APPROVED

Diploma of Engineering Technology (Communications and Networks)

Faculty of EDICT (Engineering,Design and ICT)

Programme Title (Arabic)	الدبلوم في تقنية الهندسة (تخصص هندسة الإتصالات والشبكات)				
Acronym / Abbreviation *	DipEngTech (Communications and Networks)				
Nature	Embedded Qualification				
Programme Code	ENT6060	**Programme Duration**	2 Year/Cycle	**Programme Level**	Level 6
Programme Credits	240	**Award Category**	Diploma		
Effective From	2023/2024 Sem 1 as of (August 2025)				
Owner	School of Engineering				

Professional Body

Professional Body	*Recognition Status*	*Effective From*	*Interim Date*	*Professional Bodies*	*Contact Person*	*Evidence*
Employability Skills	Yes	04/01/2021				

Target Groups *
High School Graduates
International Students
People in Employment
Unemployed

Qualification Completion Requirements Criteria	Awarded where candidates have met all of the requirements below: • Successful completion of, or exemption from, all courses listed in Schedule A group of courses. • Completion of work experience. • Completion of National Requirements.
	This Diploma Qualifications are designed and delivered in such a way, after extensive interaction with the Bahrain Engineering Industry and Society and Curriculum Advisory Group (CAG) in order to provide work-ready engineering technology graduates. The graduates will acquire technical knowledge in their respective fields, specialized practical skills, and valuable employability skills that will allow them to provide the drive for the transformation towards a knowledge-based economy in Bahrain. All Diploma Qualifications are delivered over a 2-year period consisting of 4 semesters. Students are expected to take 60 credits on average per semester and thus at the completion of their studies they should have accumulated a total of 240 credits. In those 240 credits, 15 credits of National Requirements courses, 30 credits of English courses and the remaining 195

Programme Overview *	credits are taken from Core and Specialized Engineering Courses. Additionally, the students are required to complete work placement days as per requirements. All Qualifications share a common 1st Year with courses that lay the foundations of Engineering Technology and provide the students with the required knowledge to succeed in their chosen specialization. The uniqueness of the Diploma qualifications at Bahrain Polytechnic is the strong commitment of the Institution to deliver these qualifications using student-centered learning and more specifically, the Problem-Based Learning (PBL) Methodology. Using this learning methodology, allows us to provide the required theoretical knowledge, practical skills and employability skills to our graduates and thus achieve our mission of producing enterprising and work-ready graduates for the Bahrain Society and Economy. The PBL methodology is implemented through the design of appropriate assignments that motivate the students to provide a solution to an Engineering design and/or analysis problem. Students are required to complete lab experiments, software practical assignments, design projects, controlled assignments such as theory tests and to provide rational justification for their work through the preparation of technical reports, presentations and posters. The theoretical knowledge given to the students is provided through a balanced combination of lectures, tutorials, experimental work, project work and one-to-one supervision with Faculty members.
Entry and Selection *	General entry requirements such as secondary school achievements, English and Mathematics are described in the Student Admission Policy A/AB/010. Specific entry requirements for this programme, beyond those described in the Student Admission Policy are as follows: Academic Successful completion of • AP4203 English 2 • AP4102 Mathematics 2 (Technical) or Passing English and Mathematics selection tests at the required level or equivalent.
Selection and Criteria and Process *	Where there are more applicants who meet the programme entry criteria than can be accepted, the following shall be used: Selection Criteria: • Results from programme entry tests. • Work experience and prior educational achievement. Selection Process: Applicants may be required to attend an interview.
Major Selection Criteria *	N.A

Accreditation / External Approval Requirements *	This programme has gone through an external validation process where the curriculum has been discussed with Academic and Industry partners locally and internationally.
Attendance Requirements *	Attendance requirements are described in the policy Student Attendance A/AB/006.
Qualification Overview *	The Diploma in Communications and Networks Engineering Technology qualification is a multi-disciplinary and technically strong qualification that aims to equip students with the necessary skills to meet industry needs, nationally, regionally and internationally. The qualification has a combination of Electronics, Communications and Networking engineering knowledge and skills upon which graduates can build to meet the needs of a wide range of fields and industries locally and regionally. There is emphasis on signal and systems, networking, wireless communications, computer networking and wave propagation and antennas. Students gain detailed theoretical knowledge and specialist practical skills in the areas of Communications (electromagnetism, wireless communications, digital communication), wave propagation, signal and systems (random and applied), signal processing, circuit analysis, digital devices and systems, UNIX systems, networks and communication, computer networking and engineering project management. Students are introduced to software packages Matlab and LabView and current communications and networks platforms which are used extensively throughout the programme. During the networking major courses students design, install and troubleshoot network installations and are exposed to many technologies that are used to operate LAN and WAN infrastructures.
Qualification Aim *	The aim of this qualification is to provide students with a comprehensive set of skills for employment as engineering technologists (an engineering technologist is defined by the Sydney Accord as being competent at analysing, solving, managing and taking responsibility for broadly-defined engineering problems and activities). The qualification will provide students with: • theoretical and practical skills to solve engineering problems and design engineering systems in the broad area of electrical and mechanical engineering, Mechanics, Thermodynamics, Fluid Mechanics, Control engineering systems, Power Systems, Electrical Machines and drives and Electromechanical Design of installation systems for the industry and Building Services Sector. • Skills necessary for effective communication, analysis, teamwork, documentation and evaluation of systems through the inclusion of courses in English language, mathematics, applied project, ethics and social responsibility.
	This qualification equips graduates to start their engineering career as an engineering technicians. Future roles include production technician, maintenance technician, sales technician, project technician or quality assurance technician, and ultimately into engineering, and management positions in technology-focused organisations. • Telecommunications and networking service • TV and satellite services • Project management technician • Computer network • Embedded systems technician

Graduate Pathways and Destination *	• Test analyst, • Design technician • IT Industries • Reliability and Maintenance engineering • Electronics systems operation and maintenance. Graduates from the Diploma in Engineering Technology (Communication and Networks) who wish to continue their studies may apply to any university for admission into their programme according to their admission criteria. The diploma graduates will be accepted in the BEngTech (Communication and Networks) programs of Bahrain Polytechnic according to admission policies and procedures.
Other Information *	Work Experience Requirements: • Students are required to complete work experience in approved engineering companies. This work experience will normally be carried out during the academic year and Academic Break. • Work experience will normally be arranged by the Faculty, but students can also apply to obtain work placement on their own. • Records of attendance will be maintained at the workplace and forwarded to the Faculty following each work experience period. • Work placements must be approved by the Programme Manager and the Head of School and involve the student in activity that will contribute to the student's knowledge of the engineering technology industry. • To have the work experience credited, each student must also complete a work-placement logbook describing the work performed and the practices observed during each period of work experience along with an evaluation of the employability skills obtained by the work supervisor. Exemption from work experience requirements: • Students may be given partial or total exemption from the work experience requirements if they have completed appropriate alternative work experience. • Applications for exemption must be made in writing to the Programme Manager. • Supporting evidence and information (e.g. certificates awarded and workbooks or other evidence of work performed) must be submitted with the application.

Programme Learning Outcomes

On successful completion of this programme the learner will be able to :

Description
Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to deal with defined and applied engineering procedures, processes, systems or methodologies.
Identify, formulate, research literature and solve broadly-defined engineering problems reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialization.
Demonstrate commitment to professional ethics, responsibilities and norms of engineering technology practice.
Recognize the impact of engineering solutions in a societal context and demonstrate knowledge of the need for sustainable development.
Design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for cost factors, public health and safety, cultural, societal, and environmental cons
Conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
Select and apply appropriate techniques, resources, and modern engineering tools, including prediction and modeling tools, to broadly-defined engineering activities, with an understanding of their limitations.
Practice as a professional using 21st century skills
Solve practical problems in networks, signal processing and telecommunication systems using sound analytical, industrial, laboratory, and time-management skills.
Work with computers and determine their place and importance in an engineering environment

Semester Schedules

Year 1 / Semester 1

Core	
Course Code	**Title**
EN6000	**Electrical Fundamentals**
EN6990	**Engineering Practice**
EL6001	**English for EDICT 3**
EN6907	**Mathematics for Engineers 1**

Year 1 / Semester 2

Core	
Course Code	**Title**
EN6010	**Engineering Computing Fundamentals**
EL6002	**English for EDICT 4**
EN6914	**Mathematics for Engineers 2**
EN6903	**Mechanical Fundamentals**

Year 2 / Semester 1

Core	
Course Code	**Title**
EN6080	**Alternating Current (AC) Circuit theory**
NR	**National Requirements**
NR-Arabic	**National Requirements- Arabic**
IT6003	**Networks and Data Communications**
IT6004	**Unix Systems**

Year 2 / Semester 2

Core	
Course Code	**Title**
ED7000	**Applied Project**
EN6020	**Digital Devices and Systems**
EN0003	**Industry Placement (Diploma)**
IT7003	**Networking and Data Communications 2**
EN7003	**Random Signals and Systems**