The University of Jordan
School of Engineering

Department	Course Name	Course Number	Semester
Mechanical Engineering	Engineering Measurement Lab	0904424	

2019 Course Catalog Description

Experimental methods on the following systems: pressure measurement, flow measurement, temperature measurement, strain gauges, strain rosettes.

Instructors

Name	E-mail	Sec	Office Hours		Lecture Time	

Text Books

	Text book 1	Text book 2
Title	Lab manual and lecture notes	Experimental Methods for Engineers
Author(s)	Dr Jehad Yamin	J P Holman
Publisher, Year, Edition	http://fetweb.ju.edu.jo/staff/me/jyamin/index.html	McGrawHill, 2012, 8th Ed.

References

Books	Experimental Methods for Engineers
Journals	
Internet links	

Prerequisites

Prerequisites by topic	Uncertainty propagation, Bernoulli equation, Strain gauge, Whetstone circuit
Prerequisites by course	Engineering Measurement (0904422)
Co-requisites by course	
Prerequisite for	

Topics Covered

Week	Topics	Chapter in Text	Sections
1	How to write a report.		
2	Surface Straightness Measurement.		
3	Surface Roughness Measurement.		
4	Flow Measurement and calibration.		
5	Temperature Measurement.		
6	Strain Gauges.		
7	Linear Measurement.		
8	Block Gauges.		
9	Power and Torque measurement.		

Mapping of Course Outcomes to ABET Student Outcomes

SOs	Course Outcomes
5	1. An ability to function effectively on a team through experiment conducting and report writing.
6	2. Ability to conduct experiments to measure surface straightness, surface roughness, flow rate, temperature, strain, power, and torque. 3. Analyze and interpret results, and draw proper conclusions.

Evaluation

Assessment Tools	Expected Due Date	Weight
Reports		20%
Quizzes		10%
Midterm Exam		30%
Final Exam		40%

Contribution of Course to Meet the Professional Components

This course will expose the students to various sensors and measurement instruments needed for his projects in other courses as well as his graduation project.

Relationship to Student Outcomes

SOs	1	2	3	4	5	6	7
Availability					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, 2024