APPROVED

Bachelor of Engineering Technology (Civil)

Faculty of EDICT (Engineering,Design and ICT)

Programme Title (Arabic)	البكالوريوس في تقنية الهندسة (الهندسة المدنية)				
Acronym / Abbreviation *	BEngTech Civil				
Nature	Major				
Programme Code	ENT8080	**Programme Duration**	4 Year/Cycle	**Programme Level**	Level 8
Programme Credits	480	**Award Category**	Bachelors		
Effective From	2023/2024 Sem 1				
Owner	School of Engineering				

Professional Body

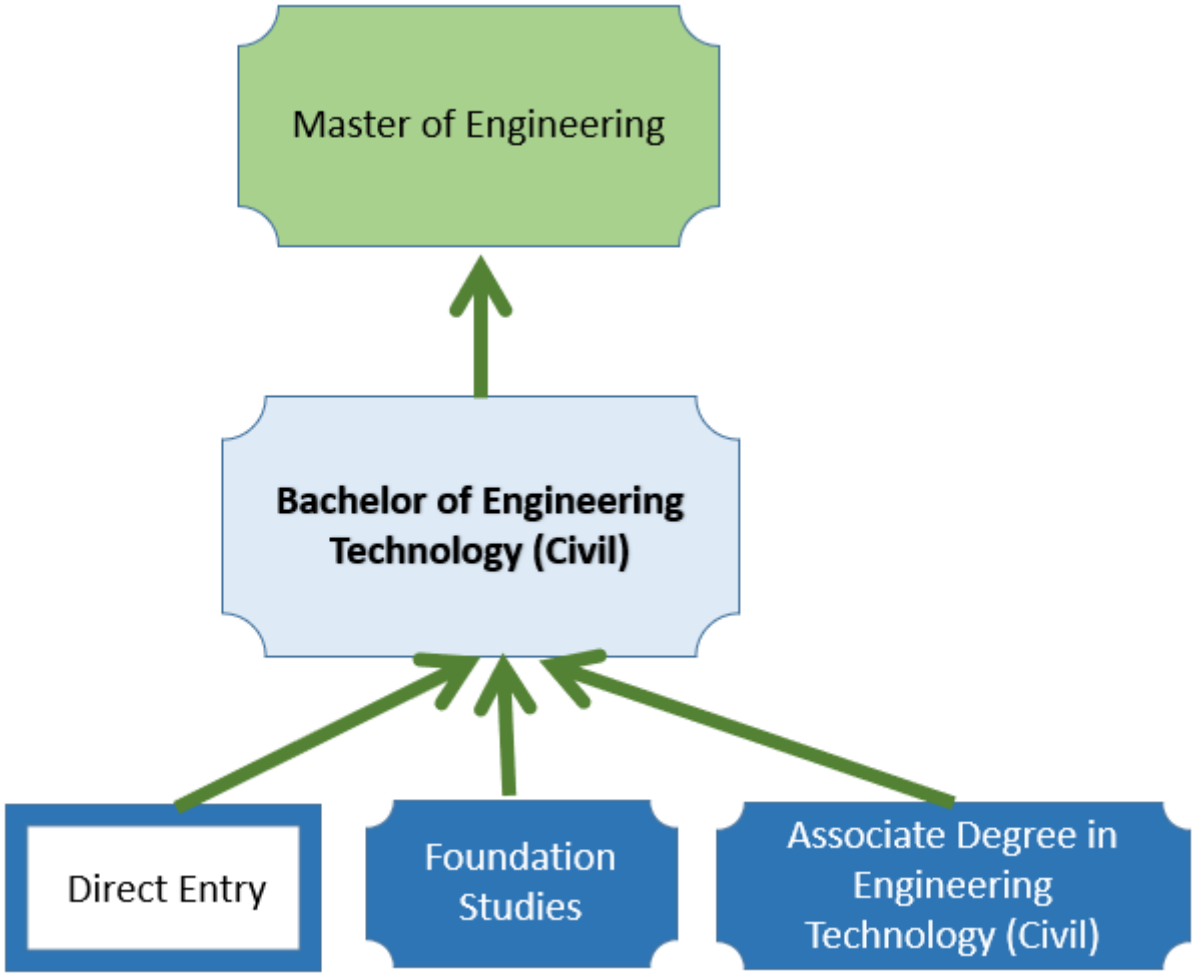
Professional Body	*Recognition Status*	*Effective From*	*Interim Date*	*Professional Bodies*	*Contact Person*	*Evidence*
Employability Skills	Yes	10/11/2022		Employability Skills		

Target Groups *
High School Graduates
International Students
People in Employment
Unemployed
Bahrain Polytechnic students from another programme

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 and Schedule B • Successful completion of 30 credits of Engineering Project (EN8911 or EN8914) • Successful completion of 15 credits of non-faculty electives (non-EDICTE) and 30 credits of faculty electives (EDICTE) • Achievement of 15 credits National Requirement and National Requirement-Arabic courses • Completion of courses to accumulate a total of 480 credits • Completion of 80 days of work experience
	The Bachelor of Engineering Technology Programme at Bahrain Polytechnic is currently composed of six majors; Mechanical, Electronics, Electrical, Electromechanical, Chemical engineering and the Communications and Networks, all placed at NQF level 8. The Civil Engineering major is proposed to be added to the existing majors. Engineering Technology (Civil) will be in three levels - the Bachelor's degree with 480 credits, Associate degree with 360 credits and Diploma level with 240 credits placed at NQF level 8, NQF level 7 and NQF

Programme Overview *	level 6, respectively. The Bachelor of Engineering Technology (Civil) qualification is delivered over a 4-year period consisting of 8 semesters. Students are expected to take 60 credits on average per semester. All majors 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. There exist 15 credits of non-faculty elective courses, 15 credits of National Requirements courses and 30 credits of English courses. BEng Technology (Civil) is composed of 195 credits of General Engineering courses, 195 credits of Core - Specialized Civil Engineering courses, 15 credits Non-EDICT electives and 30 credits EDICT electives as provided in the programme structure. Additionally, the students are required to complete a total of 80 work-placement days. The BEngTech qualification is designed and delivered, after extensive interaction with the Bahrain engineering environment and society, in order to provide work-ready engineering technology graduates. The graduates will acquire advanced technical knowledge in their respective fields, specialized applied skills and valuable employability skills that will allow them to provide the drive for the transformation towards a knowledge-based economy in Bahrain. The uniqueness of the BEngTech qualification at Bahrain Polytechnic is the strong commitment of the Institution to deliver this qualification using student-centred learning and more specifically, the Problem-Based Learning (PBL) methodology. Using this learning methodology allows the programme to provide the required theoretical knowledge, practical skills and employability skills to graduates and thus achieve the 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: • Successful completion of the Foundation Programme at Bahrain Polytechnic and demonstration of a commitment to study • Results from programme entry tests

	• Work experience and prior educational achievement Selection Process: • Applicants may be required to attend an interview.
Major Selection Criteria *	Where the number of applicants exceeds the available places the following criteria for selection apply: • First priority to students who have completed all courses in the common first year of the degree. • Second priority will be those with highest combined GPAs from EN6914 Mathematics for Engineers 2 and EN6903 Mechanical Fundamentals.
Accreditation / External Approval Requirements *	The Civil Engineering Technology qualification shall be submitted for potential IET, UK accreditation.
Attendance Requirements *	Attendance requirements are described in the policy Student Attendance A/AB/006. There are no programme-specific attendance requirements.
Qualification Overview *	The Civil Engineering qualification is a technologically-strong qualification that aims to provide for the industry needs nationally, regionally and internationally. The qualification has a wide base of Civil Engineering knowledge and skills upon which graduates can build to reflect the wide range of fields and industries that are present locally and regionally. There is emphasis on Material Science, Theory of Structures, Building Construction, and Civil Engineering Technology. Students gain advanced theoretical knowledge and specialist practical skills in the areas of Mechanics (static and Dynamic), Geo Mechanics, Hydraulics, Reinforced Concrete Design, Highway and Transportation Engineering, Engineering Project Management, Energy, Environment and Sustainability, Geotechnical Engineering, and Water Supply and Wastewater System. Students are introduced to software packages like MS Project and Auto Cad, and 3Dimensional modelling software. Auto Cad is integrated and used extensively throughout the programme. Students are given an option to explore specialisations in their final year the courses Project Proposal, Cooperative Learning project or Engineering Research Project. Students also have options for elective courses from other EDICT programmes' core courses and the programme's own elective courses of: Urban Planning and Development, Marine Civil Engineering Construction, Construction Finance, or Plastic Analysis and Design; one at level 7 and another at level 8 elective courses. Bachelor of Engineering Technology (Civil) is an applied technology qualification which will provide new opportunities for engineering students within the local and regional community. It allows students to acquire the qualification with options to progress to future pathways in Master of Engineering. The qualification is at NQF level 8 and has 480 credits over four years (eight semesters) of full-time study.
	The aim of the qualification is to provide students with a comprehensive set of engineering skills for employment as civil engineering technologists competent at analysing, solving, managing and taking responsibility for broadly defined civil engineering problems and activities. The qualification will provide students with:

Qualification Aim *	• theoretical and practical skills to solve civil engineering problems and design civil engineering systems in the broad areas of construction, geotechnical, marine and water resources, structural and transportation engineering in the built environment. • Skills necessary for effective communication, analysis, teamwork, documentation and evaluation of structures through the inclusion of courses in English language, mathematics, ICT, project management, ethics and social responsibility.
Graduate Pathways and Destination *	Graduates are able to pathway on to the following qualifications at Bahrain Polytechnic: 

Graduates are able to pathway on to the following qualifications with other Academic Institutions or Professional Bodies:

- Graduates from the Bachelor of Engineering Technology programme who wish to continue their studies may apply to any university for admission into their programme. Students who complete the qualification may progress to higher learning pathways through post-graduate certificate, post-graduate diploma, or Master's degree.

Graduates are likely to be employed using the specific skills gained in this qualification, in the following occupations:

- Architectural Draftsman
- Facility maintenance manager
- Land Surveyor
- Planning Engineer
- Design Engineer
- Structural Detailer
- Structural Engineer
- Quantity Survey Engineer
- Quality Assurance and Quality Control Engineer
- Site Engineer
- Project Manager
- Highway Engineer
- Bridge Engineer
- Geotechnical Engineer
- Environmental Engineer
- Water resources Engineer
- Marine Engineer
- Technology Manager
- Construction Manager

Other Information *

Empolyability Skills Generic Definition:

Communication	Communicate in ways that contribute to productive and harmonious relationships across employees and customers.
Team work	Work effectively independently and in collaboration with others.
Problem solving	Think critically and respond appropriately to changing needs within a growing and diversifying economy.
Initiative and enterprise	Apply resourcefulness, innovation and strategic thinking to a range of workplace situations.

Planning and organisation	Plan and manage their working lives.
Self management	Demonstrate self discipline and adaptability, and be able to plan and achieve personal and professional goals.
Learning	Understand the need for and engage with continuous learning throughout the lifespan.
Technology	Utilize information technology effectively and ethically in their personal and professional lives.

Programme Learning Outcomes

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

Description
Define, recognize and apply knowledge of mathematics, science, engineering fundamentals, and civil engineering specialisation 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 civil engineering discipline or specialisation.
Understand and commit to professional ethics, responsibilities and norms of engineering technology practice.
Understand the impact of engineering solutions in a societal context and demonstrate knowledge of the need for sustainable development.
Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice.
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 public health and safety, cultural, societal, and environmental considerations.
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 civil engineering technologists professional using 21st century skills.
Demonstrate an awareness and understanding of management and business practices, such as risk and change management, and understand their limitations.
Provide engineering solutions to the construction and built environment in global, economic, environmental, and societal contexts.
Apply techniques, skills and modern technologies in civil engineering practice to be competitive in the national and global marketplace.
Design a construction process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, constructability, and sustainability, in accordance with governing standards.

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**
EN6801	**Building Construction**
EN6904	**Engineering Graphics**
EN6902	**Engineering Mechanics 2**
NR	**National Requirements**

Optional	
Course Code	**Title**
NR-Arabic	**National Requirements- Arabic**

Year 2 / Semester 2

Core	
Course Code	**Title**
ED7000	**Applied Project**
EN6804	**Civil Engineering Works Supervision**
EN6803	**Quantity Surveying**
EN6802	**Surveying**

Year 3 / Semester 1

Core	
Course Code	**Title**
EN7806	**Civil Engineering Technology**
EN7807	**Hydraulics**
EN7805	**Theory of Structures**

Elective	
Course Code	**Title**

NEDICTE	Non-EDICT Electives

Year 3 / Semester 2

Core	
Course Code	**Title**
EN7810	Geo Mechanics
EN7809	Highway and Transportation Engineering
EN7808	Water Supply and Waste Water System

Elective	
Course Code	**Title**
EDICTE	EDICT Electives

Year 4 / Semester 1

Core	
Course Code	**Title**
EN8905	Energy, Environment and Sustainability
EN8923	Engineering Project Management
EN8913	Project Proposal
EN8813	REINFORCED CONCRETE DESIGN
EN8812	Steel Design

Year 4 / Semester 2

Core	
Course Code	**Title**
BEng Pr	Engineering Project
EN8814	GEOTECHNICAL ENGINEERING

Elective	
Course Code	**Title**
EDICTE	EDICT Electives