



Yarmouk University

Hijjawi Faculty for Engineering Technology

Department of Communication Engineering

Bachelor of Communication Engineering

Program Overview

Brief introduction

The Bachelor's Program in Communication Engineering focuses on both theoretical and practical aspects of communication engineering, aiming to supply the local and international job markets with highly qualified engineers possessing comprehensive and in-depth knowledge in various fields of communication engineering.

Vision of the Bachelor's Program in Communication Engineering

To become the preferred choice for ambitious students at the national and regional levels who aspire to study communication engineering, aiming to serve society and the telecommunications and information technology industry or to pursue postgraduate studies and research at a global level.

Mission of the Bachelor's Program in Communication Engineering

To become the preferred choice To professionally prepare communication engineering graduates capable of fulfilling society's technological needs and excel in communication engineering. Graduates equipped with high technical, practical, ethical, and communication skills for lifelong creativity to serve the communication industry, government, and society in Jordan and the region as well as the scientific community worldwide.

Academic and practical goals

- Enable graduates to secure successful careers in communication engineering to serve local and international industries.
- Equip graduates with practical knowledge to work professionally in various fields of communication engineering in the global market.
- Develop interpersonal skills in graduates to thrive in multidisciplinary environments while maintaining awareness of ethical and social responsibilities.
- Foster lifelong learning and skill development in graduates, enabling them to conduct innovative research in postgraduate studies related to communication engineering and allied fields.

Importance of the program and its role in the job market

Communication Engineering is one of the essential and vital disciplines in the era of digital technology, contributing directly to the development of wired and wireless communication networks and enhancing the quality of digital services. Communication engineers play a pivotal role in designing and building the infrastructure of internet and mobile communication networks, including 5G networks and the Internet of Things (IoT), facilitating global connectivity and boosting productivity across various sectors.

Communication engineering is not merely an academic discipline; it is the foundation of modern digital infrastructure, a key driver of economic growth, and a means to foster innovation in an interconnected world.

Career Opportunities

Available job opportunities

• Working in telecommunications companies such as Zain, Orange, and Umniah, or internet service providers.

• Working in companies developing wireless communication technologies such as 5G networks and the Internet of Things (IoT), including Huawei, Ericsson, and Nokia.

• Working in space agencies, such as national space authorities, or satellite companies like SES.

• Working in companies specializing in the design and manufacturing of antennas used in communications and radar systems.

- Working in companies specializing in information and communication security.
- Working in companies focused on computer and data networks, such as Microsoft and Amazon Web Services (AWS).

• Engaging in the development of artificial intelligence applications or working in software development companies.

• Providing technical consulting in telecommunications projects or training staff on modern communication systems.

• Working in academia as university lecturers or participating in research related to communications and its technologies.

• Supporting navigation communication systems in airports.

• Contributing to the military communications sector by developing secure and encrypted communication systems.

Sectors where graduates can work

- Government sector.
- Military sector.
- Private sector.
- Education sector.
- Transportation sector

Success stories of graduates

Eng. Mothanna Gharaibeh, a graduate of the Communication Engineering Department at Yarmouk University, is one of the most prominent figures in technology and communications both locally and internationally. After graduating, he demonstrated exceptional proficiency in technical and managerial roles, holding several distinguished leadership positions, including his appointment as Jordan's Minister of Digital Economy and Entrepreneurship. Currently, he serves as the Minister of Investment in Jordan.

Gharaibeh has excelled in leading technological initiatives and driving digital transformation. He worked on developing Jordan's telecommunications and information technology sector, supporting startups, and fostering an environment of innovation and entrepreneurship. He also contributed to enhancing digital infrastructure and advancing the digital economy in alignment with global demands.

This success story reflects the vision of the graduates of the Communication Engineering Department at the Hijjawi Faculty for Engineering Technology at Yarmouk University, showcasing their ability to make a positive impact on society and lead in technical and administrative fields.

Learning Environment and Facilities

Laboratories and facilities

Description of the Analog Communication Systems Lab

The Analog Communication Systems Lab provides a practical environment enabling students to perform hands-on experiments in the fundamental topics of analog communication systems. The lab covers various experiments, including amplitude modulation (AM) and its demodulators, automatic gain control (AGC), superheterodyne receivers, frequency modulation (FM), and demodulation techniques. This lab offers students an opportunity to understand both the theoretical and practical aspects of these systems through integrated practical experiments.

Description of the Digital Communication Lab

The Digital Communication Lab focuses on providing students with practical training in advanced digital communication techniques. The lab includes diverse experiments such as

sampling techniques, time-division multiplexing (TDM), pulse code modulation (PCM) and demodulation, delta modulation, and sigma-delta modulation. It also covers digital modulation systems like ASK, PSK, FSK, carrier generation, and experiments on coded transmission and reception. This lab offers a practical environment to understand the real-world applications of these techniques.

Description of the Digital Signal Processing Lab

The Digital Signal Processing Lab focuses on applying fundamental DSP concepts using a Tiger 40 DSP card. Practical experiments in the lab include discrete-time convolution, convolution using the Discrete Fourier Transform (DFT) for linear and circular operations, inverse DFT (IDFT), computation of DFT using FFT algorithms, and inverse FFT algorithms. Additionally, the lab covers the design of digital filters, including Infinite Impulse Response (IIR) and Finite Impulse Response (FIR) filters. The lab provides students with an opportunity to enhance their skills in implementing and applying these concepts in practical scenarios.

Description of the Antennas and Microwave Lab

The Antennas and Microwave Lab offers practical training for students in antenna fundamentals and applications. The lab includes experiments on measuring basic and directive antennas, such as horn and dish antennas. It also covers microwave power measurements, voltage standing wave ratio (VSWR), and impedance measurements. Furthermore, students conduct experiments on waveguide attenuators, microwave tuners, directional couplers, series and shunt tees, as well as microwave detectors and mixers. The lab also includes measurements of circularly polarized antennas and the design and measurement of microstrip patch antennas, providing hands-on experience in modern antenna and microwave systems.

Overview of the Study Plan

The curriculum of the program has been carefully designed to ensure that students are provided with specialized and advanced topics in the field of communication engineering, including:

- Wireless communication systems.
- Mobile communication systems.

- Satellite communications.
- Microwave and antenna technologies.
- Fiber optic communications.
- Radar systems and wireless sensor networks.
- Data communications and computer networks.
- Digital signal processing and other advanced areas in communication engineering and information technology.

Additionally, language courses have been incorporated into the program, allowing students to learn a language of their choice, such as French, German, Spanish, Turkish, or Chinese, during their studies in the communication engineering program.

Accreditation and Quality

Academic accreditations

The program is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Electrical, Computer, Communications, and Telecommunications Engineering Program Criteria.















Contact Information –

🕓 +962 - 2 - 7211111 Ext. 4539 😑 +962 - 2 - 7211192 🧧 Communications.dept@yu.edu.jo