

AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course T	ïtle	Vibrations a	nd Syncronizati	on							
Course Code		FİZ426		Couse Level		First Cycle (Bachelor's Degree)					
ECTS Cr	edit 7	Workload	179 (Hours)	Theory	3	Practice	0 Lab	oratory	0		
Objective	s of the Course										
Course C	Content										
Work Pla	cement	N/A									
Planned Learning Activities and Teaching Method			g Methods	Explan	ation (Present	ation), Discuss	ion				
Name of	Lecturer(s)										
Assessm	nent Methods an	d Criteria									
Method			Qua	antity	Percentage (%)					
Midterm I	Examination			1	40						
Final Exa	mination			1	70						
Recomm	ended or Requir	red Reading									
1 Ti	treşim ve Dalgala	r, A. P. French	n, Aktif Yayınevi	, 1996.							
2 So	chaum's outlines,	Mechanical V	ibrations, S. Gra	aham Ke	elly, McGraw-F	lill,1996.					
Week	Weekly Detaile	d Course Co	ntents								
1	Theoretic	al Intro	duction								
2	Theoretic	al Clas	Classification of vibrations								
3	Theoretic	al Vibra	Vibration Analysis Procedure								
4 Theoretical Vibrat		Vibration of one degree of freedom system									
5 Theoretical Day		al Dam	Damped vibrations								
6 Theoretical		al Force	Forced vibrations								
7	Theoretic	al Vibra	Vibrations of two degree of freedom systems								
8 Theoretical		al Natu	Natural frequencies and modes (modes)								
9	Intermediate	Exam Midte	erm								
10	Theoretic	al									
		Cont	inuous Rope Ge	eneral N	lovement and	Fourier Analys	is				
11	Theoretic	al N Th	N The Degrees of Freedom of a Continuous System								
12 Theoretical Fo		al Force	Forced oscillations in a closed multi-degree of freedom system								
13 Theoretical Progressive Ha		ressive Harmon	Harmonic Waves and Phase Rate								
14	Theoretic	al Refra	Refractive Index and Dispersion								
15	Theoretic	al Wave	e Resistance an	d Energ	y Flow						
Workloa	d Calculation										
Activity				Quantity	/ Pr	eparation	Duration	Total V	Vorkload		
Lecture - Theory			14		8	3	1	54			
Midterm Examination				1		10	2		12		
Final Examination				1		10	3		13		
						Tot	al Workload (Hours) 1	79		
					[To	al Workload (H	lours) / 25*] = ECT \$	5	7		

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

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Progra	amme Outcomes (Physics)
1	To understand the importance of physics by understanding the general concepts of physics, matter and energy
2	To be able to define the movements of matter and to distinguish the characteristics of movements under different force (potential)
3	Be able to say the meaning of Lagrange and Hamiltonian formulations of the movement and apply them to simple problems,
4	To be able to express the fundamental concepts such as time, space, force, momentum and energy in the movements of matter close to the speed of light and be able to solve and interpret the simple problems related to
5	To be able to establish the relationship between electric and magnetic forces and to be able to illustrate their applications to technology and solve problems related to the movement of particles in electric and magnetic fields
6	Be able to say the basic laws of electromagnetics and apply them to problems, illustrate their applications to simple technology
7	To be able to tell the reasons of the differences between the classical cases and the quantum scale and explain the reasons
8	Explain the concepts of discontinuity, uncertainty, matter-antimatter, indecisiveness of quantum physics with examples and explain simple problems related to the subject.
9	To be able to solve the problems of micro-particles under different simple potentials and be able to say their meanings
10	To be able to establish the relationship between the movements and properties of multi-particle systems and the laws of probability and solve simple problems
11	To be able to illustrate the laws, meanings and applications of thermodynamics and use them
12	Be able to use their knowledge about quantum physics and mechanics in explaining some properties of atoms and nuclei
13	To be able to show the meanings of some theoretical concepts by experimenting, and develop a strong relationship between thought and the real world, develop analytical thinking
14	To be able to apply the meanings of the basic laws of physics, their comprehension of universality and the relations between them and the unity of the laws of nature.
15	Use computer to solve physics problems
16	To be able to understand the problems by using their analytical knowledge skills and to propose solutions by dealing with the laws of physics
17	Be able to use the knowledge of physics to understand new technologies
18	To be able to tell the relations between symmetry and conservation laws in laws of physics

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

	L1	L3
P1	3	
P4		2
P5	3	
P13		4
P14	4	

