



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

| | | | | | | | | | |
|--|--|----------|------------|--------------|---|----------------------------------|---|------------|---|
| Course Title | Production Methods | | | | | | | | |
| Course Code | MKE255 | | | Course Level | | Short Cycle (Associate's Degree) | | | |
| ECTS Credit | 2 | Workload | 50 (Hours) | Theory | 2 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | Information about casting methods and production techniques are given. | | | | | | | | |
| Course Content | Casting and casting methods | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Case Study, Problem Solving | | | | | | | | |
| Name of Lecturer(s) | | | | | | | | | |

| Assessment Methods and Criteria | | |
|---------------------------------|----------|----------------|
| Method | Quantity | Percentage (%) |
| Midterm Examination | 1 | 30 |
| Final Examination | 1 | 70 |

| Recommended or Required Reading | |
|---------------------------------|--------------------------------|
| 1 | Üretim Yöntemleri ders notları |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|---|
| 1 | Theoretical | Introduction to Production Methods |
| 2 | Theoretical | Model and Model Design |
| 3 | Theoretical | Casting and Molding Methods |
| 4 | Theoretical | Cores |
| 5 | Theoretical | Sand Based Mold and Core Materials |
| 6 | Theoretical | Sand Molding Machines |
| 7 | Theoretical | Melting and Casting |
| 8 | Theoretical | Solidification |
| 9 | Intermediate Exam | Midterm Examination |
| 10 | Theoretical | Runner, Feeder, Extractor and Coolers |
| 11 | Theoretical | Finishing |
| 12 | Theoretical | Casting Defects and Quality Control |
| 13 | Theoretical | Design of Casting Parts |
| 14 | Theoretical | Iron Based Bulk Materials |
| 15 | Theoretical | Non-Ferrous Materials, Molding Examples |
| 16 | Final Exam | Final Examination |

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

*25 hour workload is accepted as 1 ECTS

| Learning Outcomes | |
|-------------------|--|
| 1 | To have knowledge about production methods |
| 2 | To have knowledge about sand casting and other casting methods |



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|---|---|
| 3 | Solidification, Casting Alloys, Defining Casting Errors |
| 4 | To have knowledge about welding methods |
| 5 | To have knowledge about machining methods |

Programme Outcomes (*Machinery*)

| | |
|----|--|
| 1 | To be able to know general properties and usage areas of industrial materials and make selection. |
| 2 | Design of machine elements. |
| 3 | To be able to make production using machining and welding machines without machining. |
| 4 | To be able to make measurement and quality control processes with machine tools for measuring and control equipment. |
| 5 | To be able to make necessary corrections in order to determine the mistakes by using the necessary non-destructive test methods in welded parts and to eliminate these mistakes. |
| 6 | Preventive measures to prevent the occurrence of these faults by preliminarily determining the faults that will occur in the machines as statistical data and to make necessary interventions in case of breakdown. |
| 7 | They can make drawings of work pieces on CAD station and apply them on CNC looms. Ability to operate and use CAD / CAM and AUTOCAD package programs. |
| 8 | To be able to transfer engineering science and technology to practice by making calculations in the direction of scientific principles. |
| 9 | It can repair the elements in pneumatic and hydraulic systems which are indispensable elements of automatic control systems and can regulate their work. |
| 10 | The student who is trained as a machine technician during the whole program knows that industrial task definition in the field of work is error finding, problem solving, decision making, planning of functions and activities and they can be achieved by aiming to acquire these characteristics. |

