

## IREEDER Technologies Workshops

### Day One: IoT Workshop (Monday, 1<sup>st</sup> Aug 2022)

Time	Topic	Material	Presenter (s)
08:00-08:30	General Introduction to IREEDER project		Eng. Samer Sartawi
08:30-09:30	Introduction to IoT	Definition of IoT	Eng. Huthaifah AlKhashashneh
		Enabling Technology of IoT	
		IoT Architecture	
		IoT challenges	
		IoT Applications	
09:30-10:30	IoT Microcontrollers, Sensors for Data Acquisition and Actuators	Microcontrollers	Eng. Samer Sartawi
		Real time system	
		Embedded software	
10:30-11:30	Basic Programming and IoT IDE	Programming Fundamental	Eng. Samer Sartawi
		Integrated Development Environment (IDE)	
11:30-12:00	Coffee Break		
12:00-15:30	Practical work	IoT application Using Raspberry Pi	Eng. Samer Sartawi
		IoT application Using Arduino part 1	Eng. Huthaifah AlKhashashneh
		IoT application Using Arduino part 2	
15:30-16:00	Closing Session		

### Day Two: RE Workshop (Tuesday, 2<sup>nd</sup> Aug 2022)

Time	Topic	Material	Presenter (s)
08:00-08:30	General Introduction to IREEDER project		Eng. Lina Alkhateeb
8:30-10:00	Introduction to RE	Definition Of Solar Energy	Eng Nessreen Al-zboon
		Structure And Design Of A Solar Photovoltaic Power Plant	
		Introduction To Wind Energy	
		Structure And Characteristics Of Wind Turbines And Wind Power Plants	Eng Azad Otoum
		Structure And Characteristics Of Wind Generators Used In Wind Power Plants	
10:00-11:00	Hydrogen Fuel Cell	Structure And Design Of Hydrogen Fuel Cell	Eng. Lina Alkhateeb
11:00-11:30	Coffee Break		
11:30-15:30	Practical work	Overview Of RE Lab: Remote Lab Access	Eng Nessreen Al-zboon Eng Azad Otoum Eng. Lina Alkhateeb
		Study Of Photovoltaic Solar Panels	
		Operation Of The Solar Power Station In Battery Charging Mode	
		Autonomous Operation Of A Solar Power Plant Supplying A Load	
		Characteristics Of Electrical Loads Of Wind Power Plants	
		Characteristics Of Wind Power Plants In Battery Charging Mode	
		Characteristics Of Off-Grid Wind Power Plant Supplying The Load	
		Characteristics Of The Fuel Cell	
15:30-16:00	Closing Session		

### Day Three: Cyber Security Workshop (Wednesday, 3rd Aug 2022)

Time	Topic	Material	Presenter (s)
08:00-08:30	General introduction to the workshop IREEDER project overview		Eng. Rasha Fraihat
08:30-9:30	Introduction to Cyber Basic concepts	Introduction to Cyber Security and Information Security, Malware Types	Eng. Walaa Araydah
9:30-10:30		Attacks Types and social Engineering principles	Eng. Samah Jaradat
10:30- 11:30		Threat Actor Type	Eng. Rasha Fraihat
11:30-12:30	Security Control	How to protect your data	Eng. Rasha Fraihat
12:30-13:00	Coffee Break		
13:00-15:30	Practical work	Overview of Cyber lab: Remote Lab Access	Eng. Walaa Araydah Eng. Samah Jaradat Eng. Rasha Fraihat
		Virtualization (Virtual Machines (VM) Lab Architecture)	
		Cloud	
		Password Cracking	
		Security Engineering Models	
		Controls and Vulnerabilities	
13:30 – 16:00	Closing Session		