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

Course Title	Manufacturing Processes								
Course Code	TAM231		Couse Level	Short Cycle (Associate's Degree)					
ECTS Credit	4	Workload	100 *(Hours)*	Theory	3	Practice	1	Laboratory	0
Objectives of the Course	Providing basics of casting, welding, plastic forming, Machining and Powder Metallurgy.İntroducing principles of these methods, the equipment utilized and their application areas.Providing related calculation techniques.								
Course Content	Fundamentals of manufacturing processes and their classification; comparison of manufacturing processes, their superiorities and limits. Design-manufacturing relationship, selection of manufacturing process								
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	Anık, S., Dikicioğlu, A. ve Vural, M., 2000. İmal Usulleri. Birsen Publishing House, İstanbul.
2	Akkurt, M., 1992. Talaş Kaldırma Yöntemleri ve Takım Tezgahları. Birsen Publishing House, İstanbul.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to the class, definitions and general information about lesson
	Preparation Work	Examining course contents
2	Theoretical	Classification of welding methods and physical bases, gas welding and cutting processes
	Preparation Work	Literature review about the subject
3	Theoretical	Classification of casting methods, metallurgic bases, solidification, models
	Preparation Work	Literature review about the subject
4	Theoretical	Sand mold casting, die materials, moulding machines, shell mold casting, delicate casting method
	Preparation Work	Literature review about the subject
5	Theoretical	Permanent mold casting, pressure casting, fling casting, melting furnaces, ending treatments
	Preparation Work	Literature review about the subject
6	Theoretical	Specification of metal forming methods, mchanic and metallurgic bases
	Preparation Work	Literature review about the subject
7	Theoretical	Mass and cold forming methods, rolling, forging, extrusion
	Preparation Work	Literature review about the subject
8	Intermediate Exam	Midterm Exam
9	Theoretical	Sheet and cold forming methods, wire drawing, sheet forming methods, cutting, bending, spinning, deep drawing, forming machines
	Preparation Work	Literature review about the subject
10	Theoretical	Classification of swarf lifting methods and physical bases, swarf formation tools and tool life
	Preparation Work	Literature review about the subject
11	Theoretical	Classification of swarf lifting methods and physical bases, swarf formation tools and tool life
	Preparation Work	Literature review about the subject
12	Theoretical	Turning, hole drilling and handling, handling methods and machines with varagele and planer
	Preparation Work	Literature review about the subject
13	Theoretical	Cuttering, brooching treatments and machines, screw thread and gear manufacturing, grinding and delicate surface treatment methods
	Preparation Work	Literature review about the subject

14	Theoretical	Cuttering, brooching treatments and machines, screw thread and gear manufacturing, grinding and delicate surface treatment methods
	Preparation Work	Literature review about the subject
15	Theoretical	Practice Exam
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	1	0	4	4
Studio Work	5	0	1	5
Midterm Examination	1	16	1	17
Final Examination	1	17	1	18
			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 understand the principles of the manufacturing processes and their application fields
2	To be able to explain superiorities and limits of the manufacturing methods and their application areas
3	To be able to identify and select the tools used in manufacturing processes
4	To be able to determine the most appropriate manufacturing process for a certain machine part in design phase
5	To be able to use the knowledge of traditional manufacturing processes and make basic calculations
6	To be able to select working parameters of the manufacturing methods.

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 interprete 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 newfangleness.
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
P5	3	3	3	3	3	3

P6	3	3	3	3	3	3
P7	5	5	5	5	5	5
P8	4	4	4	4	4	4
P9	3	3	3	3	3	3