

# **11. WIRELESS NETWORKING**

**School of Education**  
**Faculty of Social Sciences and Humanities**

# Introduction to Wireless Technology

# Introduction to Wireless Technology

- Wireless technology refers to technology that allows us to communicate without using cables or wires.
- People and devices can communicate over a long distances.
- Wireless technology includes **RF** (radio frequency) and **IR** (infrared) waves.

# Introduction to Wireless Technology

## The radio, TV, and satellites

- During the 20th century, many types of wireless technologies emerged.
- The radio, which Marconi invented, and television, for example, receive broadcast communications without using wires.
- Satellites are also examples of wireless technology.

# Introduction to Wireless Technology

## Wireless technology today

- Most people today relate desktops, laptops, tablets, smartphones, and modems (routers) to wireless technology.

# **Institute of Electrical And Electronics Engineers (IEEE) Standards**

# Institute of Electrical And Electronics Engineers (IEEE) Standards

- IEEE stands for the "Institute of Electrical and Electronics Engineers".
- It is a professional association that develops, defines, and reviews electronics and computer science standards.

# Institute of Electrical And Electronics Engineers (IEEE) Standards

- The history of the IEEE dates back to the 1800s, when electricity started to influence society.
- In 1884, the AIEE (American Institute of Electrical Engineers) was formed to support electrical innovation.
- In 1912, the IRE (Institute of Radio Engineers) was created to develop wireless telegraphy standards.

# Institute of Electrical And Electronics Engineers (IEEE) Standards

- In 1963, the two organizations merged to become a single entity – the IEEE.
- Since then, the organization has established thousands of standards for consumer electronics, computers, and telecommunications.

# Institute of Electrical And Electronics Engineers (IEEE) Standards

- While the Institute of Electrical and Electronics Engineers is based in the United States, IEEE standards often become international standards.
- The following are a few examples of technologies standardized by the IEEE.

# Institute of Electrical And Electronics Engineers (IEEE) Standards

- **IEEE 1284** (Parallel Port) – an I/O interface used by early desktop PCs
- **IEEE 1394** (Firewire) – a high-speed interface designed for external hard drives, digital video cameras, and other A/V peripherals
- **IEEE 802.11** (Wi-Fi) – a series of Wi-Fi standards used for wireless networking
- **IEEE 802.16** (WiMAX) – a wireless communications standard for transferring cellular data

# Wireless Network Applications

# Wireless Network Applications

- A wireless network provides a network without the use of wires because by using it you can connect your computer to the network using radio waves and can move your computer anywhere.
- A wireless network is extremely portable because of its digital modulation, adaptive modulation, information compression, and access multiplexing.

# Wireless Network Applications

- Wireless networks are classified into different type such as wireless LAN, WAN, MAN, PAN, Hybrid, Ad-Hoc networks.