اعتماد
NCAAA

T3

2020

Program Specification

Program Name: Bachelor of Science in Information Technology
Qualification Level: Bachelor's Degree (Level 6)
Department: Information Technology
College: Faculty of Computing and Information Technology
Institution: Northern Border University

VISION رؤية
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

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Content

A. Program Identification and General Information

1. Program Main Location:
Faculty of Computing and Information Technology- Rafha
2. Branches Offering the Program:
Nil
3. Reasons for Establishing the Program: (Economic, social, cultural, and technological reasons, and national needs and development, etc.)

This is the first program of its kind in the region and gives the students in the region a great opportunity to study Information technology. The program was established to,
    1. meet the local labor market needs in the area of IT
    2. distribute the awareness of using computers in different fields
    3. provide them with suitable job opportunities in the field of information technology

4. Total Credit Hours for Completing the Program: (136)
136 credit hours (12 levels) based on three-semester/year
5. Professional Occupations/Jobs:
• Computer programmer, • Software Developer, • Software Engineer, • Web Developer, • Database administrator, • System analyst, • Information Technology Professional, • Computer educator, • Computr Science teacher, • Application Develpoer, • Information security, • Multimedia systems

6. Major Tracks/Pathways (if any)**:**

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
Nil		

7. Intermediate Exit Points/Awarded Degree (if any)**:**

Intermediate exit points/awarded degree	Credit hours
Nil	

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

To produce competitive IT professionals having: sound understanding of core IT areas and an awareness of research directions related to these areas; hands on experience with latest IT development tools; strong communication, collaboration and problem solving skills; an awareness of social, ethical and legal issues related to the field of IT; and an urge to serve the community using their knowledge and skills.

2. Program Goals:

The graduates of the Bachelors in Information Technology program are expected to,
1. Have excelled in core information technology knowledge area of their choice.
2. Apply the acquired knowledge to solve problems requiring IT based solutions using latest tools and techniques
3. Understand and respect professional, ethical and social values in the field of IT,
4. Possess strong communication and problem solving skills and have the ability to work in teams.
5. Be aware of research directions, modern innovations and entrepreneurship prospects related to IT areas.

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

Alignment of Program Mission/Goals with the College and NBU Missions/Goals:

Level	Mission and Goals	Mission Domains			
		Education	Research	Community Service	Professional Competence
NBU Mission	We are a regionally serving comprehensive university committed to educational excellence. Guided by our core values, heritage, and place, we deliver innovative educational programs characterized by outcomes that leverage the human, economic, cultural, natural resources and mining of the Northern Border's region and beyond.	√	√	√	√
NBU Goals	G1 Provide distinguished education that foster intellect and professionalism **(and related Objectives-See the NBU Strategic Plan)**.	√			√
	G2 Promote research and innovation environment that enables realization of the university research priorities **(and related Objectives-See the NBU Strategic Plan)**.		√		
	G3 Enhance community partnership **(and related Objectives-See the NBU Strategic Plan)**.			√	

	G4	Develop administrative and financial system that strengthen efficient management and diversify sources of revenue **(and related Objectives- See the NBU Strategic Plan).**				√
College Mission		**To deliver accredited computing academic programs characterized by learning outcomes that guarantee to prepare professional graduates capable of contributing in scientific research, developing the community, and meeting the needs of the local and regional labor market.**	√	√	√	√
College Goals	G1	Preparing students in the areas of computer science, information technology and information systems, to be qualified with necessary scientific and practical skills and graduated with the highest possible competence.	√			
	G2	Contribute to the development of scientific and applied research in the field of computer sciences and information technology.		√		
	G3	Participate in offering advanced training programs for the rehabilitation and refinement of skills in the areas related to computer sciences and their applications to the university employees particularly and to the local community in general.			√	
	G4	Providing scientific counseling in the field of computer sciences and information technology.	√			
	G5	Provide programs and training courses that meet the needs of the labor market and industry.				√
	G6	Qualifying graduates to complete their higher studies in the scientific disciplines.				√
	G7	Create the appropriate environment for creativity and innovation in the field of computer sciences and its applications by providing incentives and material and moral rewards.		√		
	G8	Training students in practical training on designing and implementing systems in the private and public sectors before graduation through agreements between the faculty and these sectors to provide all facilities and possibilities for students.	√			√
	G9	Integration with the community through providing necessary information to companies and public and private establishments about outstanding students to facilitate			√	

		their professional integration after graduation and coordinate between these companies and graduating students.			
Program Mission		To produce competitive IT professionals having: sound understanding of core IT areas and an awareness of research directions related to these areas; hands on experience with latest IT development tools; strong communication, collaboration and problem-solving skills; an awareness of social, ethical and legal issues related to the field of IT; and an urge to serve the community using their knowledge and skills.	√	√	√	√
Program Goals	G1	Have excelled in core information technology knowledge area of their choice	√			
	G2	Apply the acquired knowledge to solve problems requiring IT based solutions using latest tools and techniques	√			
	G3	Understand and respect professional, ethical and social values in the field of IT			√	
	G4	Possess strong communication and problem-solving skills and have the ability to work in teams				√
	G5	Be aware of research directions, modern innovations and entrepreneurship prospects related to IT areas		√		

It is evident from the previous matrix that the program's mission is consistent with both the college and the university's mission. The program's mission covers the same three mission domains as the college's mission and university's mission.

Program goals are also consistent with the goals of the college and the university covering all the mission domains.

4. Graduate Attributes:

The graduate's attributes of the university are the reference in which the graduate's attributes of the program are determined.

Northern Border University Graduates' Attributes

NBU's Graduates' Attributes (GAs)	Learning Outcomes of NBU's Graduates' Attributes (GAs) for Bachelor Programs
National identity	**GA1:** demonstrate high standards of ethical and socially responsible behavior, as well as academic and professional honesty and integrity; contribute to finding solutions to social problems; and commit to being a responsible citizen.
Self-management	**GA2:** Demonstrate self-management skills, self-learning and critical thinking, the ability to take initiative to self-develop according to specific standards, and ability to present evidence and arguments to make a decision unbiasedly.
Critical thinking	

Digital culture	**GA3:** Effectively use information technology, analytical, mathematical, and statistical tools to perform data analysis, suggest solutions, and solve problems using critical thinking.
Teamwork	**GA4:** Have the ability to lead a team, assume responsibility for performing tasks and developing work, achieve goals effectively, and promote health, psychological and social aspects.
Entrepreneurship	**GA5:** Identify the function of entrepreneurship and its requirements in the successful, commercial application.
Communication skills	**GA6:** Effectively communicate both verbally and in writing, using appropriate presentation forms, scholarly language, adequate reasoning for various issues and dealing with beneficiaries.

Alignment of the Program's Graduates Attributes (GAs) with the Program's Goals(G)

Program Goals (G)		G1	G2	G3	G4	G5
Program's Graduates Attributes	GA1			√		
	GA2		√		√	
	GA3	√	√			
	GA4				√	
	GA5					√
	GA6				√	

The matrix above illustrates the consistency between program's graduates' attributes (GAs) and program goals (Gs). All of the program goals map to at least one of the GAs.

Alignment of program graduates' Attributes with the National Qualifications Framework (NQF)

NQF Graduate Attributes (Level 6, Bachelor's Degree)	program graduates' Attributes (GAs)					
	GA1	GA2	GA3	GA4	GA5	GA6
Take initiative in identifying and resolving problems and issues both individually and in group situations exercising leadership in pursuit of innovative and practical solutions.		√	√	√		
Apply the theoretical insights and methods of inquiry from their field of study in considering issues and problems in other contexts.	√		√			
Recognize the provisional nature of knowledge field and take this into account in investigating and proposing solutions to academic or professional issues.		√	√			√
Participate in activities to keep up to date with developments in their academic or professional field and continue to enhance their own knowledge and understanding.					√	√
Consistently demonstrate a high level of ethical and responsible behavior and provide leadership in academic professional and community environments.	√			√	√	
Behave in ways that are consistent with Islamic values and beliefs, and reflect high levels of loyalty, responsibility, and commitment to service to society.	√			√		

* This matrix is unified on all bachelor's degree programs.

5.Program learning Outcomes*	
Knowledge and Understanding	
K1	Define and explain the fundamentals of computing and mathematics appropriate to the discipline
K2	Recognize the best practices and standards, and describe their applications
Skills	
S1	Analyze a problem and identify the computing requirements appropriate to its solution while being aware of the impact of that solution on individuals, organizations, and society.
S2	Design, implement, and evaluate a computing-based solution to meet a given set of requirements in the context of the program's discipline.
S3	Use current techniques, skills, and tools necessary for computing practices.
S4	Communicate effectively in a variety of professional contexts
S5	Apply current technical concepts and practices in the core information technologies and Integrate IT-based solutions into the user environment.
S6	Analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems by creating and following an effective project plan
Values	

V1	Recognize professional, ethical, legal, security and social issues and responsibilities.
V2	Function effectively in teams to accomplish a common goal
V3	Recognize and explore recent technology as needed, using appropriate lifelong learning strategies.

Alignment of the program's learning outcomes (PLOs) with the Program's Graduates Attributes (GAs)

PLOs		K1	K2	S1	S2	S3	S4	S5	S6	V1	V2	V3
Program's Graduates Attributes (GA)	GA1									√		
	GA2			√				√				√
	GA3	√	√	√	√	√		√	√			
	GA4										√	
	GA5							√				√
	GA6						√					

Alignment of program learning outcomes (PLOs) with the National Qualifications Framework (NQF)

NQF	PLOs alignment with NQF
Knowledge and Understanding	**Knowledge PLOs**
1. Broad in-depth integrated body of knowledge and comprehension of the underlying theories, principles, and concepts in one or more disciplines or field of work, 2. In-depth knowledge and comprehension of processes, materials, techniques, practices, conventions, and/or terminology, 3. A broad range of specialized knowledge and understanding informed by current developments of a discipline, profession, or field of work, 4. Knowledge and comprehension of research and inquiry methodologies.	**K1**: Define and explain the fundamentals of computing and mathematics appropriate to the discipline. **K2**: Recognize the best practices and standards and describe their applications.
Skills	**Skills PLOs**
Cognitive Skills: • Apply integrated theories, principles, and concepts in various contexts, related to a discipline, profession, or field of work, • Solve problems in various complex contexts in one or more disciplines or fields of work,	**S1**: Analyze a problem and identify the computing requirements appropriate to its solution while being aware of the impact of that solution on individuals, organizations, and society.

• Use critical thinking and develop creative solutions to current issues and problems, in various complex contexts, in a discipline, profession or field of work, • Conduct inquiries, investigations, and research for complex issues and problems. **Practical and Physical Skills:** • Use and adapt advanced processes, techniques, tools, instruments, and/or materials in dealing with various complex practical activities, • Carry out various complex practical tasks and procedures related to a discipline, professional practice, or field of work. **Communication and ICT Skills:** • Communicate effectively to demonstrate theoretical knowledge comprehension and specialized transfer of knowledge, skills, and complex ideas to a variety of audiences, • Use mathematical operations and quantitative methods to process data and information in various complex contexts, related to a discipline or field of work, • Select, use, and adapt various standard and specialized digital technological and ICT tools and applications to process and analyze data and information to support and enhance research and/or projects.	**S2**: Design, implement, and evaluate a computing-based solution to meet a given set of requirements in the context of the program's discipline. **S3**: Use current techniques, skills, and tools necessary for computing practices. **S4**: Communicate effectively in a variety of professional contexts. **S5**: Apply current technical concepts and practices in the core information technologies and Integrate IT-based solutions into the user environment. **S6**: Analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems by creating and following an effective project plan.
Values, Autonomy and Responsibility	**Values PLOs**
Values and Ethics: • Demonstrate commitment to professional and academic values, standards, and ethical codes of conduct, and represent responsible citizenship and coexistence with others **Autonomy and Responsibility:** • Effectively plan for and achieve academic and/or professional self-development, assess own learning and performance, and autonomously make decisions regarding self-development and/or tasks based on convincing evidences. • Autonomously and professionally manage tasks and activities related to the discipline and/or work, • Collaborate responsibly and constructively on leading diverse teams to perform a wide range of tasks while playing a major role in planning and evaluating joint work, • Actively participate in advancing the discipline and society	**V1**: Recognize professional, ethical, legal, security and social issues and responsibilities. **V2**: Function effectively in teams to accomplish a common goal. **V3**: Recognize and explore recent technology as needed, using appropriate lifelong learning strategies.

Knowledge, skills and values as defined in NQF are very comprehensive. In the table above we have underlined the key terms and phrases present in learning outcomes and their equivalent in NQF. The PLOs under knowledge, skills, and values align well with NQF as all the important points from NQF are covered by one or more PLOs.

Alignment of the Program's Learning Outcomes (PLOs) with the Program's Goals (G)

Program Goals		G1	G2	G3	G4	G5
Program's Learning Outcomes (PLOs)	K1	√				
	K2		√			
	S1		√	√		
	S2		√			
	S3		√			
	S4				√	
	S5		√			
	S6		√			
	V1			√		
	V2				√	
	V3					√

The above matrix maps Program's learning outcomes (PLOs) with Program's Goals (G). We already have the following two mapping before this matrix.
- Alignment of the program's learning outcomes (PLOs) with the Program's Graduates' Attributes (GAs)
- Alignment of the Program's Graduates Attributes (GAs) with the Program's Goals(G)

This PLOs to Goals mapping is consistent with these two mappings. For example S1 and V1 both map to GA1 which in turn maps to G3 based on the previous mappings. Hence in this PLOs to Goals mapping S1 and V1 should map to G3 and they do. Similar observations can be made about other PLOs and Goals.

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	15	41	30%
	Elective			
College Requirements	Required	7	20	14.7
	Elective			
Program Requirements	Required	18	53	38.97%
	Elective	3	9	6.61%
Capstone Course/Project	Required	2	4	2.94%
Field Experience/ Internship				
Others	Required	3	9	6.61%
Total		**48**	**136**	**100%**

* Add a table for each track (if any)

2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	ELCS 101	English 1	Required		3	Institution
	MATH 110	Mathematics	Required		3	Institution
	BIO 110	Biology	Required		3	Institution
	COMM 101	Communication skills	Required		3	Institution
Level 2	ELCS 102	English 2	Required	ELCS101	3	Institution
	PHYS 110	General Physics	Required		3	Institution
	CPIT 100	Computer skills	Required		3	Institution
	STAT 110	General Statistics	Required		3	Institution
Level 3	STAT210	Probability Theory	Required	STAT110	3	College
	CHEM 110	Chemistry	Required		3	Institution
	CPCS202	Programming 1	Required		3	College
	CPIT201	Introduction to Computing	Required		3	College
Level 4	CPCS203	Programming 2	Required	CPCS202	3	College
	CPCS222	Discrete Structures	Required		3	College
	CPIT221	Technical Writing	Required		2	College
	ISLS101	Islamic Culture 1	Required		2	Institution
Level 5	CPIT220	Introduction to IT	Required	CPIT201	3	Department
	CPCS204	Data Structures	Required	CPCS202	3	College
	ARAB101	Arabic Language 1	Required		3	Institution
	ISLS201	Islamic Culture 2	Required	ISLS101	2	Institution
Level 6	CPIT240	Database 1	Required	CPCS204	3	Department
	CPIT210	Computer Organization	Required	CPCS202	3	Department
	ARAB201	Arabic Language 2	Required	ARAB101	3	Institution
	--	Free Course 1	Free		3	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 7	CPIT260	Operating System	Required	CPIT210	3	Department
	CPIT250	System Analysis & Design	Required	CPCS203	3	Department
	CPIT285	Computer Graphics	Required	CPCS203	3	Department
	ISLS301	Islamic Culture 3	Required	ISLS201	2	Institution
Level 8	CPIT251	Software Engendering 1	Required	CPIT250	3	Department
	CPIT280	Human Computer Interaction	Required	CPIT250	3	Department
	CPIT370	Computer Networks	Required	CPIT260	3	Department
	--	Free Course 2	Free		3	Department
Level 9	CPIT380	Multimedia Technology	Required	CPIT285	3	Department
	CPIT252	Software Design Pattern	Required	CPIT251	3	Department
	CPIT330	It Issues & management	Required	CPIT250 &CPIT220	3	Department
	--	Free Course 3	Free		3	Department
Level 10	CPIT425	Information Security	Required	CPIT370	3	Department
	CPIT305	Advanced Programing	Required	CPCS204	3	Department
	ISLS401	Islamic Culture 4	Required	ISLS301	2	Institution
	-----------	Department Elective Course 1	Elective		3	Department
Level 11	CPIT498	Graduation Project 1	Required	90 Units	1	Department
	CPIT405	Internet Application	Required	CPIT252 &CPIT370	3	Department
	CPIT345	Database Administration	Required	CPIT240	3	Department
	-----------	Department Elective Course 2	Elective		3	Department
Level 12	CPIT499	Graduation Project 2	Required	CPIT498	3	Department
	CPIT435	Needs Assessment & Technology Evaluation	Required	CPIT250&C PIT220	2	Department
	CPIT470	Network Administration	Required	CPIT370	3	Department
	-----------	Department Elective Course 3	Elective		3	Department

Department electives courses

Course Title	Course Code	Pre-Requisite Courses	Credit Hours
Database 2	CPIT340	CPIT240	3
Data Network Design and Evaluation	CPIT375	CPIT370	3
Decision Support Systems	CPIT430	CPIT330	3
E-Business Technology	CPIT436	CPIT330	3
Data Mining & Warehousing	CPIT440	CPIT340	3
Knowledge Engineering	CPIT445	CPIT440	3
Software Engineering 2	CPIT455	CPIT251	3
SW Economics	CPIT456	CPIT251	3
Wireless Data Networks	CPIT475	CPIT370	3
Fundamentals of Instructional Tech.	CPIT480	CPIT380	3

User-Centered System Design	CPIT485	CPIT280	3
Selected Topics in IT	CPIT490		3

3. Course Specifications
Insert hyperlink for all course specifications using NCAAA template

IT Program Courses

4. Program learning Outcomes Mapping Matrix
Align the program learning outcomes with program courses, according to the following desired levels of performance (**I = Introduced   P = Practiced   M = Mastered**)
* Add a table for each track (if any)

Course code & No.	Program Learning Outcomes										
	Knowledge		Skills						Values		
	K1	K2	S1	S2	S3	S4	S5	S6	V1	V2	V3
CPIT100	I				I						
ELCS101						I					
MATH110	I										
PHYS110	I										
COMM101						I					
ELCS102						I					
STAT110	I										
CHEM110	I										
BIO110	I										
ISLS101									I		
CPCS202	I		I	I	I						
STAT210	I		I			I				I	
CPIT201	I		I								
CPIT221						I				I	
ISLS201									I		
CPIT220	I		I		I				I		
CPCS203	I		I	I	I						
CPCS222	I		I	I		I				I	
ARAB101						I					
ISLS301									P		
CPCS204	P		P	P	P						
CPIT210	P		P	P	P						
ARAB201						M					

Course												
CPIT240	P			P	P				P			
CPIT260	P		P		P				P			
CPIT250	P		P	P	P			P	P		P	I
CPIT285	P		P	P	P					P		
ISLS401									M			
CPIT251	P		P	P	P				P	P		I
CPIT280	P		P	P		P			P	P		
CPIT370	P		P		P				P			
CPIT252	M	M	M	M	M							
CPIT330	M		M				M		P			
CPIT380	M	M	M		M		M		M			
CPIT305	M	M	M	M	M		M		M			
CPIT425	M	M	M		M		M		M			
CPIT498	M	M	M	M		M	M		M	M	M	M
CPIT405			M	M	M							
CPIT345		M	M	M	M		M		M			
CPIT499	M	M		M	M	M	M	M	M	M	M	M
CPIT435		M	M			M		M		M		M
CPIT470	M	M	M		M		M		M			

5. Teaching and learning strategies to achieve program learning outcomes
Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

Program Learning outcomes and the teaching and learning strategies used to achieve them.

PLOs		Teaching& Learning Strategies
Knowledge:		
K1	Define and explain the fundamentals of computing and mathematics appropriate to the discipline	1. Class / Group discussion 2. Self-explanation 3. Observation 4. Concept Maps 5. Mind Maps 6. Semantic Maps 7. Guided discovery 8. Investigation 9. KWLH (Know, Want, Learned, How) technique 10. Reciprocal teaching
K2	Recognize the best practices and standards, and describe their applications	
Skills:		
S1	Analyze a problem and identify the computing requirements appropriate to its solution while	1. Problem-solving 2. Scientific research

	being aware of the impact of that solution on individuals, organizations, and society.	3. Academic debate 4. Generative learning
S2	Design, implement, and evaluate a computing-based solution to meet a given set of requirements in the context of the program's discipline.	5. Lab-based learning 6. Project-based learning 7. Model-based learning
S3	Use current techniques, skills, and tools necessary for computing practices.	8. Micro-teaching 9. Storytelling
S4	Communicate effectively in a variety of professional contexts	
S5	Apply current technical concepts and practices in the core information technologies and Integrate IT-based solutions into the user environment.	
S6	Analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems by creating and following an effective project plan	
Values, Autonomy and Responsibility:		
V1	Recognize professional, ethical, legal, security and social issues and responsibilities.	1. Collaborative learning 2. Self-learning
V2	Function effectively in teams to accomplish a common goal	3. Brain storming 4. Peer learning
V3	Recognize and explore recent technology as needed, using appropriate lifelong learning strategies.	5. Case studies 6. Team work

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6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

Program Learning outcomes and the assessment methods used to achieve them.

PLOs		Assessment Methods (Direct and Indirect)
Knowledge:		
K1	Define and explain the fundamentals of computing and mathematics appropriate to the discipline	**Direct:** - Writing - Oral **Indirect:**
K2	Recognize the best practices and standards, and describe their applications	- Program assessment survey
Skills:		
S1	Analyze a problem and identify the computing requirements appropriate to its solution while being aware of the impact of that solution on individuals, organizations, and society.	**Direct:** - Writing - Oral - Performance - Observation
S2	Design, implement, and evaluate a computing-based solution to meet a given set of requirements in the context of the program's discipline.	**Indirect:**

S3	Use current techniques, skills, and tools necessary for computing practices.	-	Program assessment survey
S4	Communicate effectively in a variety of professional contexts		
S5	Apply current technical concepts and practices in the core information technologies and Integrate IT-based solutions into the user environment.		
S6	Analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems by creating and following an effective project plan		
Values, Autonomy and Responsibility:			
V1	Recognize professional, ethical, legal, security and social issues and responsibilities.	**Direct:** - Performance - Observation - Presentation	
V2	Function effectively in teams to accomplish a common goal		
V3	Recognize and explore recent technology as needed, using appropriate lifelong learning strategies.	**Indirect:** - Program assessment survey	

D. Student Admission and Support:

1. Student Admission Requirements

To be considered for admission, the applicant shall meet the following requirements:
    1) The applicant shall hold a high school certificate or an equivalent certificate from inside or outside the Kingdom of Saudi Arabia.
    2) The applicant shall have obtained the secondary school certificate, or its equivalent, in a period of less than five years. Nonetheless, the University Council may exempt applicant from this condition if a convincing reasons presented.
    3) The applicant should have a certificate of good conduct.
    4) The applicant should successfully pass any examination or interview deemed necessary by the University Council.
    5) The applicant shall be medically fit.
    6) An approval shall be obtained from the applicant's employer, if the applicant is an employee in any government or private institution.
    7) The applicant shall meet any other requirements specified by the University Council and announced at the time of application.

2. Guidance and Orientation Programs for New Students
• The new students will be invited to an academic guidance meeting, in the first week, aimed to shed some light on the regulations and the registration process at the faculty of science, computer science department. • An agenda will be introduced to the new students that provide an introduction to student's rights and responsibilities. In addition, some information about the university life through campus; visits, meetings, lectures, and other activities. This could be done via the cooperation with different academic & support departments in the faculty.

3. Student Counseling Services
(academic, career, psychological and social)
Faculty members provide career guidance to the students using their knowledge, expertise of their field of specialization and vision. Such career guidance is provided to fresh students thinking to join the department and also to graduating students. Students are also provided information regarding the required professional trainings, courses and certifications required for maximizing their chances of success in their preferred career paths after graduation. By the time students are closer to graduation, they have a good idea of what career path they want to choose. Graduation project servers as an excellent tool, the students can use to gain valuable experience and expertise for improving their chances of success, in their chosen career paths. During years of study, students are invited to visit other universities and local companies to provide them with better understanding of different professional roles and potential career paths related to the field of IT.
4. Special Support
(low achievers, disabled, gifted and talented)
1. The teaching staff member should take into account the individual differences between the students who are low achievers and talented ones during their lectures.   2. The low achievers' students can take advantage of the office hours of the teaching staff member which have been defined since the beginning of the semester.   3. The talented students have the chance to finish their studies in short times compared to their peers

E. Teaching and Administrative Staff

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professors	IT	Network and Security		3	3	6
Associate Professors	IT	Software Engineering		3	3	6
Assistant Professors	IT	Computing Systems, Database, Programing		5	5	10
Lecturers	IT	Architecture & Organization		3	3	6
Teaching Assistants	IT			2	2	4
Technicians and Laboratory Assistants	IT			1	1	2
Administrative and Supportive Staff				1	1	2
Others (specify)						

2. Professional Development

2.1 Orientation of New Teaching Staff
Describe briefly the process used for orientation of new, visiting and part-time teaching staff

Providing training for new faculty staff members on modern teaching aids such as the use of smart board and

e-learning methods as well as to provide laboratories section with modern equipment.

- Internal department seminars and workshops

2.2 Professional Development for Teaching Staff
Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

The department of Information Technology gives special attention to the professional development of its faculty members. For this purpose, the Faculty of Computing and Information Technology organizes activities on a regular basis. Some of these activities are
- a) Workshops
- b) Short courses
- c) Seminars
- d) Consultations

During the academic year, a number of workshops and short courses are organized at the faculty of Computing and Information Technology. All faculty members of the department

of IT are invited to attend these activities. The activities are carefully selected to introduce faculty with new ideas and latest technologies. technical workshops were organized. The first one was related to use of the blackboard "a mean of e-learning" was organized. The second workshop was on "Academic Advising" to Guide the students for selecting their courses. The IT department also encourages faculty members to follow short course in management, finance and human resource development. A research committee has been constituted at the faculty which arranges regular seminars to provide faculty members of IT, IS and CS departments to present their research work to fellow faculty members and to foster research activities at the faculty.

The IT department has a policy to promote research and scholarly activities. In this endeavor, the faculty members are encouraged to continue research in their area of specialization and interest.

All faculty members are encouraged to submit innovative research proposals to the Deanship of Scientific Research of the university annually to secure research funding for their proposed research projects. These funded research projects are for six months to one-year duration and covers all aspects of the research activities. In addition to that the faculty members are provided with financial support to participate in international conferences and workshops

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.
Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

The requirements of textbook and other materials for teaching are identified by the instructor teaching the course. The instructor's suggestions are reviewed by the Undergraduate Committee, who may seek the opinion of the other faculty members. The instructor, proposing the text book for a course, is asked to review at least two textbooks on the subject and submit justifications for the chosen textbook. The Department requests the Purchasing Department to procure the textbooks selected by the Department

2. Facilities and Equipment
(Library, laboratories, medical facilities, classrooms, etc.).

- **Library**

The boys' section of the campus contains a main library. The Main library contains a variety of information resources such as books, periodicals, digital libraries, documents, manuscripts and digital resources. For students it is the main source of accessing their required reading materials. The library is responsible for organizing (classifying, cataloging, indexing, and shelving) books, and making them available to the University faculty and students in both boys' and girls' sections, through a range of services such as reading areas and a digital library system. Accounts are provided to both faculty members and students to access these online resources. The Deanship of Library Affairs is the governance body for the main library. The Deanship of Library affair arranges all the latest required books and reading materials

- **Laboratories**

All computing labs in the boy section are located on the second floor. There exist 5 regular computer labs of varying capacities and equipment, and a specialized "digital logic and design lab" (Lab 203). The equipment in these labs is described in the next section. In addition to the computing resources, "Digital Logic and Design Lab'' includes resource for

the design, analysis and testing of digital circuits as well as programmable 8086 processors for the study of machine language

Labs in the girl section are located on second and third floor. There are 6 regular computer labs of varying capacities and equipment, and a "digital logic and design lab" (Lab 310). The labs in the girls' section are very similar to the labs in the boys' section in terms of computing resources and capacity.

- **Classrooms**

There are 6 lecture rooms in the boy section. As the computing labs are also equipped with the same facilities as the classrooms, they are also used for lectures. There is an auditorium in the boys' section which can accommodate up to 210 students. The auditorium is equipped with an extra-large white screen and a modern projection system. To comply with the Kingdom's norms regarding gender separation in the workplace and to encourage the higher education of females while respecting the cultural norms of the region, there are two types of classrooms in the girls' section: the classrooms which are equipped to host male instructors and female-only classrooms. There are 6 classrooms of the former type. These classrooms have a separate entrance to be used by male instructors and there is a separation glass between male instructor and female students. These classrooms are equipped with a multimedia projector on the students' side and two white boards, one on the students' side and the other on the male instructor's side. These classrooms can be used like a standard classroom by female instructors.

There are 21 female-only classrooms, located on the second and third floors of the girls' section building. The faculty of computing and IT shares these classrooms with other colleges in the campus. There is a large hall in the girl section which can accommodate 200+ students and is used for cultural events.

All classrooms in both boys and girl sections have a maximum capacity of around 35 students. Each classroom is equipped with a large whiteboard, individual chairs for students, an instructor desk and a high-resolution multimedia projector. Internet access is available in all the classrooms through both wireless and wired networks. The whole building (classrooms, offices and labs) is centrally heated/cooled and hence provides a comfortable working environment to students, faculty and other staff (temperatures outside can be as high as 50°C in summer and as low as -1°C in winter).

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

The facilities, computing resources, and equipment comply with the national legislation and regulations pertaining to fire, building, and safety requirements and health codes. The compliance to these standards is verified on a regular basis by the authorized services of the University. The University additionally includes a safety department and an emergency response team that regularly carries out fire drills and lockdown procedures. Finally, in case of a health hazard or emergency, the University possesses medical facilities and can also request the assistance of Rafha's public hospital which includes an emergency service. Both of these health facilities are located at a walking distance from the campus.

G. Program Management and Regulations

1. Program Management
1.1 Program Structure

(including boards, councils, units, committees, etc.)

Councils:

- Department council

Boards:

- Information Technology Advisory Board
- Information Technology Student Advisory Board

Units:

- Quality and Academic Accreditation Unit
- Academic Affairs Unit

Committees:

- Strategic Planning Committee
- Plans and Curriculum Committee
- Academic Affairs Committee
- Registration Committee
- Scholarship Committee
- College's Website Committee
- Labs Committee
- Exam Committee
- Senior Project Committee
- Social and Scientific Activities Committee
- Textbook and Library Committee
- Scheduling Committee
- Graduated Student Committee
- Students Affairs
- Postgraduate

1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

Questionnaires are distributed regularly to students, professional bodies, scientific societies, alumni, employers, etc. to ascertain their views and satisfaction on the program graduate's performance.

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

1. Deanship of admission and registration:
   http://www.nbu.edu.sa/AR/Deanships/Admissions/Pages/default.aspx
2. Deanship of student affairs
   http://www.nbu.edu.sa/AR/Deanships/Student_Issues/Pages/default.aspx
3. Deanship of high studies
   http://www.nbu.edu.sa/AR/Deanships/High_Studies/Pages/default.aspx
4. Deanship of quality and academic accreditation
   http://www.nbu.edu.sa/AR/Deanships/Quality_and_Academic_Accreditation/Pages/default.aspx

5. Deanship of E-Learning
   http://www.nbu.edu.sa/AR/Deanships/E-Learning/Pages/default.aspx
6. Deanship of Scientific Research
   http://www.nbu.edu.sa/AR/Deanships/Scientific_Research/Pages/default.aspx
7. Deanship of preparatory year and supporting studies
   http://www.nbu.edu.sa/AR/Deanships/Preparatory_Year_Supportive_Studies/Pages/default.aspx
8. Deanship of Library Affairs
   http://www.nbu.edu.sa/AR/Deanships/Library_Issues/Pages/default.aspx

H. Program Quality Assurance

1. Program Quality Assurance System
Provide online link to quality assurance manual

The manual (describing procedures including information about the institutions system of assessing programs and services, the role of the institution's quality center and systems for gathering and analyzing data on quality of performance and planning for improvement) is not available to public.

2. Program Quality Monitoring Procedures
1. Monitoring faculty members' performance through student evaluations each semester
2. Teaching process and program plan monitoring
   - Monitoring the courses teaching outline through regular achievement reports. These reports should include teaching progress and they should be submitted at least two times during the semester.
3. Measuring learning outcomes
   - Measuring student's performance through exams, quizzes, and assignment results

3. Arrangements to Monitor Quality of Courses Taught by other Departments.

1. The Program Quality Monitoring procedure is applied like a course Taught by the Department.
2. All required tasks will be requested from the leaderships of the other departments.

4. Arrangements Used to Ensure the Consistency between Main Campus and Branches
(including male and female sections)
1. Identify a coordinator for each course to maintain quality and consistency for all sections in all branches.
2. For all sections opened to a given courses, it's mandatory to follow the same assessment plan.
3. The syllabus of all courses is available online to all instructors and students.
4. Checking the course outlines for both male and female sections for all university branches to ensure the consistency.

5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).

1. The Deanship of Scientific Research funds innovative research projects. Faculties are open to apply for research grants. The applicants can involve external researchers, reviewers, labs etc.
2. The Deanship of Scientific Research provides online access of research articles & papers, journals and conferences through SDL Saudi digital library, a unified national platform partnership.
3. The university gives additional increments for the faculty who publish research papers in ISI journals and encourage research activities
4. The Deanship of Scientific Research conduct various workshops and training programs, conferences.
5. Academic cooperation between Northern Border University and Turkish University: Signing an agreement for academic and scientific cooperation and exchange of experiences with the two universities of Istanbul and Ankara.
6. Framework Agreement for Cooperation and Knowledge Exchange between the Northern Border University and the Japanese University of Kanzawa.
7. Academic cooperation between Northern Border University and Rouen University: Contract of services between the University Medical College and the French University of Rouen.
8. Academic cooperation between Northern Border University and Harvard University: Contract of services between the University School of Medicine and the Jocelyn Center of Harvard University.

6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

1. Assessment plan for Program Learning Outcomes (PLOs):
   - The department council has approved a two-year cycle where each PLO is assessed each semester.
   - The timeline illustrated in the following Table demonstrates the Assessment Plan that provides three cycles of PLOs assessment for the two academic years.

PLOs	Academic Year 1			Academic Year 2		
	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
K1	X	X	X	X	X	X
K2	X	X	X	X	X	X
S1	X	X	X	X	X	X
S2	X	X	X	X	X	X
S3	X	X	X	X	X	X
S4	X	X	X	X	X	X
S5	X	X	X	X	X	X
V1	X	X	X	X	X	X
V2	X	X	X	X	X	X
V3	X	X	X	X	X	X

2. Mechanisms of Using its Results in the Development Processes
3. The CLO-PLO based assessment provides summary of PLOs attainments in a term. This summary is used by Assessment and Evaluation Committee to identify possible following corrective course of actions:
4. Revision in pre-requisite as inadequate pre-requisite knowledge.
5. Revision in course or course material or provide more helping material, modification in text or reference material.
6. Modifications in course assessment methods.
7. Revision of the learning accomplishments of a course.
8. The graduation project addresses most of the Program Learning Outcomes and missing in the presented evaluation. It is the terminal comprehensive activity and provides students with the opportunity to exhibit the acquired skills and knowledge during the program.
9. The Quality and Academic Accreditation Unit (QAAU) of the faculty of Computing and Information Technology (FCIT) have implemented the required forms for direct and indirect assessment with the help of Assessment and Evaluation Committee.
10. The assessment committee is looking into the CLO based assessment method for the student outcomes and determines the reasons of non-achievements. The trigger is initiated with not achievement of PLO in a particular course.
11. Later, details analysis of course file to assess the achievement of CLO is performed. Then, the Assessment and Evaluation Committee requires from the instructor to provide Continuous Improvement Plan and Strategies.

12. Track program graduates and taking their feedback and suggestions and use these suggestions for making decision regarding any plan modification.
13. Holding regular surveys for current and graduated students to evaluate the program, and to focus on problems that they faced during studying and after graduation.
14. Consulting organizations in the field of this program to find out their requirements and what they expect from our graduates.

7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Teaching performance	Students	Surveys	End of each semester
Leadership	Faculty members	Surveys	End of each semester
Learning Resources	Students and faculty members	Meetings and surveys	During the semester
Graduates' performance	Faculty members	Meetings and surveys	End of academic years
Program plan	Faculty members graduates, external reviewers from the industry	Meetings and surveys	End of academic years
Student field training	Faculty members	Visits	During the training program

8. Program KPIs*

The period to achieve the target (4) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1- Mission and Goals	**KPI-P-01**	Percentage of achieved indicators of the program operational plan objectives	80%	Data regarding the achievement rate of all the indicators as in the program operational plan should be collected and the overall achievement percentage should be calculated.	End of each academic year
3- Teaching and Learning	**KPI-P-02**	Students' Evaluation of quality of learning experience in the program	٣,٧٥	Exit survey should be conducted among the final year students to assess the quality of learning experiences. The percentage of students who strongly agree or agree to the statements in the survey is to be calculated.	End of each academic year
	KPI-P-03	Students' evaluation of the quality of the courses	4	Online Course Survey should be conducted to the students towards the end of the semester to assess their registered courses. The percentage of respondents who strongly agree or agree is to be calculated from the survey	End of each semester
	KPI-P-04	Completion rate	90%	Data regarding the number of students who registered in the 1st semester of the year 1 (N1) and number of students who completed the graduation in the end of the year 5 (N2) are to be collected. The percentage (N1/N2)*100 has to be calculated.	End of each academic year
	KPI-P-05	First-year students retention rate	90%	Data regarding the number of students who registered in the start of the first academic program year (N1) and number of students who registered in the start of the second academic program year (N2) are to be collected. The percentage (N1/N2)*100 has to be calculated	End of each academic year
	KPI-P-06	Students' performance in the professional and/or national examinations	85%	Data regarding the number of students who participated in the national and professional exam (N1) and number of students who have succeeded the exam (N2) are to be collected. The percentage (N1/N2)*100 has to be calculated	End of each academic year
	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	40%	Data regarding the number of students who graduated (N) at the end of each year, and number of students who are employed (N1) and the number of student enrolled in graduate studies programs (N2) are to be collected. The percentage ((N1+N2)/N)*100 has to be calculated.	Start of each next academic year
	KPI-P-08	Average number of	15	Data regarding the number of students who registered in the current semester (N) and number of	Each semester

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
		students in the class		active sections (N1) are to be collected. The percentage (N1/N)*100 has to be calculated	
4- Students	KPI-P-09	Employers' evaluation of the program graduates' proficiency	80%	Employer survey (Q-GA) should be conducted to assess the proficiency of the graduates. The percentage of employers who strongly agree or agree to the statements in the survey has to be calculated.	End of each academic year
	KPI-P-10	Students' satisfaction with the offered services	75%	The survey (Q-SS) should be conducted among the students to assess their satisfaction level with the offered services. The percentage of students who strongly agree or agree to the statements in the survey has to be calculated	End of each academic year
	KPI-P-11	Ratio of students to teaching staff	10:1	Data should be collected regarding the number of faculty members and the number of students assigned for each course. The ratio between the number of teachers and the students assigned for each course has to be calculated.	End of each academic year
5- Teaching Staff	KPI-P-12	Percentage of teaching staff distribution	10 % (Prof) 10% (Asso. Prof) 50% (Assist. Prof) 25% (Lect)	Data should be collected regarding the number of teaching staff based on the gender (male/female), based on academic rankings (Prof., associate prof., asst prof, lecturers) and the percentage has to be calculated out of the total teaching staff	End of each academic year
	KPI-P-13	Proportion of teaching staff leaving the program	0%	Data is to be collected from the HoD regarding the number of teaching staff leaving the institution for reasons other than age retirement and the total number of teaching staff in the department. Percentage of number of teaching staff leaving the institution out of the total number of teaching staff has to be calculated	End of each academic year
	KPI-P-14	Percentage of publications of faculty members	80%	Data regarding the total number of teaching staff and number of teaching staff who have at least one research publications should be collected and thereby percentage is calculated.	End of each academic year
	KPI-P-15	Rate of published research per faculty member	2	Data regarding the total number of teaching staff and the total number of research publications should be collected from NBU research deanship and percentage should be calculated	End of each academic year

Program Specification

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
	KPI-P-16	Citations rate in refereed journals per faculty member	6	Data regarding the total number of teaching staff who have research publications and the total number of citations in research publications should be collected from NBU research deanship and percentage should be calculated.	End of each academic year
6- Learning Resources, Facilities, and Equipment	KPI-P-17	Satisfaction of beneficiaries with the learning resources	90%	Survey (Q-LS) should be conducted among the students to assess the satisfaction level with the learning resources. The percentage of students who strongly agree or agree to the statements in the survey has to be calculated	End of each academic year

I. Specification Approval Data

Council / Committee	INFORMATION TECHNOLOGY DEPARTMENT COUNCIL
Reference No.	IT-DM-10
Date	27/2/2022