Jordan University of Science and Technology
Faculty of Computer & Information Technology
Network Engineering And Security Department

NES545 The Internet Of Things
First Semester 2021-2022

Course Catalog
3 Credit Hours. This course covers the essentials of the Internet-of-Things (IoT) and its technologies and protocols, in addition to tools, equipment, and software used with it. The course also includes fun hands-on activities to model securely connecting sensors to cloud services over IP networks and collecting data in IoT end systems.

Text Book	
Title	Cisco Academy Course Material
Author(s)	Cisco Academy
Edition	2nd Edition
Short Name	Material
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Book	The Era of Internet of Things: Towards a Smart World	Khaled Salah Mohamed	1st Edition	
Lab. Material	Lab. Experiments	Cisco Academy	2nd Edition	

Instructor	
Name	**Prof. Fahed Awad**
Office Location	E1-L3
Office Hours	Sun : 12:00 - 13:30 Mon : 11:30 - 13:00 Tue : 12:15 - 13:45 Wed : 11:45 - 13:15

Email	fhawad@just.edu.jo

Class Schedule & Room

Section 1:
  Lecture Time: Mon, Wed : 10:00 - 11:30
  Room: NES02-E1L3

Section 2:
  Lecture Time: Mon, Wed : 08:30 - 10:00
  Room: NES02-E1L3

Prerequisites

Line Number	Course Name	Prerequisite Type
1754410	NES441 Wireless Networks	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Things and Connections	From **Material**, From **Book**
Weeks 3, 4	Sensors, Actuators, and Microcontrollers	From **Material**, From **Lab. Material**
Weeks 5, 6, 7	Software is Everywhere	From **Material**, From **Lab. Material**
Weeks 8, 9, 10	Networks, Fog and Cloud Computing	From **Material**, From **Lab. Material**
Weeks 11, 12, 13	Digitization of the Business	From **Material**, From **Lab. Material**
Weeks 14, 15	Create an IoT Solution	From **Material**, From **Lab. Material**

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Analyze the things and connections that make up the IoT. [1SO1]	15%	
Build sensor/actuator systems using the Arduino microcontroller. [1SO5, 1SO6]	15%	
Create programs that provide IoT functionality to the Raspberry Pi single-board computer. [1SO6]	25%	
Create an end-to-end IoT system. [1SO1, 1SO2]	25%	
Design an IoT system that can solve problems in manufacturing, healthcare, or energy systems. [1SO1, 1SO2]	20%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
37.50	22.50			7.50	32.50	

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