



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Dynamics							
Course Code		MKE251		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To understand the basic concepts and ideas of dynamics To understand the interrelated but separate basic principles of dynamics and the differences between these principles and to apply the principles to the appropriate problems							
Course Content		Basic concepts, Newton's laws, Units, Law of gravity, Scalar and vectors, Vector operations, Linear motion, Force, mass and acceleration, Work and energy, Impulse and momentum							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Dynamics lecturer notes
2	Mechanical Dynamics, N. Tahrallı, F. Kaya, İ. High, R. Güçlü (Y.TU)

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic concepts, Newton's laws, Units,
2	Theoretical	Law of attraction, Scalar and vectors,
3	Theoretical	Law of attraction, Scalar and vectors,
4	Theoretical	Linear motion,
5	Theoretical	Linear motion
6	Theoretical	Force, mass and acceleration,
7	Theoretical	Force, mass and acceleration,
8	Theoretical	Force, mass and acceleration
9	Intermediate Exam	Mid-term
10	Theoretical	Work and energy,
11	Theoretical	Work and energy,
12	Theoretical	Impulse and momentum
13	Theoretical	Impulse and momentum
14	Theoretical	Rotation around a fixed axis
15	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	1	28
Assignment	5	1	2	15
Midterm Examination	1	3	1	4
Final Examination	1	2	1	3
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	To gain ability of mathematical model of mechanical systems
2	Improving the ability of force analysis in dynamic systems
3	Gaining the ability of mass balancing in various dynamic systems
4	To learn the concepts of motion, force, mass and acceleration, work and energy, impulse and momentum
5	Ability to work effectively in disciplinary and multidisciplinary teams; self-study skills.

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	3	3	4	3	4
P2	4	4	3	5	5
P3	5	5	2	4	2
P4	3	2	5	2	3
P5	4	3	4	3	5
P6	5	5	3	5	4
P7	3	4	2	4	3
P8	4	3	5	2	4
P9	5	5	4	3	5
P10	3	3	3	3	2

