

The University of Jordan
School of Engineering



Department	Course Name		Course Number	Semester
Mechanical Engineering	Wave Propagation in Solid Mechanics		0904915	
2025 Course Catalog Description				
Phenomenology of wave propagation (plane waves, harmonic waves, harmonic analysis and synthesis,dispersion, attenuation, group and phase velocity), Elements of wave motion, Wave propagation in unbounded elastic media, plane, cylindrical and spherical waves, Harmonic and transient waves in half-space, Surface waves, Waves in layered media, Waves in rods, experimental and numerical methods. Examples are chosen from elasticity, blood flow, non-destructive evaluation, and other applications				
Instructors				
Name	E-mail	Section	Office Hours	Lecture Time
Prerequisites				
Prerequisites by topic				
Prerequisites by course				
Co-requisites by course				
Prerequisite for				
Topics Covered				
Week	Topics			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Evaluation				
Assessment Tools		Expected Due Date		Weight

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Contribution of Course to Meet the Professional Components									
Relationship to Student Outcomes									
SOs	1	2	3	4	5	6	7		
Availability									
Relationship to Aeronautical Engineering Program Objectives (AEPOs)									
AEPO1		AEPO2		AEPO3		AEPO4		AEPO5	
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, 2025									