

MM 530 Acoustics and Wave Mechanics				MECHANICAL ENGINEERING DEPARTMENT					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project/Field Study	Homework	Other	Total	Credit	ECTS credit
1,2	30	12				146	188	3	7.5
Language	Turkish								
Compulsory / Elective	Optional								
Prerequisites	-								
Course Contents	Terminology of acoustics, characteristics of waves, wave equation and its different solution techniques. Standing waves, specific acoustic impedance, energy density of plane waves, acoustic intensity, transmission phenomena, reflection. Spherical acoustic waves, harmonic spherical waves, spherical radiation from a simple source, intensity distribution. Radiation from line and plane sources. Case studies.								
Course Objectives	Introduction to acoustic and wave propagations								
Learning Outcomes and Competences	Understanding the terminology of acoustics and basic wave mechanics.								
Textbook and /or Reference	1. Bies, P. A.; Hansen, C.H., Engineering Noise Control. Unwin-Hyman. 1988. 2. Kinsler, L.E; Frey, A. R., Fundamentals of Acoustics. 3rd. Ed. John&Wiley, 1982.								
Assessment Criteria					If any, mark as (X)		Percentage (%)		
	Midterm Exams				X		40		
	Quizzes								
	Homeworks								
	Projects								
	Term Paper								
	Laboratory Work								
	Other								
	Final Exam				X		60		
Instructors	Prof. Nizami AKTURK								
Week	Subject								
1	Terminology of acoustic								
2	Characteristics of waves								
3	Derivation of wave equation								
4	Solution of wave equation								
5	Standing waves								
6	First midterm								
7	Acoustic intensity								
8	Transmission phenomena								
9	Reflection								
10	Spherical acoustic waves								
11	Intencity distribution								
12	Second midterm								
13	Case studies								
14	Case studies								