Jordan University of Science and Technology

Faculty of Engineering

Aeronautical Engineering Department

AE370 Instrumentation - JNQF Level: 7
Second Semester 2023-2024

Course Catalog
3 Credit Hours. Analysis of experimental data. Statistical methods in instrumentation, Basic electronic measurement and sensing devices, Displacement, area, force , torque, pressure, strain, fluid flow, temperature, and thermal and transport properties measurements
Teaching Method: Blended

Text Book	
Title	Instrumentation for Engineering Measurements
Author(s)	James W. Dally
Edition	2nd Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Experimental Methods for Engineers	J. P. Holman	8th Edition	

Instructor	
Name	**Dr. KHALED ALJANAIDEH**
Office Location	-
Office Hours	
Email	kfaljanaideh@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue : 12:30 - 13:30
Room: E2008

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
243032	EE303 Principles Of Electrical Engineering (Non Ee-Students)	Prerequisite / Study
713410	AE341 Fluid Mechanics	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2, 3	Applications of electronic instrumentation systems	From **1**
Weeks 4, 5	Analysis of circuits, Analog Recording instruments	From **1**
Weeks 6, 7	Sensors for transducers	From **1**
Weeks 8, 9, 10	Signal Conditioning circuits	From **1**
Weeks 11, 12	Resistance-Type strain gages	From **1**
Week 13	Force, torque and pressure measurements	From **1**
Week 14	Displacement, Velocity, and acceleration measurements	From **1**
Week 15	Temperature measurements	From **1**
Week 16	Fluid flow measurements	From **1**
Weeks 2, 3, 4, 5, 6, 7, 8, 9, 10	Statistical methods (online lectures)	From **1**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
To be familiar with applications of electronic instrumentation systems [100SO1] [100L7K1]	10%	
To be able to perform statistical analysis of experimental data [100SO6] [100L7S3]	20%	
Analyze circuits used in instrumentation systems [100SO1] [100L7K1]	10%	
Evaluate and understand components of instrumentation systems such as analog recording instruments, data acquisition systems, signal conditioning circuits [100SO2] [100L7S1]	20%	
Applications and analysis of resistance-type strain gages [100SO2] [100L7S1]	20%	
Understand design and analysis of displacement, velocity, acceleration, force, torque, pressure, temperature, and fluid flow measurements [100SO2] [100L7S1]	20%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
20	60				20	

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S1	L7S3
20	60	20

Evaluation	
Assessment Tool	**Weight**
First Exam	30%
Second Exam	30%
Final Exam	40%

Policy	
Attendance Policy	- The attendance is mandatory. Any student who miss 20% of the class will be barred from class.

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