

## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

| Course Title   |                                   |                                 |                                 |  |  |                                       |         |
|--|-----------------------------------|---------------------------------|---------------------------------|--|--|---------------------------------------|---------|
| 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   | , welding, plas<br>s, the equipmo | stic forming<br>ent utilized    | , Machining a<br>and their appl | nd Powder Me<br>cation areas.                  | etallurgy.İntroduci<br>Providing related | ing                                   |         |
| Course Content Fundamentals of manufactor<br>processes, their superiorities<br>process |                                   | uring process<br>es and limits. | es and thei<br>Design-ma        | ir classification<br>nufacturing rel           | ; comparison<br>ationship, sel           | of manufacturing<br>ection of manufac | cturing |
| Work Placement N/A   |                                   |                                 |                                 |  |  |                                       |         |
| Planned Learning Activities and Teaching Methods                                       |                                   | Explanation<br>Study, Indiv     | (Presentat<br>idual Study       | tion), Experime<br>/, Problem Sol <sup>i</sup> | ent, Demonstr<br>ving                    | ation, Discussion                     | , Case  |
| Name of Lecturer(s)  |                                   |                                 |                                 |  |  |                                       |         |

#### **Assessment Methods and Criteria**

| Midterm Examination 1 40 | Method              | Quantity | Percentage (%) |
|--------------------------|---------------------|----------|----------------|
| Final Examination 1 70   | Midterm Examination | 1        | 40             |
| Final Examination 1 70   | Final Examination   | 1        | 70             |

## **Recommended or Required Reading**

Anık, S., Dikicioğlu, A. ve Vural, M., 2000. İmal Usulleri. Birsen Publishing House, İstanbul.
Akkurt, M., 1992. Talaş Kaldırma Yöntemleri ve Takım Tezgahları. Birsen Publishing House, İstanbul.

| Week | Weekly Detailed Cour | se 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            | Total Workload       |       |   |    |  |  |  |
|---------------------|----------------------|-------|---|----|--|--|--|
| Lecture - Theory    | ture - Theory 14 0 3 |       |   |    |  |  |  |
| Lecture - Practice  | 14                   | 0     | 1 | 14 |  |  |  |
| Assignment          | 1                    | 1 0 4 |   |    |  |  |  |
| Studio Work 5 0 1   |                      |       |   |    |  |  |  |
| Midterm Examination | 1 16 1               |       |   |    |  |  |  |
| Final Examination   | 1                    | 17    | 1 | 18 |  |  |  |
|                     | 100                  |       |   |    |  |  |  |
|                     | 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  |



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| 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 |

