



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

Course Title	Soil Tillage and Sowing Machinery								
Course Code	TAM128			Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	6	Workload	100 (Hours)	Theory	3	Practice	1	Laboratory	0
Objectives of the Course	To provide information in tillage tools and machines and sowing machines								
Course Content	Soil processing equipment and machines, Sowing techniques, seed drills								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, 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	Önal, İ., 2011. Ekim Bakım Gübreleme Makineleri. E.Ü.Z.F. Press Number:490, İzmir.
2	Erdoğan, D., 2005. Tarım Makineleri. A.Ü.Z.F. Press Number: 1548, Ankara.
3	Keçecioglu, G. ve. Gülsoyul, E., 2002. Toprak İşleme Makineleri. E.Ü.Z.F. Press Number: 545, Bornova-İzmir.
4	Engürülü, B., Çiftçi, Ö., Gölbaşı, M., Başaran, H.Ç. ve Akkurt, M., 2005. Ekim ve Dikim Makineleri. Republic of Turkey Ministry of Food, Agriculture and Livestock Ankara Zirai Üretim İşletmesi, Personel ve Makine Eğitim Merkezi Müdürlüğü, ISBN:975-407-170-5, Ankara.
5	Yılmaz, M., Engürülü, B., Çiftçi, Ö., Gölbaşı, M., Başaran, H.Ç. ve Akkurt, M., 2004. Toprak İşleme Alet ve Makineleri. Republic of Turkey Ministry of Food, Agriculture and Livestock Ankara Zirai Üretim İşletmesi, Personel ve Makine Eğitim Merkezi Müdürlüğü, ISBN:975-407-154-3, Ankara.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to the class, definitions and general information about lesson
	Practice	Introduction of soil processing equipment and machines
	Preparation Work	Examining course contents
2	Theoretical	An overview of information for agricultural mechanization, mechanization circuits, work capacity of agricultural machines
	Practice	Introduction of soil processing equipment and machines
	Preparation Work	Literature review about the subject
3	Theoretical	Soil processing equipment and machines, the scientific foundations of tillage, soil tillage techniques
	Practice	Introduction of soil processing equipment and machines
	Preparation Work	Literature review about the subject
4	Theoretical	Tillage tools and plows
	Practice	Introduction of soil processing equipment and machines
	Preparation Work	Literature review about the subject
5	Theoretical	Cultivators, harrows, rotary cultivators and rollers
	Practice	Introduction of soil processing equipment and machines
	Preparation Work	Literature review about the subject
6	Theoretical	Sowing techniques, physicommechanical properties of seeds, germination biomechanics
	Practice	Introduction of seed drills
	Preparation Work	Literature review about the subject
7	Theoretical	Metering devices used in seed drills
	Practice	Introduction of seed drills
	Preparation Work	Literature review about the subject
8	Intermediate Exam	Midterm Exam



9	Theoretical	Mechanical and pneumatic precision seed drills
	Practice	Introduction of seed drills
	Preparation Work	Literature review about the subject
10	Theoretical	Planting machines that seed into the slot
	Practice	Introduction of seed drills
	Preparation Work	Literature review about the subject
11	Theoretical	Soil processing equipment maintenance and repair
	Practice	To maintenance and repair of soil processing equipment
	Preparation Work	Literature review about the subject
12	Theoretical	Soil processing equipment maintenance and repair
	Practice	To maintenance and repair of soil processing equipment
	Preparation Work	Literature review about the subject
13	Theoretical	Seed sowing machines maintenance and repair
	Practice	To maintenance and repair of seed sowing machines
	Preparation Work	Literature review about the subject
14	Theoretical	Seed sowing machines maintenance and repair
	Practice	To maintenance and repair of seed sowing machines
	Preparation Work	Literature review about the subject
15	Theoretical	Practice Exam
	Practice	Explanation of soil processing equipment with seed sowing machines in the form of questions and answers
	Preparation Work	Practice Exam preparation
16	Theoretical	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Lecture - Practice	14	0	1	14
Assignment	5	0	1	5
Studio Work	9	0	1	9
Midterm Examination	1	14	1	15
Final Examination	1	14	1	15
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	To be able to have knowledge of soil mechanics
2	To be able to recognise tillage tools and machinery, acquire the functions and features
3	To be able to acquire tillage systems and methods used in the World and Turkey.
4	To be able to understand the principles of agro-technique of sowing
5	To be able to understand the working principles of metering devices
6	To be able to gain ability to completely dismantle and assemble of agricultural equipment and machinery.

### 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 able 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 standards 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	2	3	4	4	4	5
P5	2	4	4	4	4	5
P6	3	4	5	4	5	5
P7	4		5		5	5
P8			5		5	5
P9			5		5	5
P13			5			
P14	5					

