



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title	Material Testing Methods								
Course Code	ÜKK103		Course Level		Short Cycle (Associate's Degree)				
ECTS Credit	3	Workload	75 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	With this course, students are expected to learn the materials and materials inspection methods, and to learn how to apply the material inspection methods.								
Course Content	Definition of material and material inspection, types of material inspection methods, non-destructive testing methods, destructive examination methods								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Individual Study								
Name of Lecturer(s)	Ins. Evren Barış KAYHAN								

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	50
Assignment	1	10

### Recommended or Required Reading

1	Lecture Notes
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Week	Weekly Detailed Course Contents	
1	Theoretical	Definition of material and material inspection
2	Theoretical	Types of materials inspection methods
3	Theoretical	Non-destructive testing methods
4	Theoretical	Penetrating liquid control
5	Theoretical	Ultrasonic control and X-ray control
6	Theoretical	Magnetic control
7	Intermediate Exam	Midterm
8	Theoretical	Pressure control
9	Theoretical	Destructive inspection methods
10	Theoretical	Hardness measurement
11	Theoretical	Hardness measurement
12	Theoretical	Tensile and compression inspections
13	Theoretical	Fracture inspection
14	Theoretical	Tilting and twisting examinations
15	Theoretical	Fatigue examination
16	Final Exam	Semester final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Lecture - Practice	4	0	2	8
Assignment	1	4	0	4
Midterm Examination	1	9	1	10
Final Examination	1	10	1	11
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	Recognize the types of materials used in industry and manufacturing.
2	Recognize material test methods.
3	Define the materials according to their mechanical, physical and chemical properties.
4	Will be able to transfer the properties of metallic materials and alloys.
5	Ceramic, polymer and mixed materials and properties of these materials can transfer.

**Programme Outcomes (Quality Control in Production)**

1	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,
2	To be able to comprehend social, cultural and societal responsibility and keep up with national and international up contemporary issues and developments.
3	Utilizes together mathematics, science and theoretical and applied knowledge in their field for engineering solutions.
4	Determines, identifies formulizes and solves the problems. For this purpose selects and applies analytical methods and modeling techniques.
5	Selects and utilizes the necessary modern techniques and equipment for industrial applications.
6	Designs and performs experiments, collects data and analyzes and elaborates results.
7	Works effectively as an individual or in multidisciplinary teams.
8	Collects information and makes literature survey for this purpose, utilizes databases and other information sources.
9	Be aware of lifelong learning; follows the developments in science and technology and continuously renews himself.
10	Analyzes and designs under realistic constraints a system, a system component or a process for meeting the required needs, for this purpose applies modern design methods.
11	Acquires professionalism and ethical responsibility in the profession.
12	Communicates by using technical drawing and manufacturing knowledge.
13	Be aware of the universal and social effects of industrial solutions and applications; is aware of entrepreneurship and innovation and has idea about the problems of the era.
14	Has knowledge about quality assurance and standardization and possess skills of execution of operations. In the same time, has the professional and ethical responsibility.
15	Is conscious of project management, business administration, health of the workers, environment and work safety; is aware of the legal consequences of industrial applications.

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

	L1
P5	5
P6	5
P7	3
P8	4
P9	4

