



AYDIN ADNAN MENDERES UNIVERSITY
KOÇARLI VOCATIONAL SCHOOL
MECHANICAL AND METAL TECHNOLOGY
AGRICULTURAL MACHINERY
COURSE INFORMATION FORM

Course Title	Earth Moving and Irrigation Machines								
Course Code	TAM232			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	This course has been prepared to meet a need for a fundamental knowledge on the subject of melioration methods and machines. Irrigation systems in the equipment, the basic concepts of fluids, pumps and pumping systems, pumps and cavitation fields of basic concepts related to the another purpose of this course is to ensure the transfer of information.								
Course Content	Have melioration machinery the knowledge and learn their features and functions, explain the working principles of melioration machine. Defining Irrigation machines, pumps, classification, basic principles of hydraulics, fluid definitions of the hydrostatic.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case 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	Önal, İ., 2010. Meliorasyon Makinaları. E.Ü.Z.F. Press Number: 501, İzmir.
2	Keskin, R. ve Güner, E., 2007. Su Çıkartma Makinaları. A.Ü.Z.F. Press Number.1552, No.484, Ankara.
3	Tepeli, E., Bülbül, R., Karlı, Z., Sarıtaş, H., Gökalp, Y., Çınar, M., Uyan, A. ve Çelik, A., 2005. Sulama. Republic of Turkey Ministry of Food, Agriculture and Livestock Common Farmers Training Project (YAYÇEP), Press Number: 42, Ankara.
4	Süzer, S., Erarslan, H., Çınar, M., Karataş, T., Tepeli, E., Sarıtaş, H., Çelik, A. ve Karakaş, C., 2005. Toprak ve Su Muhafazası. Republic of Turkey Ministry of Food, Agriculture and Livestock Common Farmers Training Project (YAYÇEP), Press Number: 41, Ankara.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction the course and general information about the teaching aids
	Preparation Work	Examining course contents
2	Theoretical	Technical specification of soil for leveling and cutting.
	Preparation Work	Literature review about the subject
3	Theoretical	Travel resistance, draft force and travel speed of melioration machines.
	Preparation Work	Literature review about the subject
4	Theoretical	Command systems for melioration machines, Classification and selecting of melioration machines (chiesel, subsoiler and ripper)
	Preparation Work	Literature review about the subject
5	Theoretical	Classification and selecting of melioration machines (Dozers, Graders, Excavators, Loaders)
	Preparation Work	Literature review about the subject
6	Theoretical	Classification and selecting of melioration machines (Scraper, Laser controlled land leveller, Stone picking machines, Drainage technics and machines)
	Preparation Work	Literature review about the subject
7	Theoretical	Cost analysis of melioration machines
	Preparation Work	Literature review about the subject
8	Intermediate Exam	Midterm exam
9	Theoretical	Classification of the agricultural machinery and irrigation pumps used in irrigation, and understanding of the structural properties.
	Preparation Work	Literature review about the subject
10	Theoretical	Understanding of the characteristics of pumping plants and pumping facilities.
	Preparation Work	Literature review about the subject



11	Theoretical	Basic principles of hydraulics, fluids related definitions, hidrastatik, hydrodynamics
	Preparation Work	Literature review about the subject
12	Theoretical	Centrifugal, deep well and submersible pumps and applications
	Preparation Work	Literature review about the subject
13	Theoretical	Pumping plants and characteristics.
	Preparation Work	Literature review about the subject
14	Theoretical	Theory of pumps and pumping
	Preparation Work	Literature review about the subject
15	Theoretical	Definition and parts of the moving irrigation machinery, sprinkler and drip irrigation systems.
	Preparation Work	Literature review about the subject
16	Theoretical	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to recognize melioration machines componenets
2	To be able to explain the working principles of melioration machines
3	To be able to invent the cost analysis of melioration machines.
4	To be able to classify the agricultural machinery and irrigation pumps used in irrigation, and understanding of the structural properties.
5	To be able to understand the working and basic theoretical principles pumps.
6	To be able to understand general information about fluids

Programme Outcomes (Agricultural Machinery)

1	To be able to comprehend social, cultural and societal responsibility and keep up with national and international up contemporary issues and developments.
2	To be able to be bounded to the Atatürk nationalism, adopted to the national, ethic, spiritual and cultural value of the Turkish Nation, opened to the universal and modern development, adopted the richness, deep seated and productive properties of the Turkish language, having language sympathy and awareness, having reading pleasure and habit and having sufficient foreign language for their vocational necessities, In the directions of the Atatürk Principles and Revolutions,
3	To be able to recognize the basic computer hardware and operating systems , knowledge of internet usage being able to prepare documents, electronic tables and presentation by using office programs.
4	To be able to be aware of ethic responsibility and vocational profession and to have consciousness of a lifelong learning concept
5	To be able to know current vocational issues and to have skill to define and interpret them.
6	To be able to be aware of the universal and social dimensional effects in engineering solutions, and to be able to have knowledge about entrepreneurship and newfangledness.
7	To recognize the materials which used for preparation of agricultural machinery and have skill for the choosing the appropriate material.
8	To be able to acquire the skill of using the necessary tools and equipments which are used in the production and maintenance of agricultural machinery.
9	To be able to prepare the agricultural tools and machineries, to determine the breakdowns and to do periodic maintenance and repairs.
10	To be able to comprehend the picture of the agricultural tools and machinery and their fabrication , and have the skill to draw them via computer.
11	To be aable to assemble and to combine machinery pieces by using demountable and nondetachable junction methods.
12	To be able to have the skill of resistance calculations of the agricultural tool and machinery on computer.
13	To be able to test and control the suitability of new machines and mechanic equipment to the definite standarts and technical properties.
14	To be able to have general knowledge of agricultural production.



15 To be able to have knowledge of basic sciences.

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

	L1	L2	L3	L4	L5	L6
P4	3	3		3	3	
P5	3	3	3	3	3	5
P6	3	3	5	3	3	
P7	3	5	4	3	5	
P8	3	5		3	5	
P9	3	5		3	5	
P10	3	3		3	3	
P13	3	3		3	3	

