



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Advanced Agricultural Machinery Management							
Course Code		ZTM610		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	7	Workload	176 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of the course is to inform the students about the structure of the system of agricultural mechanization, the success of the business impact of the elements in this structure, agricultural tools and equipment when working with survey methods and the importance of it in terms of work efficiency, the machine cost calculations methods.							
Course Content		Mechanization systems in agricultural production (energy source-the human-machine), tractor power balance, machine selection and rational use of machinery, Detection methods of tractive power requirements, operating modes and speeds of the machines on road and field, Determination of the losses occurring during operation, factors that affect the machines work efficiency, machines energy analysis.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Individual Study, 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	Farm Power and Machinery Management. Hunt D., 1977. Iowa State University Pres, IOWA.
2	Tarımsal Mekanizasyon İşletmeciliği ve Planlaması Veri Tabanı. Evcim, Ü., 1990. EÜZF Yayınları No:157, İZMİR.
3	Tarımda Makine Seçimi ve Ortak Makine Kullanım Modelleri. Sındır, K.O., 1999. Köy Hizmetleri Genel Müdürlüğü APK Daire Başkanlığı, ANKARA

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction (Course disposition, general definitions).
	Preparation Work	Research
2	Theoretical	Mechanization of agricultural production systems (human-energy source-machine), the tractor power balance.
	Preparation Work	Research
3	Theoretical	Proper selection and rational use of machine conditions, the common models.
	Preparation Work	Research
4	Theoretical	The force characteristic of the machines.
	Preparation Work	Research
5	Theoretical	The measurement methods of characteristic values ??of machines.
	Preparation Work	Research
6	Theoretical	The moving speed of the machines, technical speed.
	Preparation Work	Research
7	Theoretical	Pull force of machines
	Preparation Work	Research
8	Intermediate Exam	Midterm Exam
9	Theoretical	The moves of machines in the field .
	Preparation Work	Research
10	Theoretical	Portion of the time during the operation of the machines.
	Preparation Work	Research
11	Theoretical	Work efficiency of the machines (Technical, effective, field, agricultural work efficiency)
	Preparation Work	Research
12	Theoretical	The factors effect the work efficiency of power machines.



12	Preparation Work	Research
13	Theoretical	Energy analysis of machines.
	Preparation Work	Research
14	Theoretical	Cost analysis of machines.
	Preparation Work	Research
15	Theoretical	Cost analysis of machines.
	Preparation Work	Research
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Lecture - Practice	14	0	2	28
Assignment	14	0	2	28
Term Project	1	0	20	20
Midterm Examination	1	20	2	22
Final Examination	1	20	2	22
Total Workload (Hours)				176
[Total Workload (Hours) / 25*] = ECTS				7

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Understanding the mechanization of agricultural production systems (human-energy source-machine)
2	Understanding the selection of the machine.
3	Understand the principles of rational use of the machine.
4	Understanding the movements and speeds of the machines.
5	Understanding the work efficiency of machines

Programme Outcomes (Agricultural Machinery Doctorate)

1	Identification, formulation and solving the problems in the field of Agricultural Machinery
2	The ability to use modern engineering tools and techniques
3	The ability to use the information, which is obtained by following the scientific and technological developments, in the academic life and practice.
4	The ability to evaluate multi-faced relationship between them by understanding interaction among agricultural technology, soil, plants and animals
5	Professionalism and ethical responsibility
6	The ability to work in disciplinary and multi-disciplinary teams
7	The ability to communicate effectively
8	The ability to do research for accessing information and to use data base and other resources
9	The ability to do analyze and interpret the experimental results and the design of experiment
10	The ability to identify and interpret knowledge of current professional issues and events
11	The ability to get aware the universal and social effects of engineering solutions and applications
12	Accordance with the requirements of science and technology, ability to use scientific knowledge creative

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
P4	5	5	5	5	5
P6	3			3	3
P8	4	4	4	5	5
P9	5	5	5	5	5
P10	5	5	5	5	5
P11	4	3	3	3	3



P12	4	3	3	3	3
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