of Field Crops in written, oral and visual ways.
6	To be able to take responsibility for developing the new approaches and to formulate a solution facing unforeseen complex situations of applications,
7	To be able to defend the original opinions in both Turkish and in foreign languages by using these languages and communicating effectively.
8	To be able to contribute to science by producing knowledge for the aim of improving quality, efficiency and sustainability
9	To be able to apply breeding methods in order to improve new varieties for Field Crops.
10	To be able to maintain and select the appropriate statistical methods within the framework of the study, evaluation of scientific ethics; to convert the results into a report/dissertation and to offer them by producing scientific publications.

### 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	5	5	5
P2	5	5	5	5	5
P3	5	5	5	5	5
P4	5	5	5	5	5
P5	5	5	5	5	5
P6	5	5	5	5	5
P7	5	5	5	5	5



P8	5	5	5	5	5
P9	5	5	5	5	5
P10	5	5	5	5	5

