The University of Jordan
School of Engineering

Department	Course Name	Course Number	Semester
Mechanical Engineering	Noise and Vibration Control	0944582	

2019 Course Catalog Description

Nature and propagation of sound, Measurement of sound, Sound Absorption, room acoustics sound Isolation, Mechanical systems Noise and vibration, control of noise in machinery and Enclosures design, Measurements of Vibrations, Vibration Isolation and control of vibration in machines.

Instructors

Name	E-mail	Sec	Office Hours	Lecture Time

Text Books

	Text book 1	Text book 2
Title	Industrial Noise Control and Acoustics	Mechanical Vibrations
Author(s)	Randall F. Barron	Singiresu, S. Rao
Publisher, Year, Edition	Marcel Dekker Inc. (2003)	Prentice Hall,

References

Books	Malcolm J. Crocker (*Editor*) (2007), Handbook of noise and vibration control, John Wiley& Sons.
Journals	Journal of Sound and Vibration
Internet links	

Prerequisites

Prerequisites by topic	
Prerequisites by course	Mechanical Vibrations 0934411
Co-requisites by course	
Prerequisite for	

Topics Covered

Week	Topics	Chapter in Text	Sections
1-2	Fundamentals of Acoustics, Nature of Sound and Propagation		
3	Noise and Sound		
4-5	Measurements of Sound and Sound Levels		
6-7	Acoustics of Rooms and Sound Enclosures		
8-9	Case Studies in Noise Control		
10	Sources of Vibrations in Machinery		
11-13	Vibration Control and Vibration Isolation		
14-15	Design of Vibration Absorbers		

Mapping of Course Outcomes to ABET Student Outcomes

SOs	Course Outcomes
2	1. Understand the concept of sound pressure and sound power levels. 2. Design of vibration absorbers
4	3. Selection of acoustical materials based on their absorption and transmission coefficients 4. Use sound standards to design workshops and rooms based on the recommended sound level
5	5. Calculate the forced response of single multi degree of freedom systems

Evaluation

Assessment Tools	Expected Due Date	Weight
Assignments		20%
Midterm Exam		30%
Final Exam		50%

Contribution of Course to Meet the Professional Components

Relationship to Student Outcomes

SOs	1	2	3	4	5	6	7
Availability		X		X	X		

Relationship to Mechanical Engineering Program Objectives (MEPOs)

MEPO1	MEPO2	MEPO3	MEPO4	MEPO5

ABET Student Outcomes (SOs)

1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3	An ability to communicate effectively with a range of audiences
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Updated by ABET Committee, 2021