Jordan University of Science and Technology

Faculty of Engineering

Mechanical Engineering Department

ME320 Fundamentals Of Electronics And Digital Logic - JNQF Level: 7
Second Semester 2023-2024

Course Catalog
3 Credit Hours. Provide electronic and digital Systems Fundamentals for mechatronics systems; Diodes, transistors, operational amplifiers and A/D and D/A conversion introduction to digital logic systems including; combinational and sequential logic and slip-flops with the application.
Teaching Method: On Campus

Text Book	
Title	Introduction to Mechatronics and Measurements Systems
Author(s)	, by David G. Alciatore, Michael B. Histand
Edition	4th Edition
Short Name	Text Book
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Mechatronics: Electronic control systems in mechanical and electrical engineering	W. Bolton, Pearson.	6th Edition	

Instructor	
Name	**Mrs. Maysa Khaleel**
Office Location	-
Office Hours	
Email	mfkhaleel@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue, Thu : 12:30 - 13:30
Room: M5126

Section 2:
Lecture Time: Mon, Wed : 11:30 - 13:00
Room: CH2107

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

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	General Principles	From **Text Book**, From **Ref #1**
Weeks 2, 3, 4	Electric Circuits and Components.	From **Text Book**
Weeks 4, 5, 6	Semiconductor Electronics.	From **Text Book**, From **Ref #1**
Weeks 7, 8	Analog Signal Processing Using Operational Amplifiers.	From **Text Book**
Weeks 10, 11, 12	Digital Circuits.	From **Text Book**
Week 13	Sensors	From **Text Book**, From **Ref #1**
Week 14	Actuators	From **Text Book**, From **Ref #1**
Week 15	Final Exam	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Analyze electric and semiconductors circuits and their components. [1SO1] [1L7S1]	25%	Exam 1
Use operational amplifiers to process analog signals. [1SO1] [1L7S2]	15%	Exam 2
Analyze the digital circuits and use them in mechatronics systems. [1SO1] [1L7S1]	30%	Exam 2, Final Exam
Design of analog, digital, and operational amplifier circuits. [1SO2, 1SO5] [1L7S1, 1L7S3]	30%	Project, Final Exam

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
70	15			15		

Relationship to NQF Outcomes (Out of 100%)		
L7S1	L7S2	L7S3
70	15	15

Evaluation	
Assessment Tool	**Weight**
Exam 1	20%
Exam 2	20%
Project	10%
HWs	10%
Final Exam	40%

Policy	
Evaluation:	1st Exam : 20% 2nd Exam : 20% Assignments and Projects : 20 % Final Exam : 40 %

Date Printed: 2024-03-17