AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Vocational Physics						
Course Code	MKE105		Couse Level	Short Cycle (Associate's Degree)			
ECTS Credit	4	Workload	100 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	Introduction to Newton's laws of motion and their application to different situations, to show the relations between them and work and energy, to understand the transformation of different energies and to establish the relationship between laws of nature and motion						
Course Content	Physics and Measurement, Vectors, Motion in One Dimension, Motion in Two Dimensions, Motion Laws and Dynamics, Circular Motion and Other Applications of Newton's Laws, Work, Kinetic and Potential Energy, Linear Momentum and Collisions, Rotational Motion and Torque, Static Equilibrium, Vibration and Wave Motion, Fluid Mechanics, Kinetic Theory and Introduction to Thermodynamics.						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Discussion, 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	Üniversite Fiziği Cilt I , H.D.Young, R.A.Freedman
2	Fen ve Mühendisler için Fizik 1 (Mekanik) , R.A. Serway
3	Fiziğin Temelleri , David Halliday, Robert Resnick, and Pearl Walker

Week	Weekly Detailed Course Contents	
1	Theoretical	Physics and Measurement, Vectors
2	Theoretical	Motion in One Dimension
3	Theoretical	Vectors and Motion in Two Dimensions
4	Theoretical	Laws of Motion and Dynamics
5	Theoretical	Circular Motion and Other Applications of Newton's Laws
6	Theoretical	Work, Kinetic and Potential Energy
7	Theoretical	Linear Momentum and Collisions
8	Intermediate Exam	Mid-term
9	Theoretical	Rotation of Solid Bodies and Rolling Motion
10	Theoretical	Rotation of Rigid Bodies, Rolling Motion and Angular Momentum
11	Theoretical	Flexibility and Vibration Movement
12	Theoretical	Waves and Basic Properties
13	Theoretical	Introduction to Fluid Physics
14	Theoretical	Kinetic Theory, Heat and Temperature

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	4	70
Midterm Examination	1	13	1	14
Final Examination	1	15	1	16
			Total Workload (Hours)	100
			[Total Workload (Hours) / 25*] = **ECTS**	4

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Demonstrate that the concepts in physics are related to experiments and that the laws of the universe can be understood by simple concepts such as force, work and energy.
2	To be able to define movements in one and two dimensions with the concept of vector and show the differences and relationships between different movements
3	To be able to explain the interactions between moving particles with the concept of momentum, to show the reasons of momentum conservation
4	Apply Newton's equations of motion to fluids
5	Relation of heat and temperature with energy and motion

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.

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

	L1	L2	L3	L4	L5
P1	2	3	3	5	2
P2	3	2	2	2	3
P3	2	5	3	3	2
P4	3	3	2	5	5
P5	2	4	5	4	3
P6	3	2	4	3	2
P7	2	3	3	2	5
P8	4	2	2	3	2
P9	3	4	3	2	3
P10	2	3	4	3	2