APPROVED

Bachelor of Information and Communications Technology (Information Systems Major)

Faculty of EDICT (Engineering,Design and ICT)

Programme Title (Arabic)	البكالوريوس في تقنية المعلومات والإتصالات (تخصص نظم المعلومات)				
Acronym / Abbreviation *	BICTIS				
Nature	Major				
Programme Code	ICT8022	**Programme Duration**	4 Year/Cycle	**Programme Level**	Level 8
Programme Credits	480	**Award Category**	Bachelors		
Effective From	2022/2023 Sem 3				
Owner	School of ICT				

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
Unemployed
Other

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

- Accumulation of at least 60 credits from courses in Schedule B

and

- Accumulation of at least 45 credits from courses in faculty (30) outside of faculty (15) electives

and

- Accumulation of 15 credits courses as National requirement.

	and • Achieve the Bahrain Polytechnic General Qualification Requirements as documented in the naming and Awarding Qualifications policy and • Completion of courses to accumulate a minimum of 480 credits from any Bahrain Polytechnic Qualification;
Programme Overview *	Bahrain Polytechnic has been established by the Bahrain Government to address the need for a skilled Bahraini workforce to support economic growth and development. To support the development of the workforce Bahrain Polytechnic aims to produce graduates in applied, professional qualifications. It is widely acknowledged that Information Technology is a key sector and enabler for growth in any modern economy. The Bachelor of ICT (BICT) programme aims to develop rounded graduates who have not only the requisite skills demanded of the 21st Century workplace but also skills in key areas of technology used in a modern ICT organisation. The BICT programme is currently divided into five main domains, Programming, Databases, Networking, Information Systems (IS), and Cyber Security (CYS) in which students can specialise and earn a qualification in. Given the rapidly changing nature of the industry, the programme's currency is maintained through the upskilling of academic staff, introduction of new courses and the solicitation of requirements from key industry and government stakeholders. The programme aims to develop core skills for its graduates in a broad range of inter-related ICT areas, initially giving students a solid ground in core computing topics and eventually building them up to be competent specialists in their chosen area. Core theories form the cornerstone of the programme, with hands-on, applied skills being developed through the Problem Based Learning (PBL) philosophy. Project work forms another cornerstone of the programme, with an emphasis on projects from the very beginning in Year 1, right through to a final capstone project in semester one of Year 4, followed by an Industry Project in the second semester. The importance of industry certification in addition to the Bachelor's degree is also emphasised. Because a significant proportion of the programme is based on industry standard technologies, students are encouraged to take extra certifications to further enhance their employment opportunities.
	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 qualification, beyond those described in the Student Admission Policy, are as follows: Applicants from secondary schools must demonstrate competence in English and in Mathematics. These requirements may be met by: • The successful completion of • AP4203 English 2 • AP4102 Mathematics 2 (Technical) or similar

Entry and Selection *	• or passing English and Mathematics Selection Tests at the required level. Moreover: - Bahrain Polytechnic foundation program graduates will be accepted in the Bachelor programs if their GPA is more than 3. - Bahrain Polytechnic diploma graduates can progress to the higher qualification (Associate Degree or Bachelor) directly if their GPA is more than 2.75 (more than 75%) - Associate Degree graduates of Bahrain Polytechnic can progress to the higher-level qualification. All the above may be accepted in the BICT programme according to the availability of seats, per academic year.
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 program of Bahrain Polytechnic and demonstration of a commitment to study. - Results from programme entry tests. - Prior educational achievement in Bahrain Polytechnic earlier steps in pathways and work experience. Selection Process - The School will determine on a yearly basis the seats available for each of the entry and selection categories - Additionally, applicants may be required to attend an interview.
	Where the number of applicants for the Information Systems Major exceeds the available places, the following criteria for selection apply:

Major Selection Criteria *	• First priority to students who have scholarship in the major. • If further selection required, rank eligible students from above by highest combined GPAs from IT6001 Computer Systems, IT6003 Networking 1 and IT6004 Unix Systems.
Accreditation / External Approval Requirements *	BCS - The Chartered Institute of IT
	Institutional attendance requirements are described in the policy Student Attendance A/AB/006. There are no programme specific attendance requirements.

Attendance Requirements *	

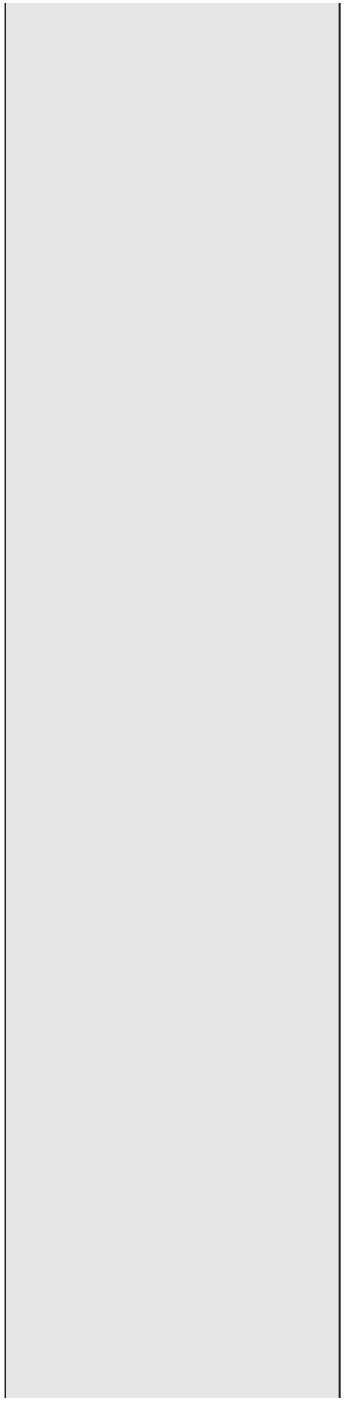
Qualification Overview *	The qualification encompasses an initial three semesters full-time academic years of study in the broad ICT disciplines at NQF levels 6 and 7, followed by five full-time academic semesters of specialist study at NQF levels 7 and 8. The intention is to build up core knowledge in a range of areas including networking, operating systems, databases and design techniques in addition to IS. After the first three semesters, the student can then specialise in information systems in areas including data capturing, processing (analysis and dissemination), infrastructure services, cloud technologies, data center management, enterprise systems and systems hosting and administration. The student also becomes familiar with standard systems management practices such as the system development life cycle (requirement analysis, market research, design, implementation, testing, administration and technical documentation). During those specialisation activities, students receive exposure to the most common enterprise services such as operating systems (UNIX, LINUX and MS Windows), enterprise servers , Cloud computing, virtualization, enterprise resource planning and ecommerce infrastructure. In the final year, this knowledge is consolidated in the form of the in-house, capstone project where

	students design an information system according to business requirements while managing and documenting the process as they progress. During this last year, students have the opportunity to choose additional technologies that they want to specialise but have not been introduced during the previous years, and apply them to their project.
Qualification Aim *	The programme aims to develop work-ready, skilled ICT graduates who are aware of the legal, ethical and professional standards required to work in Bahrain and internationally. ICT graduates will be conversant with the latest ICT techniques and technologies to be flexible in the work place and adaptable in a very fast moving field. They will have the skills required to choose the optimal solution for a particular problem and to implement it following professional standards and will have the skills that enable them to work effectively in teams and to coherently present their ideas in written and oral form to a range of audiences. The intention is to build up a core knowledge in a range of areas including programming, operating systems, databases and design techniques in addition to networking. After the first three semesters, the student can then specialise in Information Systems in areas including Systems Administration, Infrastructure for eCommerce, Cloud Computing, Data Center Management and Enterprise Resource Planning using SAP enterprise software to manage business operations, and customer relations and integrate the essential parts of their businesses. The student also becomes familiar with standard software production practices such as the software development life cycle (requirement analysis and market research, design, implementation, testing and technical documentation) and rapid prototyping. During the Information Systems major specialisation stage the student' s expertise is developed in many areas. Specialization courses in information systems focus on developing specific skills and expertise in a particular area of information systems. Some common areas of specialization in information systems include the E-commerce module to provide students with a comprehensive understanding of the e-commerce landscape, as well as to equip them with the skills necessary to succeed in the rapidly evolving world of e-commerce. The system administration course module is to provide students with a comprehensive understanding of system administration principles and practices, as well as to equip them with the skills necessary to manage and maintain complex computing systems in different environments, including cloud computing. The data center management course module is to provide students with a comprehensive understanding of data center management principles and practices, as well as to equip them with the skills necessary to design, build, and manage a data center that is resilient, efficient, and secure. Enterprise Resource Planning using SAP enterprise software to manage business operations and customer relations and integrate the essential parts of their businesses. The overall, objective of a Cloud Computing using Azure course module is to provide students with an in-depth understanding of cloud computing concepts, with a specific focus on Microsoft Azure. The module aims to equip students with the skills necessary to design, deploy, and manage cloud-based applications and services using Azure.
	Typical positions for the IS major graduate include:

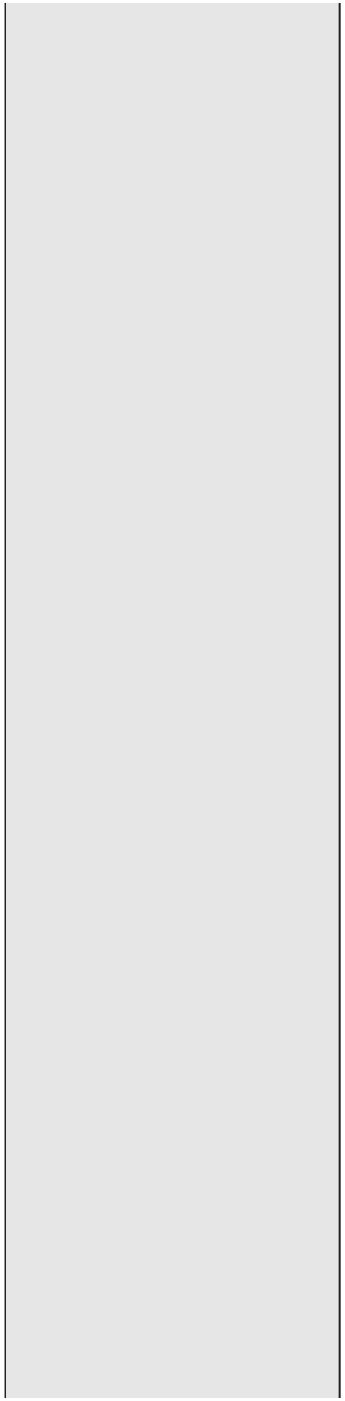
Graduate Pathways and Destination *	• Systems Analyst • System Architect • Cloud Architect / Consultant • SAP Business Analyst / Consultant / Project Manager • Systems Administrator • Infrastructure Technician / Engineer • Infrastructure support specialist • Infrastructure Consultant

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.



Other Information *	



Programme Learning Outcomes

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

Description
Demonstrate critical knowledge and understanding of the latest Information and Communications Technology systems and techniques.
Recognise the professional, moral, and ethical issues involved in exploiting computer technology and be guided by appropriate professional, ethical and legal practices in a Bahrain context.
Comprehend and follow formal architecture design and implementation methodologies.
Demonstrate knowledge of a variety of techniques for requirements analysis of enterprise systems and infrastructure.
Exhibit critical knowledge of enterprise systems and infrastructure.
Analyse existing systems and provide models and specifications of same.
Evaluate designs for new systems and assess capabilities of designed system against specified requirements.
Create or implement appropriate Information and Communications Technology systems from designs documents. (Generic)
Document system solutions for a range of audiences.
Use specialist level skills to effectively manage and maintain existing systems.
Evaluate various enterprise systems including operating systems, server software and make recommendations.
Analyse business requirements and design an appropriate information system architecture.
Implement an ICT infrastructure for small, medium and enterprise organisations that is fit for purpose
Operate and manage ICT information systems.
Practice as a Professional using 21st Century Skills

Semester Schedules

Year 1 / Semester 1

Core

Course Code	Title
IT6001	**Computer Systems**

Core

Course Code	Title
IT6001	**Computer Systems**

Core

Course Code	Title
EL6001	**English for EDICT 3**

Core

Course Code	Title
IT6010	**Maths for Computing**

Core

Course Code	Title
IT6004	**Unix Systems**

Year 1 / Semester 2

Core

Course Code	Title

IT6008	Computer Programming 1
IT6005	Database Systems 1
EL6002	English for EDICT 4
IT6003	Networks and Data Communications

Year 2 / Semester 1

Core	
Course Code	**Title**
IT6011	Introduction to Information Security
NR	National Requirements
IT7001	Systems Analysis and Design
IT6012	Web Fundamentals

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

Year 2 / Semester 2

Core	
Course Code	**Title**
ED7000	Applied Project
IT7003	Networking and Data Communications 2
IT7004	Operating Systems and Platforms

Elective	
Course Code	**Title**
NEDICTE	Non-EDICT Electives

Year 3 / Semester 1

Core	
Course Code	**Title**
IT7009	Artificial Intelligence

IT7202	**Enterprise Resource Planning**
IT8203	**Systems Administration**

Year 3 / Semester 1 & 2

Elective	
Course Code	**Title**
EDICTE	**EDICT Electives**

Year 3 / Semester 2

Core	
Course Code	**Title**
IT8212	**Cloud Computing**
IT8213	**Data Centre Management**
IT8202	**Infrastructure for eCommerce**

Year 4 / Semester 1

Core	
Course Code	**Title**
IT7099	**IT Project**

Year 4 / Semester 2

Optional	
Course Code	**Title**
IT8299	**Cooperative Learning Project (MIS)**
IT8097	**Entrepreneurship – Lean Start-up**
IT8098	**IT Research Project**