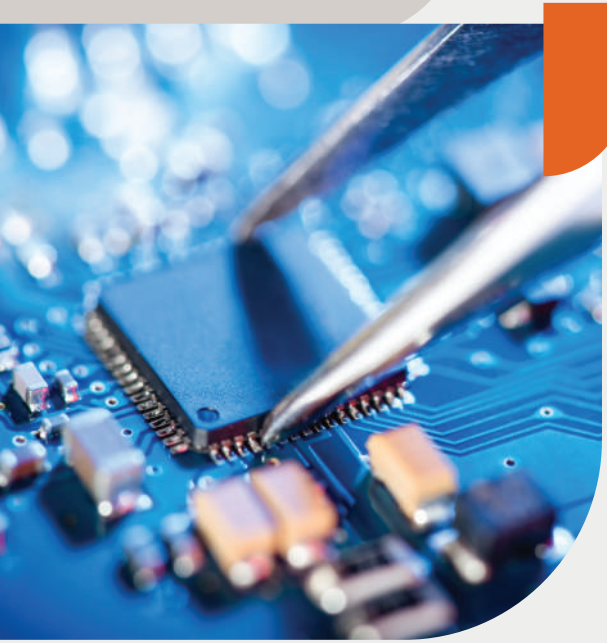


Yarmouk University

**Hijjawi Faculty for Engineering Technology**

## Department of Electronics Engineering

# Bachelor of Electronics and Robotics Engineering

## Program Overview

### Brief introduction

The Electronics and Robotics Engineering program at the Hijjawi Faculty for Engineering Technology is an interdisciplinary program that integrates principles of electronic engineering, computer science, and mechanical engineering to design and develop advanced robotic systems. The program aims to prepare students to develop intelligent machines and electronic systems capable of operating independently or with minimal supervision. The focus is on providing innovative solutions to engineering challenges in various fields, such as industry, healthcare, and transportation.

### Academic and practical goals

• Enabling students to understand and apply the principles of electronic engineering and robotics.

• Enhancing students' skills in designing intelligent systems that integrate electronics, programming, and mechanical engineering.

• Preparing graduates with the ability to innovate in the design of modern robotic systems.

### Learning Outcomes

Upon completing this program, graduates will be able to:

• Design and develop advanced robotic systems.

• Apply the principles of electronic and mechanical engineering to improve the performance of intelligent systems.

• Utilize programming and control tools in the development of smart machines.

• Solve complex engineering problems using the latest technologies in the fields of robotics and electronics.

• Develop intelligent solutions for industrial and medical problems using robotics.

## Career Opportunities

### Available job opportunities

Graduates of the Electronics and Robotics Engineering program can find career opportunities in the following fields:

**1. Industrial Engineering and Robotics**

• Robotics Engineer: Designing and developing robotic systems for use in industry, healthcare, and other fields.

• Control Systems Engineer: Developing intelligent control systems for robotics and embedded systems.

**2. Electronics and Embedded Systems**

• Electronics Engineer: Designing advanced electronic systems.

• Embedded Systems Engineer: Developing and designing embedded systems that interact with the surrounding environment.

**3. Smart Technologies and Software Development**

• Robotics Software Developer: Designing software to control robotic systems.

• Intelligent Systems Engineer: Developing intelligent systems that integrate electronics and software.

**4. Medical Engineering**

• Medical Robotics Engineer: Developing robots that assist in surgical operations and healthcare.

• Medical Systems Engineer: Developing systems that contribute to advancing healthcare technology.

## Learning Environment and Facilities

### Laboratories and facilities

The Department of Electronics Engineering currently boasts nine laboratories equipped with electronic devices and various components used for practical applications in electronics experiments, integrated circuits, electronic maintenance, design and manufacturing, engineering drawing, digital electronics, microchips, and microcontrollers. Recently, proposals have been developed to establish new laboratories in the fields of the Internet of Things (IoT), robotic systems, and mobile robots. These proposals are expected to be implemented, and the necessary equipment will be purchased during 2025 to be used in the practical application of robotics laboratories.

## Overview of the Study Plan

The Electronics and Robotics Engineering program consists of 167 credit hours, which include a diverse range of courses covering foundational knowledge in mathematics and sciences, as well as core engineering principles in electrical engineering. The program also offers specialized courses in electronics and robotics engineering, alongside numerous practical laboratories, workshops, engineering drawing courses, and two capstone projects, in addition to field training.

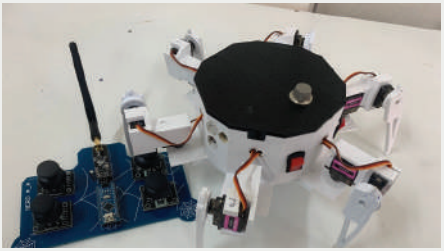
Foreign language courses have been incorporated to enhance the employability of graduates, offering them better opportunities in companies and universities outside of Jordan.

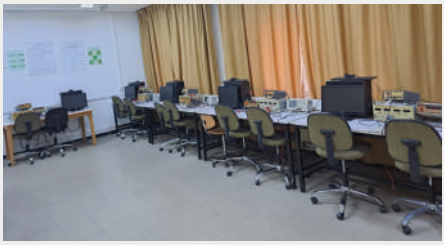
The program's curriculum is rich and comprehensive, providing a solid foundation for producing highly skilled engineers, well-prepared to enter the workforce and actively contribute to the advancement of industry and technology after graduation.

## Accreditation and Quality

### Academic accreditations

ABET Accreditation





## Contact Information

+962 - 2 - 7211111 Ext. 4339 +962 - 2 - 7211192 electronics.dept@yu.edu.jo