

Kingdom of Saudi Arabia

**The National Commission for Academic Accreditation
& Assessment**

Program Specification

College of Science at Al- Zulfi

Department of Computer Science and Information

National Commission for Academic Accreditation & Assessment

Program Specifications

For guidance on the completion of this template, please refer to Chapter 2, of Part 2 of Handbook 2 Internal Quality Assurance Arrangement and to the Guidelines on Using the Template for a Program Specification in Attachment 2 (b).

1. Institution <i>Majmaah University</i>	Date 20/2/1436H
2. College/Department: <i>College of Science/ Computer Science and Information Dept.</i>	
3. Dean: <i>Prof. Dr. Mohammed Alaboudi</i> m.alaboudi@mu.edu.sa	
4. Insert program administrative flowchart	
<pre>graph TD; MU[Majmaah University] --> ZB[Zulfi Branch]; ZB --> COS[College of Science]; COS --> HD[Head of the department]; COS --> VDC[Vice-Dean for Development & Quality]; COS --> DC[Dean of the college]; HD --> SC[Supervisory committee]; VDC --> DQC[Development & Quality Committee]; DC --> HSC[Higher Supervisory committee]; QAU[Quality & Accreditation Unit]; QAU --- APU[Advertising & publishing Unit]; QAU --- SAU[Student Activities Unit]; QAU --- SSU[Study Schedules Unit]; QAU --- SU[Safety Unit]; QAU --- APU[Academic Programs & Plans Unit]; QAU --- ELU[E-learning Unit]; QAU --- PGR[Post-Graduates & Research]; QAU --- TCSU[Training & Community Services Unit]; QAU --- MEU[Measurement & Evaluation Unit]; QAU --- AAU[Alumni Affairs Unit]; QAU --- SGU[Student Guidance Unit];</pre>	
5. List all branches/locations offering this program	

- *College of Science at Al- Zulfı - Computer Science & Information program for males.*

A. Program Identification and General Information

1. Program title and code: <i>Computer Science and Information Dept., CSI</i>
2. Total credit hours needed for completion of the program: <i>161 credit hours in 10 semesters (5 years)</i>
3. Award granted on completion of the program: <i>Bachelor Degree (B.Sc.) in Computer Science and Information</i>
4. Major tracks/pathways or specializations within the program (eg. transportation or structural engineering within a civil engineering program or counselling or school psychology within a psychology program) <i>- Computer Graphics and Multimedia</i> <i>- Computer Networks</i> <i>- Individual Track</i> <i>In compliance with ACM/IEEE-compliant. (Ref. ACM/IEEE Curriculum 2001, updated in 2010)</i>
5. Intermediate Exit Points and Awards (if any) (eg. associate degree within a bachelor degree program) <i>Not found</i>
6. Professional occupations (licensed occupations, if any) for which graduates are prepared. (If there is an early exit point from the program (eg. diploma or associate degree) include professions or occupations at each exit point) <i>1-The field of education and higher education.</i> <i>2- The field of medicine and health.</i> <i>3- The field of manufacturing industry.</i> <i>4- The banks and the fields of commerce and business.</i> <i>5- The field of management.</i> <i>6- The field of e-government.</i> <i>7- The military.</i>

And many other fields

7. (a) New Program

Planned starting date

(b) Continuing Program

Year of most recent major program review

1434H

Organization involved in recent major review (eg. internal within the institution,

Accreditation review by

Plan committee:

1. Dr. Yosry Ahmed Azzam

2. Dr. Hasan Abdeltawab Mohamed Ali

3. Dr. Yaser Abdallah Mohamed

4. Dr. Mostafa Reda Abdallah Altantawi

8. Name of program coordinator or chair. If a program coordinator or chair has been appointed for the female section as well as the male section, include names of both.

Dr. Yosry Ahmed Azzam

9. Date of approval by the authorized body (MoHE for private institutions and Council of Higher Education for public institutions).

Campus Branch/Location	Approval By	Date
Main Campus:		
1: <i>College of Science at Al- Zulfi</i>	<i>Plan committee</i>	<i>1434</i>
2:		
3:		
4:		

B. Program Context

1. Explain why the program was established.

a. Summarize economic reasons, social or cultural reasons, technological developments, national policy developments or other reasons.

Computer Science and information program is the study of the theoretical foundations of information and computation, and of practical techniques for their implementation and application in computer systems. The specialty of computer science and information is one of the branches of computer studies that is very popular in various universities locally and globally because of the rapid advances in computer science & information and the great development in the fields of computer engineering, software engineering, artificial intelligence, machine learning, robotics, information systems, computer networks, network & information security and other advanced software and hardware techniques that have increased the demand for graduates of this specialization in the labor market. In order to cope with this enormous requirement for graduates in Computer Science, the Universities have developed new study plans and programs and courses that serve this paradigm shift in the computer field.

Due to the great proliferation of the use of computers in all fields of our lives and its importance and demand, the Majmaah University has developed the Computer Science & Information program. A degree in this program offers great career opportunities for our students as it is designed as per the local market needs and it also offers distinct cadres scientifically and practically in the field of computer science & information to overcome the shortage of workforce trained in this specialty.

With all these aspects in mind, the College of Science at Al- Zolfi has sought to develop the study plan for a Bachelor of Computer Science & Information which is being taught in English.

b. Explain the relevance of the program to the mission and goals of the institution.

The Computer Science & Information program is in close agreement with the missions and goals of the Majmaah University which includes the goal of providing high-quality education to prepare an outstanding and distinguished graduate in computer science and information in order to amicably fulfill the requirements of the labor market and also prepare him for postgraduate studies and research.

2. Relationship (if any) to other programs offered by the institution/college/department.

a. Does this program offer courses that students in other programs are required to take? **Yes**

No

If yes, what has been done to make sure those courses meet the needs of students in the other programs?

- *The course outlines must be developed in consultation and in the agreement with the concerned departments to ensure the course contents meets their needs.*
- *Study of the preparatory year courses for a total of 29 hours.*

b. Does the program require students to take courses taught by other departments? **Yes**

No

If yes, what has been done to make sure those courses in other departments meet the needs of students in this program?

1- Calculus I

2- Calculus II

3- Linear algebra & differential equations

4- Probability & Statistics

All are taught by the mathematics department.

5- Physics II which is taught by the physics department

6- General Chemistry which is taught by the medical laboratory department.

Also the program requires studying Arabic language and Islamic courses which are taught by the Faculty of Education as University requirements.

The Department of Computer Science and Information communicates its needs to other departments to ensure that the course contents fulfill the needs of computer science students. The syllabi of the courses are reviewed by a Committee of the Computer Science and Information department to ensure compliance with the Department's needs. The Department must approve the syllabi of the courses offered by the other departments.

3. Do students who are likely to be enrolled in the program have any special needs or characteristics? (eg. Part time evening students, physical and academic disabilities, limited IT or language skills).

Yes No

If yes, what are they?

- *English language skills (speaking and writing)*

The students entering in to the freshmen year (after Preparatory Year at University) must have sufficient knowledge in Basic Sciences, Mathematics and IT, and also have proficiency in the English Language, both spoken and written. As for now, there is no provision for part-time or evening training.

4. What modifications or services are you providing for special needs applicants?

A Preparatory Year Program is developed to strengthen the basic knowledge and skills of students in basic sciences, and IT and to improve their oral and written communication skills in the English Language. The academic level of the Preparatory Year Program is monitored by the relevant College to ensure that its level of competence in these fields of study is adequate. An extra technical English language course has been proposed in the program to compliment students training in the English language.

C. Mission, Goals and Objectives

1. Program Mission Statement (insert)

Providing outstanding higher education to equip graduates with skills and knowledge to communicate and work effectively in teams in a scientific environment and to compete in the labor market.

2. List Program Goals (eg. long term, broad based initiatives for the program, if any)

1. Commitment to Life Long Learning

Be able to develop solid foundations that allow students to learn and adapt their skills to the ever-changing technology landscape.

2. Commitment to Professional Responsibility

Be able to understand the social, legal, ethical and cultural issues that are related to the field of computing.

3. Communication and Organization Skills

Be able to communicate effectively with a range of audiences in a variety of modes including presentations, writing, face-to-face and electronic communication.

4. Awareness of the broad applicability of Computing

Be able to understand the wide applicability of computing applications in various domains.

5. Appreciation of Domain Specific Knowledge

Be able to communicate with experts of other domains towards development of solutions to the problems that require both computing skills and domain knowledge.

3. List major objectives of the program within to help achieve the mission. For each measurable objective describe the measurable performance indicators to be followed and list the major strategies taken to achieve the objectives.

Measurable Objectives	Measurable Performance Indicators	Major Strategies
1. Have strong foundation in mathematics and basic concepts of computer science and information.	1. Graduates' overall rating of the quality of the program courses	Studying the modern technologies in computer Science & information.
	2. Employers' overall rating of the quality of the graduates	
	3. Students' overall rating of the quality of the program courses	
	4. Stakeholders' overall rating of the quality of graduates.	
	5. Staff 's evaluation of students	
2. To lay the foundation for further research.	1. Students' overall rating of the quality of the program courses	Requiring students to work on graduate projects that keep pace with technological development
	2. Stakeholders' overall rating of the quality of graduates.	
	3. Staff 's evaluation of students	
	4. Modelling, prototyping, and documentation.	
	5. Selecting appropriate algorithms	
	6. Applying risk analysis	

	<p>7. Follow system building techniques.</p> <p>8. Analyze the output of computer-based systems.</p> <p>9. Quality of the developed systems.</p> <p>10. The ratio of graduation projects that keep pace with recent technology.</p> <p>11. Applying concepts and practices in different situations</p> <p>12. Awareness of implementation bugs and errors</p> <p>13. Stakeholders feedback about the ability of graduates to work on teams.</p> <p>14. Work successfully on projects as a team</p>	
<p>3. Acquire graduates methods and procedures to communicate and work effectively within multi-disciplinary teams.</p>	<p>1. The ratio of graduation projects that keep pace with the most recent technology.</p> <p>2. Applying concepts and practices in different situations</p> <p>3. Awareness of implementation bugs and errors</p> <p>4. Graduate capabilities to investigate and analyse user needs.</p> <p>5. Graduate capabilities to convey user needs into computer-based system.</p> <p>6. Professional Appearance</p> <p>7. Professional Interactions</p> <p>8. Objectivity</p> <p>9. Stakeholders feedback about the ability of graduates to work on teams.</p> <p>10. Work successfully on projects as a team</p> <p>11. Oral presentation delivery</p> <p>12. Presentation details and appropriateness of the technical contents as per the time constraint and the audience.</p> <p>13. Language skills</p>	<p>Cooperative learning and team work in projects</p>
<p>4. Encourage graduates to follow appropriate practices within a professional, legal, and</p>	<p>1. Professional Appearance</p> <p>2. Professional Interactions</p> <p>3. Objectivity</p> <p>4. The percentage of graduation</p>	<p>Coursework to include aspects pertaining the ethical, legal and professional dimensions of</p>

ethical responsibility.	projects that are related to society problems and requirements. 5. Stakeholders feedback about the proficiency of graduates. 6. Summer training feedback. 7. Ability of using appropriate techniques and tools to solve computational problems 8. The ability to interpret results 9. Knowledge of advanced numerical methods 10. Applying advanced numerical methods to solve problems	computing.	
5. Demonstrate efficient IT capabilities, and search for information and engage in life-long self-learning.	1. Participation rate of students in seminars and meetings related to the latest developments in the specialty. 2. Proportion of graduates who are enrolled in further studies.. 3. Integrate IT-based solutions into graduation project environment. 4. Stakeholders satisfaction 5. Ability to use appropriate techniques and tools to solve computational problems 6. The ability to interpret results	Encourage students to think independently and critically and also to engage in solving computing problems in different courses.	

D. Program Structure and Organization

1. Program Description:

List the core and elective program courses offered each semester from Prep Year to graduation using the below Curriculum Study Plan Table (A separate table is required for each branch IF a given branch/location offers a different study plan).

A program or department manual should be available for students or other stakeholders and a copy of the information relating to this program should be attached to the program specification. This information should include required and elective courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each year or semester. *Refer to Department Manual and College Manual for more information.*

Curriculum Study Plan Table

Level	Course Code	Course Title	Required or Elective	Pre-requisite Courses	Credit Hours	College or Department
Prep Year	PENG 111	Preparatory English (1)	Required		8	College
	PMTH 112	Introduction to Mathematics (1)	Required		2	College
	PCOM 113	Computer Skills	Required		2	College
	PSSC 114	Learning & Communication Skills	Required		2	College
	PENG 121	Preparatory English (2)	Required	PENG 111	6	College
	PENG 123	English for Science and Engineering	Required	PENG 111	2	College
	PMTH 127	Introduction to Mathematics (2)	Required	PMTH 112	4	College
	PPHS 128	General Physics	Required		3	College
Level 3	CSI 211	Programming 1	Required	PCOM 113	3	Department
	CSI 212	Disc. Math for CS 1	Required	PMTH 127	3	Department
	MATH 212	Calculus 1	Required	PMTH 127	3	College
	PHYS 217	Physics 2	Required	PPHS 128	3	College
	ENG 210	Tech. English	Required	PENG 121	2	College
	ZPSY 211	Educational & Thinking Skills	Required		2	College
Level 4	CSI 221	Programming 2	Required	CSI 211	3	Department
	CSI 222	Disc. Math For CS 2	Required	CSI 212	2	Department
	MATH 220	Calculus 2	Required	MATH 212	3	Department
	CSI 223	Digital Logic Design	Required	PHYS 217	3	Department
	CSI 224	Fund. of Inf. Systems	Required		3	Department
	CHEM 225	General Chemistry	Required		2	College
Level 5	CSI 311	Visual Programming	Required	CSI 221	3	Department
	CSI 312	Data Structures	Required	CSI 221, CSI 212	3	Department
	CSI 313	Computer Organization and Assembly Language	Required	CSI 223	3	Department
	CSI 314	Database	Required	CSI 211	3	Department
	MATH 310	Linear Alg. & Diff. Eq.	Required	Math 220	4	College
	ISL ***	Elective Islamic Course 1	Required		2	College
Level 6						

	CSI 321	Design & Analysis of Algorithms	Required	CSI 312	3	Department
	CSI 322	Computer Networks	Required	CSI 313	3	Department
	CSI 323	Computer Architecture	Required	CSI 313	3	Department
	CSI 324	Advanced Database	Required	CSI 314	3	Department
	CSI 325	Software Engineering 1	Required	CSI 221	3	Department
	STAT 320	Probability & Statistics	Required	MATH 220	3	College
Level 7						
	CSI 411	Artificial Intelligence	Required	CSI 321	3	Department
	CSI 412	Operating Systems	Required	CSI 313	3	Department
	CSI 413	Compiler Design	Required	CSI 222, CSI 221	3	Department
	***	Elective Course 1	Elective	***	3	Department
	ARAB ***	Elective Arabic Course	Elective		2	College
	ISL***	Elective Islamic Course 2	Elective		2	College
CSI 400	Summer Training	Required	72 Cr. Hrs	1	Department	
Level 8						
	CSI 421	Distributed Systems & Parallel Processing	Required	CSI 321	3	Department
	CSI 422	Software Engineering 2	Required	CSI 325	3	Department
	CSI 423	Cryptography and Information Security	Required	CSI 321	3	Department
	CSI 425	Computer Graphics	Required	Math 310	3	Department
	***	Elective Course 2	Elective	***	3	Department
	ISL ***	Elective Islamic Course 3	Required		2	Department
Level 9						
	CSI 510	Graduation Project 1	Required	120 Cr. Hrs	2	Department
	CSI 511	Web Programming & Internet Technology	Required	CSI 322	3	Department
	CSI 512	Data Mining	Required	CSI 314	3	Department
	CSI 513	Concepts of Prog. Lang.	Required	CSI 222	3	Department
	***	Elective Course 3	Elective	***	3	Department
	***	Elective Prereq. Univ.	Elective	***	2	Department
Level 10						
	CSI 520	Graduation Project 2	Required	CSI 510	3	Department
	CSI 522	Human Computer Interaction	Required	CSI 511	3	Department
	CSI 525	Professional Ethics	Required	CSI 422	2	Department
	***	Elective Course 4	Elective	***	3	Department
	***	Free Elective Course	Elective	***	3	Department
Include additional years if needed (i.e. Summer courses).						

Requirements	Mandatory	Elective	Total
University Requirements	2	10	12
College Core Requirements	29	0	29
Mathematics and Sciences Requirements	23+9 (from college core Req.)	0	23
Department Core Requirements	81	12	93

Summer Training Requirements	1	0	1
Free Elective Course	0	3	3
Total	136	25	161

1.Foundation Year Core Requirements (College core Requirements) (29 Credits):

Course Number	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lecture	Lab	EX	
PENG 111	Preparatory English (1)	8	20	0	0	-
PMTH 112	Introduction to Mathematics (1)	2	2	0	1	-
PCOM 113	Computer Skills	2	1	2	0	-
PSSC 114	Learning and Communication Skills	2	1	2	0	-
PENG 121	Preparatory English (2)	6	14	0	0	PENG 111
PENG 123	English for Science and Engineering	2	2	0	0	-
PMTH 127	Introduction to Mathematics (2)	4	4	0	1	PMTH 112
PPHS 128	General Physics	3	2	2	0	-
	Total	29	48	2	0	

2.University Requirements (12 Credits):

Course Number	Course Title	Credit Hours	Weekly Hours		Elections	Total Credits
			Lecture	Lab		
ZPSY 211	Educational & Thinking Skills	2	2	0	Mandatory	2
SALM 101	Introduction to Islamic Culture	2	2	0	Students choose 3 courses	6
SALM 102	Islam and Society Building	2	2	0		
SALM 103	Economic System in Islam	2	2	0		
SALM 104	Fundamentals of Political System in Islam	2	2	0		
ARAB 101	Arabic Language Skills	2	2	0	Students choose 1 course	2
ARAB 103	Arabic Writing	2	2	0		
ELEC 101	Principles of Health and Fitness	2	2	0	Students choose 1 course	2
ELEC102	Business Entrepreneurship	2	2	0		
SOCI 101	Societal Issues	2	2	0		
LHR 101	Human Rights Systems	2	2	0		
FCH 101	Family and Childhood	2	2	0		
VOW 101	Volunteering Systems	2	2	0		
			Total			

3. Mathematics and Sciences Requirements (31 Credits):

Course Number	Course Title	Credit	Weekly Hours	Prerequisite
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		Hours	Lec.	Lab.	EX.	
PMTH 112	Introduction to Mathematics (1)	2	2	0	1	
PMTH 127	Introduction to Mathematics (2)	4	4	0	1	PMATH 112
PPHS 128	General Physics	3	2	2	0	
PHYS 217	Physics 2	3	2	2	0	PPHS 128
CHEM 225	General Chemistry	2	2	0	0	-
MATH 212	Calculus I	3	3	0	1	-
MATH 220	Calculus II	3	3	0	1	MATH 212
MATH 310	Linear Algebra & Differential Equations	4	3	0	2	MATH 220
Stat 320	Probability & Statistics	3	3	0	1	MATH 220
CSI 212	Discrete Math for Computer Science 1	3	2	0	2	-
CSI 222	Discrete Math for Computer Science 2	2	2	0	0	CSI 212
	Total	32	28	4	8	

4.Department Requirements (93 Credits):

4-a) Mandatory Department Courses (81 CHs):

Course Number	Course Title	Credits Hours	Weekly Hours			Prerequisite
			Lec	Lab	Ex	
ENG 210	Technical English	2	2	0	0	--
CSI 211	Programming 1	3	2	2	0	--
CSI 221	Programming 2	3	2	2	0	CSI 211
CSI 223	Digital Logic Design	3	2	2	0	PHYS 217
CSI 224	Fundamentals of Information Systems	3	3	0	0	---
CSI 311	Visual Programming	3	2	2	0	CSI 221
CSI 312	Data Structure	3	2	2	0	CSI 221, CSI 212
CSI 313	Computer Organization and Assembly Language	3	2	2	0	CSI 223
CSI 314	Database	3	2	2	0	CSI 211
CSI 321	Design & Analysis of Algorithms	3	2	0	2	CSI 312
CSI 322	Computer Networks	3	2	2	0	CSI 224
CSI 323	Computer Architecture	3	3	1	0	CSI 313
CSI 324	Advanced Database	3	1	4	0	CSI 314
CSI 325	Software Engineering 1	3	2	2	0	CSI 221
CSI 411	Artificial Intelligence	3	2	2	0	CSI 321
CSI 412	Operating Systems	3	2	2	0	CSI 313
CSI 413	Compiler Design	3	2	2	0	CSI 222
CSI 421	Distributed Systems & Parallel Processing	3	2	2	0	CSI 321
CSI 422	Software Engineering 2	3	2	2	0	CSI 325
CSI 423	Cryptography	3	3	1	0	CSI 321
CSI 425	Computer Graphics	3	2	2	0	Math 310
CSI 510	Graduation Project 1	2	2	0	0	120 Cr. Hrs
CSI 511	Web Programming & Internet Technology	3	2	2	0	CSI 322
CSI 512	Data Mining	3	2	2	0	CSI 314
CSI 513	Concepts of Programming Languages.	3	2	2	0	CSI 222

CSI 520	Graduation Project 2	3	3	0	0	CSI 510
CSI 522	Human Computer Interaction	3	2	2	0	CSI 511
CSI 525	Professional Ethics	2	2	0	0	CSI 422
	Total	81	59	44	2	

4-b) Department Elective Courses (12 Credit Hrs):

- Student must select 4 courses from any of the next three tracks:-

Track I: Computer Graphics and Multimedia

Course Number	Course Title	Credits Hours	Weekly Hours		Prerequisite
			Lecture	Lab	
CSI 414	Digital Image Processing	3	2	2	MATH 310
CSI 424	Computer Vision	3	2	2	CSI 414
CSI 514	Interactive Computer Graphics	3	2	2	CSI 425
CSI 521	Multimedia Technology	3	2	2	CSI 425
CSI 530	Digital Photography	3	2	2	MATH 220

Track II: Computer Networks

Course Number	Course Title	Credits Hours	Weekly Hours		Prerequisite
			Lecture	Lab	
CSI 431	Advanced Computer Networks	3	2	2	CSI 322
CSI 432	Network Security	3	2	2	CSI 431
CSI 531	Wireless & Mobile Computing	3	2	2	CSI 322
CSI 532	Network Programming	3	2	2	CSI 431
CSI 533	Cloud Computing	3	2	2	CSI 322 , CSI 321

Track III: Individual Track: Student should select his courses from the above two tracks or from the following table

Course Number	Course Title	Credits Hours	Weekly Hours		Prerequisite
			Lecture	Lab	
CSI 441	Machine Learning	3	2	2	CSI 411
CSI 442	Introduction to Robotics	3	2	2	CSI 411
CSI 443	Expert Systems	3	2	2	CSI 411
CSI 444	Computational Methods	3	2	2	Math 310
CSI 445	Operational Research	3	2	2	STAT 320, MATH 310
CSI 446	Information System Management	3	2	2	CSI 314
CSI 447	Information Security	3	2	2	CSI 423
CSI 448	Project Management	3	2	2	CSI 422
CSI 449	Geographic Information Systems (GIS)	3	2	2	CSI 324

Curriculum Plan Levels

Preparatory Year														
Course Code	Course Name	Le	Lb	Ex	Cr	Prerequisite	Course Code	Course Name	Le	Lb	Ex	Cr	Prerequis	
PENG 111	Preparatory English (1)	20	0	0	8	--	PENG 121	Preparatory English (2)	14	0	0	6	PENG 111	
PMTH 112	Introduction to Mathematics (1)	2	0	1	2	--	PENG 123	English for Science and Engineering	2	0	0	2	PENG 111	
PCOM 113	Computer Skills	1	2	0	2	--	PMTH 127	Introduction to Mathematics (2)	4	0	1	4	PMTH 111	
PSSC 114	Learning & Communication Skills	1	2	0	2	--	PPHS 128	General Physics	2	2	0	3	--	
Total		14				--	Total		15				29	
First Year														
Course Code	Course Name	Le	Lb	Ex	Cr	Prerequisite	Course Code	Course Name	Le	Lb	Ex	Cr	Prerequis	
CSI 211	Programming 1	2	2	0	3	PCOM 113	CSI 221	Programming 2	2	2	0	3	CSI 211	
CSI 212	Disc. Math for CS 1	2	0	2	3	PMTH 127	CSI 222	Disc. Math For CS 2	2	0	0	2	CSI 212	
MATH 212	Calculus 1	3	0	1	3	PMTH 127	MATH 220	Calculus 2	3	0	1	3	MATH 212	
PHYS 217	Physics 2	2	2	0	3	PPHS 128	CSI 223	Dig. Logic Design	2	2	0	3	PHYS 217	
ENG 210	Tech. English	2	0	0	2	PENG 121	CSI 224	Fund. of Inf. Systems	3	0	0	3	--	
ZPSY 211	Educational & Thinking Skills	2	0	0	2	--	CHEM 225	General Chemistry	2	0	0	2	--	
Total		16					Total		16				32	
Second Year														
Course Code	Course Name	Le	Lb	Ex	Cr	Prerequisite	Course Code	Course Name	Le	Lb	Ex	Cr	Prerequis	
CSI 311	Visual Programming	2	2	0	3	CSI 221	CSI 321	Design & Analysis of Algorithms	2	0	2	3	CSI 312	
CSI 312	Data Structure	2	2	0	3	CSI 221, CSI 212	CSI 322	Computer Networks	2	2	0	3	CSI 313	
CSI 313	Computer Organization and Assembly Language	2	2	0	3	CSI 223	CSI 323	Computer Architecture	3	1	0	3	CSI 313	
CSI 314	Database	2	2	0	3	CSI 211	CSI 324	Advanced Database	1	4	0	3	CSI 314	
MATH 310	Linear Alg. & Diff. Eq.	3	0	2	4	Math 220	CSI 325	Software Engineering 1	2	2	0	3	CSI 221	
ISL ***	Elective Islamic Course 1	2	0	0	2	--	STAT 320	Probability & Statistics	3	0	1	3	MATH 212	
Total		18					Total		18				36	
Third Year														
Course Code	Course Name	L	Lb	Ex	Cr	Prerequisite	Course Code	Course Name	Le	Lb	Ex	Cr	Prerequis	
CSI 411	Artificial Intelligence	2	2	0	3	CSI 321	CSI 421	Distributed Systems & Parallel Processing	2	2	0	3	CSI 321	
CSI 412	Operating Systems	2	2	0	3	CSI 313	CSI 422	Software Engineering 2	2	2	0	3	CSI 325	
CSI 413	Compiler Design	2	2	0	3	CSI 222, CSI 221	CSI 423	Cryptography and Information Security	3	1	0	3	CSI 321	
***	Elective Course 1	*	*	*	3	***	CSI 425	Computer Graphics	2	2	0	3	Math 310	
ARAB ***	Elective Arabic Course	2	0	0	2	--	***	Elective Course 2	*	*	*	3	***	
ISL***	Elective Islamic Course 2	2	0	0	2	--	ISL ***	Elective Islamic Course 3	2	0	0	2	--	
CSI 400	Summer Training	1	0	0	1	72 Cr. Hrs								
Total		17					Total		17				34	
Fourth Year														
Course Code	Course name	Le	Lb	Ex	Cr	Prerequisite	Course Code	Course	Le	Lb	Ex	Cr	Prerequis	
CSI 510	Graduation Project 1	2	0	0	2	120 Cr. Hrs	CSI 520	Graduation Project 2	3	0	0	3	CSI 510	
CSI 511	Web Programming & Internet Technology	2	2	0	3	CSI 322	CSI 522	Human Computer Interaction	2	2	0	3	CSI 511	
CSI 512	Data Mining	2	2	0	3	CSI 314	CSI 525	Professional Ethics	2	0	0	2	CSI 422	
CSI 513	Concepts of Prg. Lang.	2	2	0	3	CSI 222	***	Elective Course 4	*	*	*	3	***	
***	Elective Course 3	*	*	*	3	***	***	Free Elective Course	*	*	*	3	***	
***	Elective Prereq. Univ.	2	0	0	2	***								
Total		16					Total		14				30	

2. Required Field Experience Component (if any, e.g. internship, cooperative program, work experience).

Summary of practical, clinical or internship component required in the program. Note: see Field Experience Specification

a. Brief description of field experience activity

Training at any computer science or IT related government or private sector centers is an important requirement for a graduate before his graduation. This summer training will lead to enhancing of the student's professional skills in the field of computer science & information.

Type of activity: *This training aims to narrow the gap between the theoretical study in the department, and professional practical work in the governmental or private sector. The department distributes students to training places through an agreement with these places during the summer vacation, and the distribution is based on the student's desire and the available opportunities. The training is evaluated by the training advisor at the CS or IT center and by the CSI training committee.*

b. At what stage or stages in the program does the field experience occur? (eg. year, semester)

After finishing of study of 72 credit hours the summer before the last summer of graduation

c. Time allocation and scheduling arrangement. (eg. 3 days per week for 4 weeks, full time for one semester)

Five days per week for eight weeks in summer vacation.

d. Number of credit hours (if any)

1 hour

3. Project or Research Requirements (if any)

Summary of any project or thesis requirements in the program. (Other than projects or assignments within individual courses) (A copy of the requirements for the project should be attached.)

a. Brief description

Graduation project is an idea aimed at solving a real-world problem taking into account that the idea is novel and that the method of solution is innovative. The idea is followed by proper planning and actual implementation. The graduation project is a real test of the students abilities and shows his capability in analysing problems and finding new innovative

solutions by designing and implementing the project using one of the programming languages that he has been taught. The students are divided into groups of not more than 3 and they are supervised by a staff member. The project is divided into two parts in the last two semesters of program study plan. In the first part the students are typically expected to study the problem, see what others have done, perform the analysis, determine the requirements and suggest/design a solution. The project will culminate in a formal public presentation, and written documentation. In the second part, the students will continue working on the software development of the problem they selected in the first part. The project will culminate in the delivery of a working system, a formal public presentation, and written documentation. Oral and written progress reports are required.

b. List the major intended learning outcomes of the project or research task.

- *Innovation in the field of computer science & information.*
- *Participation and cooperation through cooperation and fruitful exchange of ideas within groups.*
- *Evidence-Based Practice.*
- *Quality and proficiency and professionalism*
- *Training students to carry out scientific research and dealing with various conditions and know how to analyze the results obtained.*

c. At what stage or stages in the program is the project or research undertaken? (e.g. level)

9th & 10th semesters

d. Number of credit hours (if any)

2 hrs in the 9th semester and 3 hrs in the 10th semester

e. Description of academic advising and support mechanisms provided for students to complete the project.

The supervision of faculty members of the group of students to conduct research projects and provide guidance when needed.

f. Description of assessment procedures (including mechanism for verification of standards)

- *Students are evaluated by the supervisor of the project and the department supervisor.*
- *Discussion of the students' project at the end by an internal committee, and evaluation of the students as per a specific criterion.*

4. Learning Outcomes in Domains of Learning, Assessment Methods and Teaching Strategy

Program Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching.

The *National Qualification Framework* provides five learning domains. Learning outcomes are required in the first four domains and sometimes are also required in the Psychomotor Domain.

On the table below are the five NQF Learning Domains, numbered in the left column. For Program Accreditation there are four learning outcomes required for knowledge and cognitive skills. The other three domains require at least two learning outcomes. Additional learning outcomes are suggested.

First, insert the suitable and measurable learning outcomes required in each of the learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each program learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
a	Knowledge		
a1	Acquire knowledge of computing and mathematics appropriate to the discipline including simulation and modelling.	<ul style="list-style-type: none"> ▪ <i>Brainstorming</i> ▪ <i>Cooperative learning</i> ▪ <i>Dialogue and discussion.</i> ▪ <i>Constructivist learning</i> ▪ <i>Self-learning</i> 	<ul style="list-style-type: none"> ▪ <i>Conducting scientific research and follow-up of advances in the field.</i> ▪ <i>Quarterly tests.</i> ▪ <i>Duties and discussions within the lecture</i>
a2	Recognize the need for and an ability to engage in continuing professional development.		
a3	Understand of best practices and standards and their application.		
b	Cognitive Skills		

b1	Analyse a problem to identify and define the computing requirements appropriate to its solution.		
b2	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.	<ul style="list-style-type: none"> ▪ <i>Problem-solving techniques and strategies</i> ▪ <i>Cooperative learning strategy</i> ▪ <i>Strategy group discussions</i> 	<ul style="list-style-type: none"> ▪ <i>Practical tests</i> ▪ <i>Written tests</i> ▪ <i>Individual and group activities</i> ▪ <i>Short cognitive tests.</i>
b3	Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies.		
b4	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.		
b5	Integrate IT-based solutions into the user environment effectively.		
c	Interpersonal Skills & Responsibility		
c1	Adhere to professional, ethical, legal, security, and social issues and their responsibilities.	<i>Training students to build good relationships with their counterparts and collaborate with others and develop personal and professional skills through the following strategies:</i> <ul style="list-style-type: none"> ▪ <i>cooperative learning</i> ▪ <i>peer education</i> ▪ <i>mini-workshops teaching</i> ▪ <i>solving problems</i> 	<i>Students are assessed through:</i> <ul style="list-style-type: none"> ▪ <i>evaluation of field activities</i> ▪ <i>verbal tests</i> ▪ <i>assessment assignments</i> ▪ <i>style note</i>
c2	Analyse the local and global impact of computing on individuals, organization, and society.		
c3	Use current techniques, skills, and tools necessary for computing practice.		
d	Communication, Information Technology, Numerical		
d1	Function effectively on teams to accomplish a common goal.	<ul style="list-style-type: none"> ▪ <i>Cooperative learning</i> ▪ <i>Self-learning of the global information networks</i> ▪ <i>Computer labs.</i> ▪ <i>Simulation programs.</i> ▪ <i>Programming languages.</i> ▪ <i>Ready-made programs.</i> ▪ <i>Smart Boards</i> ▪ <i>Power point</i> 	<ul style="list-style-type: none"> ▪ <i>Written tests</i> ▪ <i>Laboratory tests</i> ▪ <i>Evaluate the information gathered by the students that are using information networks.</i>
d2	Communicate effectively with a range of audiences.		
d3	Apply advanced numerical methods.		
e	Psychomotor		

e	NA		
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NQF Learning Outcome Verb, Assessment, and Teaching Strategies and Suggestions

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyse, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise
Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyse, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize
Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider Maximize Continue Review Ensure Enlarge Understand
 Maintain Reflect Examine Strengthen Explore Encourage Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humour, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

Program Learning Outcome Mapping Matrix

Identify on the table below the courses that are required to teach the program learning outcomes. Insert the program learning outcomes, according to the level of instruction, from the above table below and indicate the courses and levels that are required to teach each one; use your program's course numbers across the top and the following level scale. Levels: I = Introduction P = Proficient A = Advanced

CSI=Computer Science, PE=PENG, PM=PMTH, PC=PCOM, PS=PSSC, PPH=PPHS,
 A=ARAB, SA=SALM, ST=STAT, M = MATH, PH = PHYS, E=ENG, Z= ZPSY, CH = CHEM

Learning Outcomes		Course Code and Number																		
		PENG 111	PMTH 112	PCOM 113	PSSC 114	PENG 121	PENG 123	PMTH 127	PPH 128	CSI 211	CSI 212	MATH 212	PHYS 217	ENG 210	ZPSY 211	CSI 221	CSI 222	MATH 220	CSI 223	
Knowledge	Acquire knowledge of computing and mathematics appropriate to the discipline including simulation and modelling.		√	√				√	√	√	√	√	√	√		√	√	√	√	
	Recognize the need for and an ability to engage in continuing professional development.			√			√								√	√			√	
	Understand of best practices and standards and their application.		√	√				√		√	√		√	√		√				√
Cognitive Skills	Analyse a problem to identify and define the computing requirements appropriate to its solution.									√	√	√	√			√	√	√	√	
	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.									√		√				√		√	√	
	Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies.											√	√						√	
	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.																			
	Integrate IT-based solutions into the user environment effectively.																			
Interpersonal Skills & Responsibility	Adhere professional, ethical, legal, security, and social issues and their responsibilities.		√				√	√	√			√							√	
	Analyse the local and global impact of computing on individuals, organization, and					√					√						√			
	Use current techniques, skills, and tools necessary for computing practice.	√		√		√	√			√	√			√	√	√	√			√
Communication, Information Technology, Numerical	Function effectively on teams to accomplish a common goal.		√		√			√		√	√	√		√	√	√	√	√	√	√
	Communicate effectively with a range of audiences.	√				√	√		√		√			√	√		√			
	Apply advanced numerical methods.																√			
Psychomotor	NA																			

Learning Outcomes		Course Code and Number															
		CSI 421	CSI 422	CSI 423	CSI 424	CSI 425	CSI 431	CSI 432	CSI 441	CSI 442	CSI 443	CSI 444	CSI 445	CSI 446	CSI 447	CSI 448	CSI 449
Knowledge	Acquire knowledge of computing and mathematics appropriate to the discipline including simulation and modelling.	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√
	Recognize the need for and an ability to engage in continuing professional development.	√		√	√	√		√	√	√	√	√	√	√	√	√	√
	Understand of best practices and standards and their application.	√	√	√	√	√	√		√	√	√		√	√	√	√	√
Cognitive Skills	Analyse a problem to identify and define the computing requirements appropriate to its application.	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√
	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.	√		√	√	√	√	√	√	√	√		√		√	√	√
	Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information		√	√		√			√		√	√	√	√	√		√
	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-	√		√	√				√	√	√	√		√	√	√	√
	Integrate IT-based solutions into the user environment effectively.		√			√			√	√		√		√	√	√	
Interpersonal Skills & Responsibility	Adhere professional, ethical, legal, security, and social issues and their responsibilities.	√	√	√		√	√		√	√			√		√	√	√
	Analyse the local and global impact of computing on individuals, organization, and	√	√	√				√			√			√	√	√	
	Use current techniques, skills, and tools necessary for computing practice.	√	√	√	√	√	√		√	√	√	√	√	√		√	√
Communication, Information Technology, Numerical	Function effectively on teams to accomplish a common goal.	√	√	√	√	√	√		√	√		√	√	√	√	√	√
	Communicate effectively with a range of audiences.	√	√	√		√	√	√	√	√	√		√	√	√	√	√
	Apply advanced numerical methods.	√			√	√		√			√	√	√	√			
Psychomotor																	
	NA																

Learning Outcomes		Course Code and Number												
		CSI 510	CSI 511	CSI 512	CSI 513	CSI 514	CSI 520	CSI 521	CSI 522	CSI 525	CSI 530	CSI 531	CSI 532	CSI 533
Knowledge	Acquire knowledge of computing and mathematics appropriate to the discipline including simulation and modelling.	√			√	√		√	√		√	√	√	√
	Recognize the need for and an ability to engage in continuing professional development.	√	√	√	√					√			√	√
	Understand of best practices and standards and their application.	√	√	√	√	√		√	√	√	√	√	√	√
Cognitive Skills	Analyse a problem to identify and define the computing requirements appropriate to its solution.	√	√		√	√	√	√	√		√	√	√	√
	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.	√	√		√		√	√	√		√		√	√
	Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies.	√	√	√	√	√	√	√			√		√	√
	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.		√	√			√	√	√	√				
	Integrate IT-based solutions into the user environment effectively.		√				√		√					
Interpersonal Skills & Responsibility	Adhere professional, ethical, legal, security, and social issues and their responsibilities.		√			√	√	√		√	√		√	√
	Analyse the local and global impact of computing on individuals, organization, and society.			√		√	√		√		√		√	√
	Use current techniques, skills, and tools necessary for computing practice.	√	√	√	√		√	√	√		√		√	
Communication, Information Technology, Numerical	Function effectively on teams to accomplish a common goal.	√	√	√	√	√	√	√	√	√	√	√	√	√
	Communicate effectively with a range of audiences.	√	√		√		√	√	√	√	√		√	√
	Apply advanced numerical methods.			√			√					√		
Psychomotor	NA													

Learning Outcomes		Course Code and Number												
		SALM 101	SALM 102	SALM 103	SALM 104	ARAB 101	ZPSY 211							
Knowledge	Acquire knowledge of computing and mathematics appropriate to the discipline including simulation and modelling.													
	Recognize the need for and an ability to engage in continuing professional development.													
	Understand of best practices and standards and their application.													
Cognitive Skills	Analyse a problem to identify and define the computing requirements appropriate to its solution.													
	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.													
	Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies.													
	Identify and analyse user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.													
	Integrate IT-based solutions into the user environment effectively.													
Interpersonal Skills & Responsibility	Adhere professional, ethical, legal, security, and social issues and their responsibilities.		√	√										
	Analyse the local and global impact of computing on individuals, organization, and society.													
	Use current techniques, skills, and tools necessary for computing practice.				√		√							
Communication, Information Technology, Numerical	Function effectively on teams to accomplish a common goal.	√	√	√	√	√	√							
	Communicate effectively with a range of audiences.	√			√	√	√							
	Apply advanced numerical methods.													
Psychomotor	NA													

5. Admission Requirements for the program

Attach handbook or bulletin description of admission requirements including any course or experience prerequisites.

- *Pass the preparatory year*
- *Pass a personal interview*

6. Attendance and Completion Requirements

Attach handbook or bulletin description of requirements for:

- Attendance: : *Students must attend 75% for each course of theoretical and practical lectures*
- Progression from year to year: *The student are promoted from one year to the next when they succeed in all subjects or a minimum of 3 subjects*
- Program completion or graduation requirements: *to get an acceptable minimum grade at the time of graduation and receive a percentage of not less than 60% in each course.*

E. Regulations for Student Assessment and Verification of Standards

What processes will be used for verifying standards of achievement (e.g., check marking of sample of tests or assignments? Independent assessment by faculty from another institution) (Processes may vary for different courses or domains of learning.)

- *Examine a sample of tests or duties; or an independent assessment of the work by the College in another institution.*
- *Operations may vary with different courses or fields of study.*

F Student Administration and Support

1. Student Academic Counselling

Describe the arrangements for academic counselling and advising for students, including both scheduling of faculty office hours and advising on program planning, subject selection and career planning (which might be available at college level).

- *Faculty members are advised to allocate number of office hours for academic guidance*
- *Distribution of students to academic advisors*
- *Work on periodic reports for guidance to track the academic performance of students*

2. Student Appeals

Attach the regulations for student appeals on academic matters, including processes for consideration of those appeals. *According to the regulations of the ministry of Higher Education*

G. Learning Resources, Facilities and Equipment

1a. What processes are followed by faculty and teaching staff for planning and acquisition of textbooks, reference and other resource material including electronic and web based resources?

The requirement of textbooks 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 text books on the subject and submit justifications for the chosen text book. The department requests the Purchasing department to procure the text books selected by the department.

1b. What processes are followed by faculty and teaching staff for planning and acquisition resources for library, laboratories, and classrooms.

Faculty and staff members generally follow the procedures to acquire resources, which typically start by submitting their requests in appropriate forms through their department heads.

2. What processes are followed by faculty and teaching staff for evaluating the adequacy of textbooks, reference and other resource provisions?

1 – A review of the value of these books to the students is carried out through the process of monitoring of the results of the students and by obtaining students opinions whether the references were effective or not.

2 - Periodic review of references approved by the department.

3 – Refereeing of the authored books by department members or the translated books.

4 - Provide expensive books and references by the university library to lighten the burden on students.

3. What processes are followed by students for evaluating the adequacy of textbooks, reference and other resource provisions?

Students have the opportunity to evaluate textbooks as per the student course experience survey as well as at annual student focus groups. Both activities are run by the college-level Academic Assessment Unit.

4. What processes are followed for textbook acquisition and approval?

Textbooks are made available to students through the University Bookstore. Departments submit their revised textbook lists at the end of the academic year before summer to be made available by the beginning of following year.

H. Faculty and other Teaching Staff

1. Appointments

Summarize the process of employment of new faculty and teaching staff to ensure that they are appropriately qualified and experienced for their teaching responsibilities.

1-Formation of a committee from within the department to examine the experiences of applicants.

2- Approval of both the council of the department and of the college council.

3- Approval of the Employment Committee at the University.

2. Participation in Program Planning, Monitoring and Review

a. Explain the process for consultation with and involvement of teaching staff in monitoring program quality, annual review and planning for improvement.

- Formation of committees in various academic department affairs committees such as tables committee, scientific research committee and quality control committee.

- Work on implementing the recommendations of these committees through discussions within the departmental meetings and reviewing policies and procedures and modifying them as required.

- Participation of department's faculty members in the program's periodic report, which is the outcome of the reports of their courses.

- Discuss the feedback of the faculty members in the results of the surveys of students about the program.

- Participation of faculty members in the preparation of a plan to improve the program.

b. Explain the process of the Advisory Committee (if applicable)

Voluntary Council is chosen by the Department, which consists of a group of eminent members with expertise and skills in offering advice and suggestions on topics determined by the department.

The functions of the Advisory Council of the program:

- 1. Provide technical support and advice in academic and administrative matter pertaining to the program.*
- 2. Suggest mechanisms that contribute to achieving the vision and mission of the program.*
- 3. Contribute to drawing a Strategic Plan.*

4. Create a spirit of true community partnership.

3. Professional; Development

What arrangements are made for professional development of faculty and teaching staff for:

a. Improvement of skills in teaching and student assessments?

Ongoing training for 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.

Also:

- Encourage faculty member to attend conferences and workshops, whether financially or academically through promotions.

- Internal department seminars and workshops.

- Holding a weekly seminar for all the faculty members of the college of Science at Al- Zulf.

- Encouraging faculty members to perform scientific research in research groups and publish regularly.

b. Other professional development including knowledge of research and developments in their field of teaching specialty?

- Holding seminars and workshops within the department, college and university.

- Invite specialist professors to give talks to the faculty members.

- Holding training courses for faculty members which are being implemented by the deanship of Accreditation and Quality Assurance in the University.

- Each research group makes a weekly presentation.

4. Preparation of New Faculty and Teaching Staff

Describe the process used for orientation and induction of new, visiting or part time teaching staff to ensure full understanding of the program and the role of the course(s) they teach as components within it.

- New members are recruited according to the departmental needs as per the department program, plan, courses as well as course descriptions.

- Introduce them to university's internal regulations and to a list of Higher Education rules.

- Workshops are held by the college to introduce the college rules to the new teaching staff.

- Prepare an introductory guide for the program which is provided to faculty members who are newly recruited.

5. Part Time and Visiting Faculty and Teaching Staff

Provide a summary of Program/Department/College/institution policy on appointment of part time and visiting teaching staff. (i.e. Approvals required, selection process, proportion to total teaching staff, etc.)

Doesn't apply

I. Program Evaluation and Improvement Processes

1. Effectiveness of Teaching

a. What QA processes are used to evaluate and improve the strategies for developing learning outcomes in the different domains of learning?

- Evaluation and report forms for different courses.

- Forms of student assessment of faculty members.

- Workshops and department meetings to discuss about the improvements necessary to the courses.

- Continuous review of the program plan to assure that it meets the latest technological trends in computer science and the fast changing society needs.

- Continuous assurance that the program plan satisfies and fulfils the IEEE/ACM Computing Curricula guidelines for computer science curriculum and meets the Computing Accreditation Criteria (CAC).

b. What processes are used for evaluating the skills of faculty and teaching staff in using the planned strategies?

- Conduct questionnaires to faculty members and to students.

- Evaluation forms from students to faculty members.

- Evaluation carried out by the departmental head and the dean of the college.

2. Overall Program Evaluation

a. What strategies are used in the program for obtaining assessments of the overall quality of the program and achievement of its intended learning outcomes:

(i) From current students and graduates of the program?

Conduct questionnaires for students to get their opinions about the evaluation of the program and the problems they face such as any scheduling issues and evaluating the quality of the

teaching materials and other related teaching materials.

Questionnaires for students already graduated.

(ii) From independent advisors and/or evaluator(s)?.

Consult specialists in the field of computer science & information outside the department and see their point of view on the process of education and the suitability of the curriculum as per the developments occurring and advances in the field.

Questionnaires to governmental and private sector agencies to assess the performance of the employed students and their education.

(iii) From employers, Advisory Committee, and/or other stakeholders.

Communication with employers advisory committee, and stakeholders in the field of computer science & information to find out the actual requirements from them and meet their needs through the application of student satisfaction questionnaire.

Complete the following two tables.

1. Program KPI and Assessment Table

2. Program Action Plan Table

Program KPI and Assessment Table

Standard 3 Management of Quality Assurance and Improvement

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Students overall evaluation on the quality of their learning experiences.	75%	73.49%				80%
1.1	Advice and Support	75%	69.4%				80%
1.2	Learning Resources and Facilities	85%	83%				90%
1.3	Learning and Teaching	75%	73.3%				80%
1.4	Help and Support for my Learning	70%	65.29%				75%
1.6	Resources to Support my Learning	75%	71.4%				80%

1.7	Evaluation of my Learning	80%	74.31%				90%
1.8	Overall Evaluation	80%	77.7%				90%
2	Proportion of courses in which student evaluations were conducted during the year.	60%	50%				65%

Standard 4 Learning and Teaching

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Ratio of students to teaching staff(Based on full time equivalents)	1:10	1:12				1:10
2	Students overall rating on the quality of their courses.						
2.1	Questions about the start of the course		3.8				
2.2	Questions about what happened during the course		4.3				
2.3	Evaluation of the Course		4.2				
3	Proportion of teaching staff with verified doctoral qualifications.	75%	67%				80%
4	Percentage of students entering programs who successfully complete first year.	50%	46%				60%
5	Proportion of students entering undergraduate programs who complete those programs in minimum time.	30%	24%				40%
6	Proportion of graduates from undergraduate programs who within six months of graduation are: (a) employed (b) enrolled in further study not seeking employment or further study.	45%	36%				50%
		10%	%5				15%

Standard 5

Student Administration and Support Services

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Ratio of students to administrative staff	1:7	1:9				1:5
2	Proportion of total operating funds (other than accommodation and student allowances) allocated to provision of student services						
3	Student evaluation of academic and career counselling.	75%					80%

Standard 6 Learning Resources

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Number of book titles held in the library as a proportion of the number of students.	15:1	12:1				20:1
2	Number of web site subscriptions as a proportion of the number of programs offered.	15:1	10:1				20:1
3	Number of periodical subscriptions as a proportion of the number of programs offered.	15:1	13:1				20:1
4	Student evaluation of library services. (Average rating on adequacy of library services on a five point scale in an annual survey of program students.)						

Standard 7 Facilities and Equipment

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Annual expenditure on IT as a proportion of the number of students	8000:1	6000:1				10000:1
2	Number of accessible computer terminals per student	2:1	3:1				1:1
3	Average overall rating of adequacy of facilities and equipment in a survey of teaching staff						
4	Internet bandwidth per user						

Standard 8 Financial Planning and Management

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Total operating expenditure (other than accommodation and student allowances) per student.						

Standard 9 Employment Processes

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Proportion of teaching staff leaving the institution in the past year for reasons other than age retirement	7%	10%				5%
2	Proportion of teaching staff participating in professional development activities during the past year	90%	80%				100%

Standard 10 Research

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Number of refereed publications in the previous year per full time equivalent member of teaching staff. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)						
2	Number of citations in refereed journals in the previous year per full time equivalent teaching staff						
3	Proportion of full time member of teaching staff with at least one refereed publication during the previous year						
4	Number of papers or reports presented at academic conferences during the past year per full time equivalent members of teaching staff						

5	Research income from external sources in the past year as a proportion of the number of full time teaching staff members						
6	Proportion of total operating funds spent on research.						

Standard 11 Institutional Relationships with the Community

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Proportion of full time teaching and other staff actively engaged in community service activities	25%	20%				30%
2	Number of community education programs provided as a proportion of the number of departments	2:3	1:3				3:3

Program Action Plan Table

Directions: Based on your “*Analysis of KPIs and Benchmarks*” provided in the above Program KPI and Assessment Table, list the recommendations identified below.

No.	Recommendations	Action Points	Assessment Criteria	Responsible Person	Start Date	Completion Date
1						
2						
3						
4						
5						
6						
Action Plan Analysis (List the strengths and recommendations for improvement of the Program Action Plan).						

Attachments:

1. Copies of regulations and other documents referred to in template preceded by a table of contents.
2. Course specifications for all program courses including field experience specification if applicable

Authorized Signatures

Dean / Program Chair	Name	Title	Signature	Date
Program Dean or Chair of Board of Trustees Main Campus				
Vice Rector				