



Program Specification

Program Name: Computer Science
Qualification Level: Bachelor (Level 6)
Department: Computer Science
College: Computer and information sciences
Institution: Jouf University

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A. Program Identification and General Information

1. Program Main Location:		
Saudi Arabia, Jouf Emirate, Sakaka, Jouf University, Main Campus(male)		
2. Branches Offering the Program:		
<ul style="list-style-type: none"> Main Campus (Sakaka) 		
3. Reasons for Establishing the Program:		
(Economic, social, cultural, and technological reasons, and national needs and development, etc.)		
The program was established for the following reasons:		
Economic reasons:		
<ul style="list-style-type: none"> To compensate the shortage in computer science specialty for the local and regional communities 		
Social and cultural reasons:		
<ul style="list-style-type: none"> To offer training, consultancy, and services in the field of Computer Science to the community. 		
Technological reasons:		
<ul style="list-style-type: none"> To prepare graduates for higher studies (MSc, PhD, etc.) in computer science domain. To contribute to the technological development plans of the Kingdom of Saudi Arabia as a partial fulfillment of the national development plan. 		
National policy developments:		
<ul style="list-style-type: none"> To increase the level of dependency on national graduates. Contribute to achieving the vision of the Kingdom of Saudi Arabia 2030. 		
4. Total Credit Hours for Completing the Program: (133)		
5. Professional Occupations/Jobs:		
<ul style="list-style-type: none"> Systems analyst and designer Software developer and designer Web Developer. Mobile Application Developer Software project director. Software Engineer IT Specialist IT Supervisor IT Manager IT expert IT Support technician Information Security Specialist 		
6. Major Tracks/Pathways (N/A)		
Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
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7. Intermediate Exit Points/Awarded Degree (N/A)		
Intermediate exit points/awarded degree	Credit hours	
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B. Mission, Goals, and Learning Outcomes

1. Program Mission:

Preparation of qualified scientific cadres in the various fields of computer science through innovative education and scientific research, which develops creative and analytical abilities that can serve the society.

2. Program Goals:

G1. Contribute significantly to research and discovery of new knowledge and methods in Computer Science.

G2. Create an enticing educational environment by providing opportunities for extracurricular activities through social activities and students clubs.

G3. Provide IT consultations and community services to those in need of such services.

G4: Ensure that program is able to achieve a high level through providing opportunities for professional development.

G5. Successfully engage in life-long learning and demonstrate the capability to adapt to rapidly changing technologies in their field.

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

The CS Program mission is aligned with the mission of Institution/College.

Program Mission	College Mission	Jouf University's Mission
Preparation of qualified scientific cadres in the various fields of computer science through innovative education and scientific research, which develops creative and analytical abilities that can serve the society.	Preparation qualified scientific cadres in the various fields of computing through innovative education and scientific research, and develops their creative and analytical abilities that can serve the society.	Providing distinguished educational and research outputs for the development of society.

Alignment between the program mission and the missions of the College and University

Mission of the CS Program	Main Elements of the Mission of CIS College			Main Elements of the Mission of Jouf University	
	Preparing qualified scientific cadres in the various fields of computing	through innovative education and scientific research, and develop their creative and analytical abilities	that can serve the society.	Providing distinguished educational and research outputs	for the development of society
Preparation of qualified scientific cadres in the various fields of computer science	√			√	
through innovative education and scientific research, which develops creative and analytical abilities		√		√	
that can serve the society.			√		√

The department was aware that the developed Program Goals serve the mission of the Jouf University (**see Table below**). The CS Program Goals are focused on key elements of the Jouf University’s mission by delivering the students with essential knowledge, tools and skills of science and technology to meet the key requirements of public and private organizations and enhance a knowledge and skill-based culture to serve local, regional and global communities while positively impact the environment. Strong co- relations are developed between the Program Goals and the elements of Jouf University’s mission to improve the social condition through scientific and technological augmentation by providing knowledge and skill-based work force willing to handle tasks for innovation, nurturing new knowledge and skills and serving its community by the maximum scientific knowledge available.

College Goals (CG):

CG1- Maintain excellent and high-quality education in order to obtain academic accreditation.

CG2- Prepare highly qualified graduates in various fields of computer and information sciences.

CG3- Ongoing development of faculty members' skills.

CG4- Publish rigorous and high-quality scientific research.

CG5- Establish national and international partnerships to support continuous development throughout the college.

CG6- Enhance the role of the faculty in serving the community

Jouf University's Goals (UG):

UG1-Compatibility of university performance with NCAAA standards

UG2-Development of student affairs

UG3-Assurance of quality and development

UG4-Having a complete university strategic plan

UG5-Diversity in university resources according to the diversity of community programs

UG6-Completion of university infrastructure and technology

UG7-University Attractive Environment

UG8-Compatibility of specializations with the market

UG9-Quality of the educational process and all its properties

UG10-Continuous training and rehabilitation of human forces

UG11-Readiness of labs

UG12-Enhancing research partnership

UG13-Compatibility of research according to scientific standards

UG14-Diversity and excellence of postgraduate programs

UG15-Positive effective presence for the university

UG16-Enhancing social partnership

The table below show that the CS program goals are aligned with the goals of the

college and university:

Program Goals	College Goals						University Goals																
	CG1	CG2	CG3	CG4	CG5	CG6	UG1	UG2	UG3	UG4	YG5	UG6	UG7	UG8	UG9	UG10	UG11	UG12	UG13	UG14	UG15	UG16	
G1			*	*														*	*	*			
G2	*							*					*		*								
G3			*			*			*														*
G4			*	*													*						
G5		*	*													*			*				

The table below show that the CS program goals are well aligned with the Jouf University's Mission:

Alignment of Jouf university mission with program goals.

Program Goals	Jouf University's Mission		
	Providing distinguished educational	and research outputs	for the development of society
G1	X	X	
G2	X		X
G3			X
G4		X	
G5	X	X	

The program is well aligned with the missions and objectives of the university and the college. Indeed, our program expands and proposes excellent educational outcomes and also offers high quality education and preparation in the field of computer science to convene the requests of the local community and the market. These goals were proposed to the CS Department Council after an elaborate discussion of an initial set of goals that were proposed by a departmental subcommittee commissioned for this task. Moreover, the CS department council has discussed and ratified an assessment strategy together with a review process to evaluate the extent to which the CS program achieves these goals. The assessment

strategy and review process involve the CS department constituency at various levels as will be detailed in the coming sections.

4. Graduate Attributes:

- A1.** An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
- A2.** Analyze a problem, and identify and define the computing requirements appropriate to its solution.
- A3.** Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- A4.** Function effectively on teams to accomplish a common goal.
- A5.** Adhere to high scientific and societal values and norms.
- A6.** Seeks to serve the community.
- A7.** Communicate effectively with a range of audiences.

Alignments of Graduate Attributes of CS Program with Graduate Attributes of the Institution

Graduate Attributes of the Institution	Graduate Attributes of CS Program
Possesses a comprehensive and consistent structure of knowledge and understanding of the theories involved Principles and concepts in the field of specialization	A1, A2
Mastery of accurate and advanced knowledge in the field of specialization, which qualifies him To meet the demands of the labor market	A1,A6
Knowledge and understanding of research methodology and survey methods	A1, A2,A3
Possess the ability to apply the knowledge, concepts and theories studied in specialization to address issues and problems	A3
Critical evaluation of complex knowledge, and its use to provide innovative solutions Contemporary issues and problems	A2

Practicing methods of investigation and research on issues and problems.	A2
The use of advanced and specialized tools, machines, materials, and devices in Dealing with practical activities related to specialization, work and profession	A2,A3
Perform a set of complex practical tasks and procedures in a specific field, related to the field of specialization or work profession.	A4
Communicate in different ways with individuals and groups to share knowledge and skills specialized.	A4,A5,A7
The ability to choose and use a variety of digital technology and information and communication technology tools and applications to serve the field and support and enhance research and specialized projects.	A2
Commitment to integrity, professional and academic ethics, and a commitment to responsible citizenship	A4,A7
Self-evaluation of the level of learning and the way of thinking and dealing with related issue Relationship with aspects of specialization and society	A1,A5
Mastering self-learning skills, and taking responsibility for professional development in the field of specialization.	A1,A4
The ability to socially adapt and work in a team with high flexibility.	A4,A5
Serving the community through active involvement in community issues that establish the values and principles of the community	A4,A6

The graduate attributes of the university align with the CS Program Graduate Attribute according to the alignment shown by the pervious table.

5. Program learning Outcomes*	
Knowledge and Understanding	
K1	Recognize the concepts of computing and mathematics appropriate to the discipline
K2	Recognize the essentials of design, implementation, and evaluation of computer-based system, process, component, or program to meet desired needs.
K3	Define the computing requirements to solve computer-based problems and state them in appropriate forms.
Skills	
S1	Analyze a complex computing problem to apply principle of computing and other relevant disciplines to identify solutions.
S2	Design a computing –based solution to meet a given set of computing requirements in the context of the program’s discipline.
S3	Apply computer science theory and software development fundamentals to produce computing-based solutions.
S4	Identify user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.
S5	Communicate effectively in a variety of professional contexts
Values	
V1	Recognize the professional, ethical, legal, security and social issues and responsibilities
V2	Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.
V3	Identify the local and global impact of computing on individuals, organization, and society.

Alignments of Graduate Attributes of CS Program with Program Outcomes and Program Goals:

Graduate Attributes	Program Outcomes	Program Goals
A1	K1,S1,S3	G1
A2	K3,S1,S4	G1,G4
A3	K2,S2,S3	G1,G4
A4	S5,V2	G5
A5	V1	G2
A6	V3	G2, G3
A7	S5	G5

The department of computer Science and the CS program operate smoothly and efficiently, with an emphasis on aligning our operations and activities with proactive planning to achieve our goals and attain skills in computer science area. The objectives of CS program contribute to economic growth of knowledge in computer science for Saudi society. The learning outcomes and objectives should be aligned to each other, since learning outcomes can be derived or written based on learning objectives. In fact, our program focuses on the design, analysis, and the application of computer science algorithms in various applications. Our program sustains and strengthens its teaching and research to provide students with inspiration and quality education in the theory and practice of computer science

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	10	29	21.8%
	Elective	1	2	1.5%
College Requirements	Required	7	22	16.55%
	Elective	-	-	-
Program Requirements	Required	20	62	46.6%
	Elective	4	12	9%
Capstone Course/Project	Required	2	5	3.8%
Field Experience/ Internship	Required	1	1	0.75%
Others	-	-	-	-
Total		45	133	

* 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	ENGL 001	English Language (1)	Required		6	Institution
	EDU 101	University Life Skills	Required		2	Institution
	CIS 101	Computer skills	Required		3	Institution
	MTH 101	Introductory Mathematics	Required		3	College
Level 2	ENGL 002	English Language (2)	Required	ENGL 001	6	Institution
	CHM 103	Principle of Chemistry	Required		3	College

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	CIS 102	Problem Solving and Programming	Required	CIS 101	3	Department
	MTH 102	Differential Calculus	Required	MTH 101	3	College
Level 3	ISL 101	Fundamentals of Islamic Culture	Required		2	Institution
	ARB 100	Arabic Language Skills	Required		2	Institution
	MTH 203	Integral Calculus	Required	MTH 102	3	College
	CIS 203	Computer programming (1)	Required	CIS 102	4	Department
	CIS 211	Discrete Mathematics	Required	MTH 102	3	Department
	PHS 101	General Physics (1)	Required		4	College
Level 4	ISL 107	Professional Ethics	Required		2	Institution
	ARB 102	Writing Skills	Required	ARB 101	2	Institution
	CNE 261	Logic Design	Required	MTH 102	4	Department
	CIS 204	Computer programming (2)	Required	CIS 203	4	Department
	CIS 205	Data structures	Required	CIS 203	4	Department
Level 5	ISL100 or ISL108 or ISL109	Studies in the Biography of the Prophet or Contemporary Issues or The Role of Women in Development	Required		2	Institution
	MTH 285	Principles of Linear Algebra	Required	MTH203	3	College
	CIS 312	Theory of Computation	Required	CIS 211	3	Department
	CIS 331	Programming Languages and compilation	Required	CIS 205	3	Department
	CIS 321	Software Engineering	Required	CIS 204	3	Department
	CIS 343	Computer Organization	Required	CNE 261	3	Department
Level 6	ISL100 or ISL108 or ISL109	Studies in the Biography of the Prophet or Contemporary	Required		2	Institution

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
		Issues or The Role of Women in Development				
	MTH 281	Probabilities and Statistics	Required	MTH 203	3	College
	CIS 322	Concepts of Database Systems	Required	CIS 205	4	Department
	CIS 313	Artificial Intelligence	Required	CIS 205	3	Department
	CIS 323	Software Project Management	Required	CIS 321	3	Department
	CIS 342	Operating systems	Required	CIS 205	3	Department
	CIS 391	Field Training	Required	Complete 90 hours from the program	1	Department
Level 7	CIS 432	Parallel Computing	Required	CIS 343	3	Department
	CNE 463	Computer Networks	Required	CIS 342	3	Department
	CIS 414	Design and analysis of Algorithms	Required	CIS 205	3	Department
	CIS 492	Graduate Project (1)	Required	Complete 90 credit hours	2	Department
	CIS 424	Mobile applications and development	Required	CIS 322 CIS 204	3	Department
	CIS XXX	Elective (1)	Elective		3	Department
Level 8	CIS 441	Introduction to Computer & Network Security	Required	CNE 463	3	Department
	CIS 493	Graduate Project (2)	Required	CIS 492	3	Department
	CIS XXX	Elective (2)	Elective		3	Department
	CIS XXX	Elective (3)	Elective		3	Department
	CIS XXX	Elective (4)	Elective		3	Department
	EDU XXX	University Elective topic	Elective		2	Institution

* Include additional levels if needed

** Add a table for each track (if any)

University Elective Courses (2 Hours)

SN	Course Code	Course Title	Credit Hours	Pre-Requisite Courses
1.	BUS 101	Entrepreneurship	2	-----
2.	EDU 102	volunteer work	2	-----

Department Elective Courses (select 12) Hours

SN	Course Code	Course Number	Course Name	Hours				Prior requirements
				Theoretic al	Practic al	Traini ng/Exe rcises	Accre dited	
1.	CIS	428	Programming on the Web	2	2	0	3	CIS 322 CIS 204
2.	CIS	425	Database Management System	3	0	1	3	CIS 322
3.	CIS	426	Advanced Software Engineering	3	0	0	3	CIS 321
4.	CIS	427	Web engineering and Development	2	2	0	3	CIS 424
5.	CIS	461	Computer Graphics	3	0	1	3	CIS 414
6.	CNE	484	Digital Image Processing	3	0	0	3	CIS 205
7.	CNE	471	Computer Vision	3	0	1	3	CIS 414
8.	CIS	464	Machine Learning	3	0	0	3	CIS 313
9.	CIS	465	Expert System	3	0	0	3	Complete 90 credit hours
10.	CIS	466	Human Computer Interaction	3	0	1	3	Complete 90 credit hours
11.	CIS	494	Selected Topics I	3	0	0	3	Complete 90 credit hours
12.	CIS	495	Selected Topics II	3	0	0	3	Complete 90 credit hours
13.	CIS	433	Distributed Systems	3	0	0	3	CIS 432
14.	CNE	478	Intelligent Systems & Robotics	2	2	0	3	Complete 90 credit hours
15.	CIS	434	Cloud Computing	2	2	0	3	Complete 90 credit hours
16.	CNE	474	Pattern Recognition	2	2	0	3	Complete 90 credit hours
17.	CIS	463	Bioinformatics	2	2	0	3	Complete 90 credit hours
18.	CIS	462	Natural Language Processing	3	0	0	3	Complete 90 credit hours
19.	CIS	442	Applied Cryptography	2	2	0	3	Complete 90 credit hours
20.	IS	427	Fundamentals of Big Data	3	0	0	3	Complete 90 credit hours

Field training

The student must finish a number of weeks in industrial training. Where to practice experience, activity is defined by the department in advanced. Teaching staff supervise students through their Field training. In addition, the industrial trainer sends report to the department about student progress. At the end of the training/ Cooperative Work, the student conducts a presentation about what he learned in the training. The student has to finish 110 credit hours before starting the field training.

3. Course Specifications

Insert hyperlink for all course specifications using NCAAA template

https://drive.google.com/drive/folders/16mdZCPm8ZTZiwps2RI_84bTNjgl4UB0n?usp=sharing

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)

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills					Values		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
ENGL 001	I			I							I
EDU 101	I	I	I	I	I	I			I	I	I
CIS 101			I	I				I			
MTH 101	I				I		I				I
ENGL 002	I			I							I
CHM 103	I	I	I	I	I				I	I	
CIS 102	I	I		I	I						
MTH 102		I	I			I	I		I		
ISL 101		I				I				I	I
ARB 100	I		I	I			I			I	
MTH 203		I	I		I	I				I	
CIS 203	I	I		I	I			I			
CIS 211	I	I		I	I						
PHS 101	I		I	I		I					
ISL 107	I	I	I	I	I		I		I		I
ARB 102	I	I		I			I			I	
CNE 261	P	P		P	P					P	

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills					Values		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CIS 204	P	P	P			P					P
CIS 205	P		P		P	P		P			
CIS 312	P	P	P	P							
CIS 331	P	P		P	P						
CIS 321		P			P		P	P		P	
CIS 343	P				P			P	P	P	
MTH 281	P			P		P		P			
CIS 322	P			P	P					P	
CIS 313	P			P	P			P	P		
CIS 323		P	P			P				P	
CIS 342	P	P		P	P			P			
CIS 391	M			M		M		M	M	M	
CIS 432	M	M		M	M						
CNE 463				M	M		M				M
CIS 414	M		M	M	M	M					
CIS 492		M	M	M	M	M			M	M	M
CIS 424	M	M			M	M					M
CIS 441	M			M		M		M	M		
CIS 493		M	M	M	M		M		M	M	M

* Add a table for each track (if any)

Course code & No.	Program Learning Outcomes (Elective Courses)										
	Knowledge and understanding			Skills					Values		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CIS428		M		M		M			M		
CIS425	M				M		M			M	
CIS426	M		M	M		M				M	
CIS427		M		M		M			M		
CIS461		M		M	M						M
CNE 484	M			M		M		M		M	
CNE471		M	M	M				M	M		M
CNE 478	M		M		M	M				M	
CIS464	M		M	M	M	M					

Course code & No.	Program Learning Outcomes (Elective Courses)										
	Knowledge and understanding			Skills					Values		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CIS465	M		M	M	M	M					
CIS466	M			M				M	M		
CIS433	M	M			M				M		
CIS434	M		M	M	M				M		
CIS463	M		M	M	M					M	
CIS462	M				M	M				M	
CIS442	M		M	M	M				M		
CIS 474	M	M				M		M	M		
IS427		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.

The graduates should possess the knowledge, skills and values to enable them to cope with dynamic employment opportunities, but they must also understand, through the benefits and constraints of their disciplinary perspectives, who they are and how they might contribute positively to the heterogeneity they will encounter in their local, regional and global communities.

High quality learning is not possible without high quality teaching. In CS program, we use different teaching strategies including:

- Lectures
- Tutorials
- Class discussion
- Problem solving
- Case study
- Self-learning
- Presentation and reporting strategies
- Lab activities
- Reading Lists
- Hand-outs
- Group Working

Program Learning Outcomes and Teaching Strategies 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 below table summarizes the teaching learning strategies methods for program learning outcomes:

Program Learning Outcomes (PLOs)		Teaching and Learning Strategies
Knowledge and Understanding		
K1	Recognize the concepts of computing and mathematics appropriate to the discipline	<ul style="list-style-type: none"> ■ Lecture ■ Tutorials ■ Self-Learning ■ Handouts ■ Problem Solving
K2	Recognize the essentials of design, implementation, and evaluation of computer-based system, process, component, or program to meet desired needs.	<ul style="list-style-type: none"> ■ Lecture ■ Tutorials ■ Handouts ■ Self-Learning ■ Class Discussions
K3	Define the computing requirements to solve computer-based problems and state in appropriate forms.	<ul style="list-style-type: none"> ■ Lecture ■ Tutorials ■ Handouts ■ Self-Learning ■ Class Discussions

Skills		
S1	Analyze a complex computing problem to apply principle of computing and other relevant disciplines to identify solutions.	<ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials ▪ Lab activities ▪ Group Working ▪ Handouts ▪ Class Discussions ▪ Case study
S2	Design a computing –based solution to meet a given set of computing requirements in the context of the program’s discipline.	<ul style="list-style-type: none"> ▪ Lectures ▪ Lab ▪ Group Working ▪ Class Discussions ▪ Presentation ▪ Case study
S3	Apply computer science theory and software development fundamentals to produce computing-based solutions.	<ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials ▪ Lab activities ▪ Group Working ▪ Case study
S4	Identify user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.	<ul style="list-style-type: none"> ▪ Lectures ▪ Lab activities ▪ Group Working ▪ Case study ▪ Class Discussions
S5	Communicate effectively in a variety of professional contexts	<ul style="list-style-type: none"> ▪ Presentation ▪ Class Discussions
Values		
V1	Recognize the professional, ethical, legal, security and social issues and responsibilities	<ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials ▪ Reading Lists ▪ Class Discussions
V2	Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.	<ul style="list-style-type: none"> ▪ Tutorials ▪ Group Working ▪ Self-learning ▪ Class Discussions
V3	Identify the local and global impact of computing on individuals, organization, and society.	<ul style="list-style-type: none"> ▪ Lectures ▪ Tutorials ▪ Group Working ▪ Class Discussions
<p>Teaching and learning strategies are planned and identified according to each course learning outcomes, which are aligned with PLOs. Further, these teaching strategies are chosen based on the domains of learning. These includes active learning strategies such as :</p>		

- Class discussion
- Group Project-based learning
- Self-learning
- Presentation and reporting strategies

Regarding the Extracurricular activities, The Jouf University has two Deanships that are responsible for developing, observing, performing, and following up of the necessary responsibilities and services related to students. These deanships are: (1) The Deanship of Admissions & Registration and (2) The Deanship of Student Affairs. The Deanship for Admissions and Registration is the impetus for academic progress of the student. It manages the most of students' affairs throughout their time at the program, starting with the application cycle, throughout their tenure as students and even after their graduation. On the other hand, the Deanship of Student Affairs gives programs and services that help the students and strengthen the academic excellence by giving chances for the students both inside and outside the program. It facilitates with the College of Computer and Information Sciences, other colleges and the Jouf University's administration in order to develop a good academic learning environment, which advances successful learning and personal development according to the rules and policies of Jouf University.

Also the CS program propose extracurricular activities to contribute in the program learning outcomes. Extracurricular activities complement the academic curriculum by refining and developing interpersonal skills and behaviors, hence, enhancing students' experience. The impact of Student engagement in extracurricular activities on achievement and employment is becoming evident nowadays. The extra-curricular activities include the following domains:

- **Community Service**, which covers any sort of volunteer work, either in the community, on a national scale, or abroad, most educational institutions offer regular opportunities for students to give back to the community. These activities take a variety of shapes, including participating in environmental clean-up efforts and mentoring students in elementary schools. Including volunteer work on the resume shows the degree of commitment to helping the community and the willingness to serve others.
- **Professional training and academic clubs**, which shows that the passionate about learning and gaining a competitive advantage. At the collegiate level, many high-performing students are invited to join professional societies. These are typically national associations that seek out members who are skilled in a particular field. Joining one of these societies shows the commitment to your chosen industry and the level of professional competency. Belonging to a club or taking part in professional training is

beneficial because it shows potential employers that the student has some technical skills and that he/she intentionally sought out opportunities to develop professionally. The college level committee of professional and academic training organizes at each semester a wide range of training courses covering different areas in the information systems. It should also be mentioned that the CIS College offers training within the framework of IBM, CISCO, ORACLE, and Microsoft certifications as an academy accredited by the corresponding institutes and organizations. A lot of clubs are also settled at the college.

The below table summarizes some of the extra-curricular activities offered to the students and their impact on the CS program outcomes.

Extra-curricular activity	Course	CS Program Learning Outcomes											
		K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3	
knowledge and Technological skills													
1	Problem-Solving methods in programming	CIS102	x	x		x	x						
2	Introduction to programming using Python	CIS203	x	x		x	x				x		
3	Android App Development for Beginners	CIS203	x	x		x	x				x		
4	Advanced Programming in C++	CIS204		x	x				x			x	
5	Software design using UML	CIS321		x				x		x			x
6	Introduction to Excel (Microsoft certification)	CIS101				x	x				x		
7	Introduction to Cybersecurity	CNE463					x	x			x		
7	SAS Business Analytics	CIS313	x				x	x			x	x	
8	Database Foundation	CIS322	x				x	x					x

9	Object-Relational Databases	CIS322	x			x	x					x		
10	Database Design and Programming Using ORACLE	CIS322	x			x	x					x		
11	Oracle Forms Application Server	CIS322	x			x	x					x		
Academic Teams and Clubs														
1	Cyber Security Club: Intro to Network Security	CNE463				x	x			x			x	
2	Cyber Hub Student Club training session	CNE463				x	x			x			x	
Leadership activities														
1	Develop entrepreneurial skills	CIS391										x	x	x
2	Develop yourself with Droob-in	CIS391										x	x	x

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.

In order to assess and evaluate the extent to which the PLOs are being attained, the CS Program uses various processes. These processes are defined to keep data gathering efficient and effective, and the evaluation relevant according to the process of continuous improvement. To achieve these goals, two types of assessments, direct and indirect are performed. The indirect assessment is performed using surveys while the direct assessment results are obtained from student coursework-based evaluations.

1. Direct Assessment:

The direct assessment of the outcomes usually relies on the coursework and uses a variety of tools that include combinations (as defined in the articulation matrix at the beginning of academic year) of final exam, midterm tests, quizzes, homework, laboratory works, assignments, practical, projects, presentations, etc. The assessment

tools do however vary from course to course. The below table summarizes the assessment methods for program learning outcomes.

The department has identified various possible assessment tools where the instructor can choose from. The choice of the assessment tools varies from course to course. The list of the direct assessment tools are as follows:

- Homework / Assignments
- Quizzes / Tests
- Group (Individual) Project / Mini project – Rubric Based
- Research Report– Rubric Based
- Lab Exam / Lab reports
- Exam (Mid-term and Final)
- Class Graded Discussion
- Summarizes reading.

Program Learning Outcomes (PLOs)		Assessment Methods
Knowledge and Understanding		
K1	Recognize the concepts of computing and mathematics appropriate to the discipline	<ul style="list-style-type: none"> ▪ Exams ▪ Assignments ▪ Quizzes ▪ Homework
K2	Recognize the essentials of design, implementation, and evaluation of computer-based system, process, component, or program to meet desired needs.	<ul style="list-style-type: none"> ▪ Exams ▪ Assignments ▪ Quizzes ▪ Homework
K3	Define the computing requirements to solve computer-based problems and state in appropriate forms.	<ul style="list-style-type: none"> ▪ Exams ▪ Assignments ▪ Quizzes ▪ Homework
Skills		
S1	Analyze a complex computing problem to apply principle of computing and other relevant disciplines to identify solutions.	<ul style="list-style-type: none"> ▪ Quizzes/Homework ▪ Exams ▪ Assignments ▪ Rubric-based Project Report ▪ Presentation ▪ Lab Exam/Lab reports
S2	Design a computing –based solution to meet a given set of computing requirements in the context of the program’s discipline.	<ul style="list-style-type: none"> ▪ Quizzes/Homework ▪ Exams ▪ Assignments ▪ Rubric-based Project Report ▪ Presentation ▪ Lab Exam/Lab reports

S3	Apply computer science theory and software development fundamentals to produce computing-based solutions.	<ul style="list-style-type: none"> ▪ Quizzes/Homework ▪ Exams ▪ Assignments ▪ Rubric-based Project Report ▪ Presentation ▪ Lab Exam/Lab reports
S4	Identify user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.	<ul style="list-style-type: none"> ▪ Quizzes/Homework ▪ Exams ▪ Assignments ▪ Rubric-based Project Report ▪ Presentation ▪ Lab Exam/Lab reports
S5	Communicate effectively in a variety of professional contexts	<ul style="list-style-type: none"> ▪ Rubric-based Project Report ▪ Class Graded discussion ▪ Lab Exam Lab reports
Values		
V1	Recognize the professional, ethical, legal, security and social issues and responsibilities	<ul style="list-style-type: none"> ▪ Rubric-based Project Report ▪ Class Graded Discussion ▪ Summarizes reading
V2	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	<ul style="list-style-type: none"> ▪ Rubric-based Project Report ▪ Lab Exam/Lab reports ▪ Graded Class Discussion
V3	Identify the local and global impact of computing on individuals, organization, and society.	<ul style="list-style-type: none"> ▪ Rubric-based Project Report ▪ Lab Exam/Lab reports ▪ Graded Class Discussion

2. Indirect Assessment:

Students are asked to rate the quality of teaching and learning process through the conduction of different surveys. The CS program developed evaluation forms for many stakeholders to guide the evaluation of results obtained from the collected surveys. The table below summarizes the tools for the indirect assessment and evaluation. In this regard, formal written surveys targeting the sought outcomes are solicited from students at the end of the CS courses. The surveys are conducted by the faculty members in their respective classes or by the program coordinator.

Assessment Tool	Frequency of Assessment	Target Level of Achievement
Course Student Evaluation Survey (CES)	Semester	60%
Program Evaluation Survey (PES)	Semester	60%
Employers Survey	Semester	60%
Exit Surveys	Semester	60%
Student experience Survey	Semester	60%

Course Student Evaluation Surveys:

For the indirect assessment, surveys are conducted at the end of each CS course. These surveys target to obtain analysis from students towards each course at the semester end. This is designed by the deanship of quality and academic accreditation that are based upon the suggested templates NCAAA. The survey included four themes which are:

- The first theme: The beginning of the course
- The second theme: What happened during the course (progression)
- The third theme: Evaluation of the course
- The fourth theme: Overall Evaluation

The survey used the five-point scale (Likert scale), and the mean and orientation were calculated for each item. The orientation (degree of agreement) was based on the weighted average as follows:

- Very Low
- Low
- Average
- High From
- Very High

This survey is carried out at the end of each semester. It aims to measure students' perspectives about various aspects of the courses offered in the CS program. All the Course student evaluations are carried out electronically through an Electronic Student Gate.

Program Evaluation Survey (PES): This survey result provides valuable information on the effectiveness of the program in achieving its outcomes. Furthermore, it reflects the positive and negative aspects of the student's achievements in the program.

Employer Satisfaction Survey: This survey is designed specifically for students completing the program in order to measure their extent of achievement of the set outcomes intended for the program. Such surveys have important role to play in assessing the outcomes and monitoring the quality and effectiveness of CS Program.

Exit Surveys: At the end of each semester, a survey for the final year students is carried out. The survey sought to find out how the students perceive the program in developing analytical skills, independent thinking, and others. The questions in the surveys assessed graduating students' satisfaction in the whole components of the program and program outputs including knowledge, skills, and abilities that they gained, academic and career counseling,

faculty members, materials and facilities they have encountered before graduation. Survey questions on the scale of 1 to 5 with 5 being the best.

Student Experience Survey: This survey is designed to provide faculty members and administration with information about the student's learning experience. In order to increase student satisfaction with the learning experience, the instructor should retain the classroom teaching method and identify novelty to improve classroom performance.

The following steps summarize the assessment methods in CS program

- Collecting information about our current students' performance and their grade distributions through their academic advisors, graduating student surveys, employment outcome data, employer feedback and subsequent performance of graduates are used to provide evidence about the appropriateness of intended learning outcomes and the extent to which they are achieved.
- If problems are found through program evaluations appropriate action is taken to make improvements.
- Courses and programs are evaluated and reported on annually with information about the effectiveness of planned strategies and the extent to which intended learning outcomes are being achieved.
- Records of student completion rates in all courses and the program as a whole are kept and used as quality indicators.
- Annual reports including quality assurance data are provided and reviewed by senior administrators and quality committees.
- Identifying issues that require urgent attention through students' anonymous opinions.
- Gather suggestions for improvement through workshops with working graduates.
- Conducting surveys to measure the percentage of graduates who are getting the jobs that they were expecting.
- The program is evaluated by representatives of an accreditation body.
- Feedback from visiting lecturers from the industry.
- Primarily through employer surveys, and consultation with members of the industrial advisory board who are selected to represent relevant community and employer stakeholders

D. Student Admission and Support:

1. Student Admission Requirements

The University Council determines the number of students to be admitted in the upcoming academic year according to the recommendations of Colleges' Councils and respective bodies. Admission of prospective students requires the following:

1. The applicant must hold the General Secondary Certificate or its equivalent from inside outside Saudi Arabia.
2. The General Secondary Certificate or its equivalent must have been obtained within the last five years (Exceptions can only be decided by the University Council in light of persuasive reasons).
3. The applicant must enjoy a good conduct.
4. The applicant must pass any interviews or tests decided by the University Council.
5. The applicant must be medically fit.
6. The applicant must obtain an approval to the study from his/ her employer if he/she works in any government or private institution.
7. The applicant must meet any other conditions determined and announced by the University Council at the time of application.
8. The applicant must have not been dismissed from another university for disciplinary reasons.
9. Holders of a bachelor's degree or its equivalent may not be admitted to study another BA degree (exceptions can be decided only by the University Rector).
10. Applicants who are currently registered for another university degree or less, in this university or another one, may not be admitted.

Selection of admitted students from applicants who meet all admission requirements is taken on the basis of their grades in the general secondary certificate, personal interviews and admission tests (if any).

2. Guidance and Orientation Programs for New Students

All newly admitted students spend their first academic year in the Common First Year. Since the language of instruction in majority of the private or public secondary schools is Arabic, the main objectives of the Common First Year program are: (a) to improve the students' English proficiency and thus enable them to pursue

undergraduate studies in English, which is the principal language of instruction; (b) to review and reinforce the students' knowledge of basic mathematics and physics with English as the language of instruction; (c) to introduce the students to new university study skills needed by the students such as design studio, computer science as well as learning, communication, research and computer skills to improve their manual dexterity and develop practical skills; (d) to expose the students to the various academic specialties available in the University; and (e) to improve the students' physical well-being through health and physical education.

Students must complete all courses offered in the Common First Year program with a minimum GPA of 2 to be eligible for promotion to the freshman level and placement in CS program.

Placement is done normally at the end of spring (second) semester or after summer semester for irregular students, i.e., the students that must repeat courses. Irregular students are given a chance in the summer semester to complete their Common First Year courses according to the study and examination rules of Jouf University.

3. Student Counseling Services

(academic, career, psychological and social)

Guidance to Advising

At the beginning of each academic year, the dean and faculty of each college conduct a welcome orientation of its newly admitted students. The objectives of such an orientation include but not limited to:

1. A welcoming message from the Dean aimed at facilitating their integration into the various services of the university and also to the departments of the college.
2. Introducing the students to the Academic and Student Advising Unit in the college
3. Distributing the university Advising Guide
4. Assigning faculty advisors to the individual students
5. The meeting of the coordinators of the academic guidance to consult on the academic guidance plan in the college and about ways to develop it through practical proposals by each department under the supervision of the academic guidance unit,
6. Activate the service of an academic guide for the new faculty members and connect students with them to establish a balance in the service of guidance among all members of the faculty without full-time assignments.

Role of academic advisors

A departmental faculty member is assigned for each student as long as he is staying with the department as a student. The academic advisor advises the student until his graduation. The advisor monitors the student's performance, rectifies any errors and observed deficiencies, guides the student in preparation of the graduation plan, helps to select the elective courses and a suitable topic for senior design project to meet his graduation plan. Other responsibilities of the academic advisors may include:

1. Monitoring the absence of the student: Monitoring the absence of students from the functions of the professor of the course, and the academic advisor to follow up cases referred to him by the coordinator's guidance in accordance with the plan.
2. Coaching about students' add and drop of courses procedures.
3. Providing students with direct and indirect access to the expertise of college members outside the classroom.
4. Advise the students of their career opportunities.

Career Guidance

1. Workshops are conducted during the studying for students in the early stages of how to choose a career path.
2. In each academic year prior to the commencement of the practical examinations, the college participates in the professional day. On a professional day, several workshops are held to teach students how to write a C.V., how to conduct interviews and how to choose the right job. On a professional day, the university invites a group of companies specializing in Information Technology, where they are presented with graduation projects for senior students and graduates.

4. Special Support

(low achievers, disabled, gifted and talented)

Universities and colleges are increasingly aware of the needs of students with a disability and students with a learning difficulty.

Support for students with disabilities

Support provided by the college can include:

- accommodation adapted for the needs of students with disabilities

- professional care staff
- help from volunteers

Disability advisors and learning support coordinators

The college has a disability advisor or learning support coordinator to help the student get the most out of time in higher education. They can tell the student about the support available.

There are many things universities can do to help students with disabilities, including:

- making sure buildings and facilities are accessible
- encouraging flexible teaching methods
- providing support during exams
- allowing additional time to complete courses

Support for gifted and talented students

The CS program encourages talented and gifted students and ensures their continued development as ideal future candidates for advanced studies in Computer Science field on their journey to becoming the Nation's next generation of leaders and decision-makers.

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	Computer Science	AI, Software Engineering, Security, Algorithms	-	3	2	5
Associate Professors	Computer Science	AI, Software Engineering, Security, Algorithms,	-	6	4	10
Assistant Professors	Computer Science	AI, Software Engineering, Security, Algorithms	-	15	12	27
Lecturers	Computer Science	-	-	10	10	20
Teaching Assistants	Computer Science	-	-	8	8	16
Technicians and Laboratory Assistants	IT	IT	-	5	6	11

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Administrative and Supportive Staff	secretary	secretary	-	6	6	12
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

A new faculty member is given a copy of the Faculty Handbook that contains all information about the duties and responsibilities of the faculty, including the rights, privileges and code of conduct. For the first two semesters, the faculty members assigned courses that are within his area of specialty. If necessary and desired, the faculty member is assigned an experienced senior faculty member for guidance. Students' evaluation is used to provide feedback about the faculty member quality of teaching. The faculty member is asked to attend the workshops on effective teaching and in professional development conducted by the University. The department will:

- Provide faculty handbook that summarizes main issues, e.g., number of office hours expected, involvement in student advising, involvement in administrative tasks, vacations, code of conduct, etc.
- Introduce new teaching staff to other faculty and staff in a department meeting

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 university provides different methods to promote faculty member professional development. For example, the university policy allows a tenured faculty member to have a sabbatical year leave every 5 years or one semester-leave every three years. The university provides opportunity for tenured faculty members to attend a maximum of four international conferences annually and the right to attend an overseas workshop/training course every two years. Tenure-track faculty may attend one international conference per year. Jouf University also encourages tenured faculty to participate in the scientific contact program where a faculty member can join any internationally known research person, group, or research centre.

Also, Jouf University provides a wide range of opportunities for faculty members to apply for projects each year funded by the Jouf university research unit.

Besides, Jouf University provides a wide range of opportunities for professional development to its entire faculty members through the training programs provided by the **Skills development center**, such as:

1. Effective teaching strategies.
2. Building the achievement tests in the university stage.
3. Recent trends in curriculum design.
4. Active learning strategies.
5. Citation and scientific documentation of research.

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.)

- a. Selecting learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.):

The Curriculum Committee formulated general criteria for the selection of learning resources. These general criteria aim to help each subject panel to consider a number of key factors in learning resources selection. They should:

- be in line with the curriculum aims and contain the core elements of the curriculum;
- provide students with a range of materials at various levels of difficulty and present different points of view;
- develop students’ learning strategies, generic skills, values and attitudes;
- enhance students’ motivation and learning effectiveness;
- ensure the design of tasks and activities that cater for learner diversity;
- encourage self-access and independent learning;
- add reflection, self-assessment, peer and group assessment to the learning activities to improve learning;
- provide opportunities for discussion and further enquiries to facilitate students’ critical thinking and to assist them to make informed judgments;

- b. Making Effective Use of learning resources

Learning resources are not the only resources that bring about learning. Faculty members continuously:

- exercise professional judgment in deciding whether to cover all the materials in the Learning resources or not;
- adapt or replace any part of a Learning resources found inappropriate to the needs of the students and use other supplementary learning and teaching resources to support students’ learning;
- re-organize the units and the sequence of activities in a unit to cater for students’ differing abilities; and
- Choose amongst the materials provided, e.g. avoid using workbooks/ supplementary exercises associated with particular textbooks indiscriminately in order to leave space for students to engage in a range of meaningful learning tasks.

c. Providing Learning resources

Jouf University library offer the needed textbooks and the additional references print/online for the offered academic programs in accordance with the courses specifications that aims at providing the students with the needs knowledge/skills to attains the program/courses outcomes. The library contains thousands of paper/electronic books, journals, periodicals, etc. in the library shelves and/or via the Saudi digital library SDL. In addition, the library/digital library are reviewed and updated annually with new books and references that meet the academic program needs.

2. Facilities and Equipment

(Library, laboratories, medical facilities, classrooms, etc.).

a. Offices, Classrooms and Laboratories

The Computer Science department is housed within the new building of the College of Computer and Information Sciences in the main campus of Jouf University and shares some common facilities with other departments. Most of the equipment in the department are new and bought to accommodate the program needs. The faculty members and students have adequate facilities available for conducting a successful program. The facilities include several classrooms, course labs, faculty offices, and university library and network access facilities.

Classrooms

There are Four classrooms assigned to the CS department; located in the second floor of the new college building. In addition, there are fourteen classrooms of the college of Computer and Information Sciences can be used. Classrooms are adequately equipped with educational electronic media, such as a projector with Wi-Fi capacity and air conditioning system. Each classroom has suitable seating for at least twenty students.

Administrative

Head of the department has an office within the CS department suite of the college building. His office is equipped with furniture (tables, chairs, bookshelves, sofas, and notice board), an internal telephone line, personal computer connected to the Internet, a laser printer, necessary office stationery and a photocopying / scanning machine and shelving cupboards for departmental documentation and archives. There is a meeting room for the department, it is equipped with a data show a photocopy machine and a whiteboard. This room is utilized for department council meetings, faculty interviews, teaching assistant interviews, and other departmental activities.

Faculty Offices

There are seven faculty offices are located in the Computer Science department in the second floor of the college building. Every faculty has his own office that has adequate furniture (tables, chairs, bookshelves and notice board), and is equipped with a desktop and/or notebook connected to the Internet, a printer and office supplies. In addition, some of the faculty offices are also equipped with a scanner.

Clerical Staff

The department secretary's office is in front of to the head of the department office, it is furnished to seat students and visitors besides the normal office furniture (tables, chairs and bookshelves), and personal computer connected to the Internet, laser printer, and office supplies.

University library

The central library of the university is located near the college building and students can access the library online through the blackboard system.

Laboratories

All laboratories are located in the first floors of the college building. Laboratories are well equipped for practical training of students according to courses requirements, such as computers and the associated tools and equipment that support instruction. All laboratories follow safety instructions that ensure the safety of students and equipment. The general safety for students, staff, faculty and visitors is the top priority in the college. The laboratories are open to students during working hours. However, there is a schedule for each laboratory stating the times for each of the courses. For a specific course, only students of that course should use the laboratories during the allotted time for that course. The students can also use the laboratories under the supervision of department lecturer for course or project.

Network access

Faculty members and students can access internet anywhere on campus within the buildings via Wi-Fi connection provided by the department of Information Technology.

On the other hand, there are three spacious rooms for non-class activities. Besides there is one room as cafeteria with hot and cold drinks, snacks and sandwiches. In addition, there is a mosque in the ground floor for prayers. The building has 6 lifts in each floor with 15-persons capacity. Details of facilities available to the College of Computer and Information Sciences, Computer Science department are provided in the given tables:

Facilities Available at the College of Computer and Information Sciences –

No .	Type of Facility	Facility Number	Capacity
1	Small class room	7	20
2	Medium class room	5	30
3	Large class room	5	60
4	Computer lab	4	25
5	Auditorium	1	830
6	Non-class room	3	10
7	Meeting rooms (for departments , vice deans and dean)	4	10
8	Lifts	6	15
9	WC	6	3
10	Library	1	
11	Photocopying/Scanning Room	1	1

Facilities Available at the College of Computer and Information Sciences – Girl Campus

No .	Type of Facility	Facility Number	Capacity
1	Small class room	5	30-35
2	Medium class room	1	40-45
4	Large class room	1	60-70
4	Computer lab	11	30
5	Auditorium	0	0
6	Non-class room	0	0
7	Meeting rooms (for departments , vice deans and dean)	1	1
8	Lifts	2	15
9	WC	2	7
10	Library	1	
11	Photocopying/Scanning Room	0	0

b. Computing Resources

In main campus, the program's courses are taught in four labs (Lab 101, Lab 102, Lab 103 and Lab 104). Each Lab has a whiteboard and a data show. Lab 101 has eighteen VDI PCs, Lab 102 has twenty one VDI PCs and Lab 103 and Lab 104 have fifteen VDI PCs. The labs are available from 8 am to 4 pm. Lab 103 is opened for students for free using. In girl's campus, the program's courses are taught in eleven labs. Each lab is equipped with thirty two PC for students and one for teacher. The students of CS program not only enjoy the use of its own computing resources, but also benefit from through facilities provided by the faculty and Jouf Library. Jouf University main campus internet bandwidth is currently 100 Mbps. Wireless internet access is installed at the faculty reaching all points of the faculty including staff and faculty offices and class rooms. Students of Jouf University can access the wireless network without passwords. Department of Information Technology at main campus provides the IT technical support for hardware, software, and network support and handles requests.

Wireless internet access is installed at the faculty reaching all points of the faculty including staff and faculty offices and class rooms. Students of Jouf University can access the wireless network without passwords. Department of Information Technology at main campus provides the IT technical support for hardware, software, and network support and handles requests. The following faculty-wide and university-wide computing resources are available to staff and students:

1. E-Learning and Distance Learning Systems: The E-learning facility through Deanship of E-Learning and Distance Learning provides services to students and faculty through the links: <https://del.ju.edu.sa/>. Faculty members use BlackBoard system to monitor their students' academic progress and insert

grades. Once the faculty/student is logged in, he should be able to see all the courses allocated to him for the current semester.

2. The Deanship of Admission and Registration provides its academic services system students and faculty through the link <http://dar.ju.edu.sa/>. Students can register courses online; monitor their academic progress, view and print transcripts/grades.

The above-mentioned facilities are adequate to support the scholarly and professional activities of the students and faculty in our program.

c. Guidance

The course instructors or technicians of the department of Information Technology of Jouf University are responsible for the instructional activities along with relevant safety advising in laboratories. Each laboratory has its own instructions including:

1. Instructions for individual experiments.
2. Safety instructions (Electricity, high voltage equipment, heavy machines, Steam and hot equipment).
3. Tools and equipment use and handling.
4. Computers and internet instructions.

All the laboratories have signs showing equipment and safety instructions. Safety procedures are discussed before every practical class and observed at all times.

d. Maintenance and Upgrading of Facilities

Upgrading

Annually the department requirements for laboratory equipment are requested with coordination with the department of Information Technology of Jouf University. Laboratory fund is made on request basis during the academic year. Various departments of the college of Computer and Information Sciences submit their laboratory requests to the department of Information Technology of Jouf University, which reviews these requests, and follow them up until they get approved. Simple installations and maintenance are usually done by the technicians of the department of Information Technology of Jouf University.

Maintenance

If there is any problem in a laboratory, the instructor does the following:

1. Open the web site of Jouf University (<http://www.ju.edu.sa/en/home/>) and select Faculty Services.
2. From Faculty Services web page, select E-Services.
3. Login with his username and password.
4. From the web page <http://mps.ju.edu.sa/MyJU/ju/index.xhtml>, open the technical support link and describe the problem.
5. Submit the request to the department of Information Technology of the Jouf University.

e. Library Services

The Deanship of Library Affairs at the Jouf University manages nine libraries; one central library, one medical Library and seven branches are as follows:

Library for Girls – Sakaka, Library Faculty of Arts and Sciences – Qurayyat, Library Community College for Boys Qurayyat, Library for Girls – Qurayyat, Library Faculty of Arts and Sciences – Tabarjal, Library for Girls – Tabarjal, and Library for Girls - Doomah Jandal, The entire library system has a distinguished collection of both printed and electronic resources to support faculty, researchers, undergraduate and graduate students. The Deanship also provides different online tools and dedicated portal for accessing its resources. These include:

- E-Resources: Portal for search of 5 electronic databases that Jouf University subscribes to.
- Library Catalog: This enables one to find resources from books and with a link for full text display.

In addition to the resources, the following services are also provided by the Deanship:

- Interlibrary loan.
- Subject liaison librarians to assist University faculty.
- Information Literacy (IL) programs ranging from one-on-one sessions to undergraduate courses for Common First Year students.
- Integrated Library Systems (ILS), provision of self-service “check-out”, “scanning and photocopying” online renewal and reservation of library material.
- Computer labs, Wi-Fi and assistance in device connectivity and technical support.
- Scanning and photocopying facilities.

More details about the Deanship and Jouf University library is available at: <http://www.ju.edu.sa/en/administrations-portal/deanships/deanship-of-library-affairs/home>.

f. Overall Comments on Facilities

Each laboratory is equipped with the required safety facilities. For example, each laboratory has emergency phone numbers, personal protective equipment, general safety signs and instructions, equipment specific safety instructions and safety labels, fire alarms, and fire extinguishing. There are emergency exits very close to the laboratories. It is clear that all available facilities in our university are great and enough which provide an adequate atmosphere conducive to learning such as classrooms, offices, laboratories, associated equipment , computing resources, and Adequate library services.

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

The course instructors or technicians of the department of Information Technology of Jouf University are responsible for the instructional activities along with relevant safety advising in laboratories. Each laboratory has its own instructions including:

1. Instructions for individual experiments.
2. Safety instructions (Electricity, high voltage equipment, heavy machines, Steam and hot equipment).
3. Tools and equipment use and handling.
4. Computers and internet instructions.
5. All the laboratories have signs showing equipment and safety instructions. Safety procedures are discussed before every practical class and observed at all times.

Furthermore,

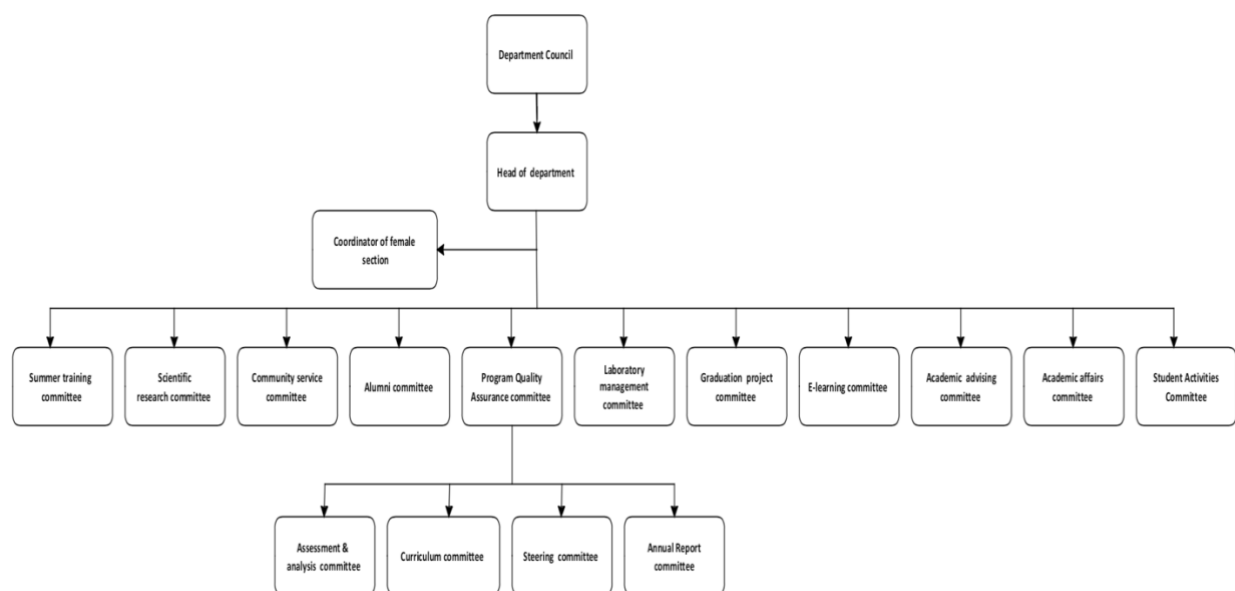
- Fire evacuation policy and fire drills are practiced in all places ([safety and security guide](#)).
- First aid kits are available in CS department.
- The College has emergency plans, [safety signs, and emergency exit signs](#).

G. Program Management and Regulations

1. Program Management

1.1 Program Structure

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



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.)

- The program Stakeholders are those who must be satisfied with the performance of the CS program. The significant groups of Stakeholders of the CS program are included but not limited to faculty, students, alumni and employer and most importantly to the program Industrial advisory Committee:
- **Faculty:** CS faculty members are involved on regular basis in the assessment processes.
- **Students:** Current CS students are interested in whether the CS program adequately prepares them for future employment.
- **Alumni:** This group consists of recent graduates who have been employed for at most two years. They should have the incentives to assess the quality of PEOs based on their career achievements.
- **Employers** (government, industry and universities): Employers' satisfaction with our students' education provides measure of the program success. Their satisfaction translates to employment opportunities for our students.
- **Industrial Advisory Committee (IAC)**
- This group plays a major role in program evaluation, advising, improvement, and development. Because of the closeness of the three programs, namely Information Systems, Computer Science and Computer Engineering and Networks, a common Industrial Advisory Committee to the whole college was established with prominent managerial as well as technical members of the computational communities. Our IAC includes five members from the industry and five faculty members.
- The major roles of this group are:

- To guide the program to meet future needs.
- To develop strong partnership and relationship between the department and the program by some collaborative tasks.
- To provide advice for development of the curricula
- To suggest the required amendment to meet the potential job market

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.)

The program regulations are the same as those of the Jouf University, they are available in the following links:

• Students Discipline Regulations	• Students Discipline Regulations link
• Students Rights and Obligations	• Students Rights and Obligations Link
• Admission Rules	• Admission Rules Link
• Students skill Record	• Students skill Record Link
• Students Complaints Regulations	• Students Complaints Regulations Link
• Study and Exams Regulations	• Study and Exams Regulations Link

H. Program Quality Assurance

1. Program Quality Assurance System

Provide online link to quality assurance manual

[Computer science program quality assurance manual](#)

2. Program Quality Monitoring Procedures

To assure that the assessment methods are appropriate and consistent with the specific learning outcomes and learning strategies, the CS program adopts a reviewing process as illustrated in the figure below which summaries the different reviews that are carried out to the CS program in terms of internal and external review process:



Internal and external review process of the CS program

In addition, the review process is designed to ensure objective and constructive assessments regarding the quality of the programs and to meet the following objectives:

- monitoring the degree to which students are achieving learning outcomes;
- improving methods of delivering education, indicating program strengths, and ensuring the

rigor of documentation;

- determining how the quality of the program can be increased;
- providing guidance to the faculty and make administrative decisions to support continuous future improvement.
- To verify that the work and assignments provided by students are their own production
- Giving feedback to students about their performance and evaluation results at a time when they can improve their performance.

The main procedure adopted are:

1. Preparing the program Specification once at the beginning of the plan
2. Preparing course Specification, taking into consideration the correlation of course Specification with the mission and goals of the program.
3. Preparing the course report every semester. Improvements and additions to course Specification can be made based on the feedback from the course report in each semester.
4. Preparing the program report annually, improvements and amendments can be made to the Courses and Program Specification based on the feedback from the program report annually.
5. At the end of the five year, a self-study report for the program is prepared, and the program's mission, goals, learning outcomes of program to development are reviewed.
6. Monitoring the KPIs for the program at the end of each academic year.

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

1. The courses Specifications that are taught through other scientific departments are accordance with the program specification, and taking correlation of these programs Specification with the mission and goals of the program.
2. Program management is provided with Courses reports taught through other scientific departments. Improvements and additions to course specification can be made based on feedback from the course report in each semester.
3. Visiting

4. Arrangements Used to Ensure the Consistency between Main Campus and Branches (including male and female sections)

1. Preparing the course report for all the courses in a grouped manner, in which the male and female students and the branches are explained every semester
2. Preparing the program report in a grouped manner in which the male and female students are explained annually.
3. Preparing the performance indicators report for the program.
4. Preparing an improvement plan to achieve Consistency between the two parts.
5. Appointing a coordinator for the female section to assist the department head in communication and coordination in the female section.

6. Appointing a coordinator for the female section in the formation of committees and units to ensure effective communication and coordination and follow-up of activities in both sections.
7. Representing committees from both sections, where they participate in planning and making various decisions in the program.
8. Monitoring and follow up

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

Not Applicable

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

1. Learning outcomes are measured at the program level annually by direct method (all kinds of tests) and indirect method (questionnaires).
2. Calculating performance indicators of learning outcomes annually.
3. Based on the results of measuring learning outcomes and performance indicators of learning outcomes, an improvement and development plan that is applied in the following year has been prepared and a report of this plan is written in the program report for the following year.

7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Students, graduates, alumni, faculty Staff, administrative staff, employers	Surveys	End of Academic Year
Effectiveness of teaching	Students, graduates, alumni, program leaders, program leaders	Surveys, visits	Mid and End of Academic Year
Stockholder's opinions	Students, graduates, alumni, faculty Staff, program leaders, independent reviewers	Surveys, interviews, visits, independent reviewers	End of Semester
learning resources	Students, graduates, alumni, faculty Staff	Surveys	End of Semester

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify))

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

8. Program KPIs*

The period to achieve the target (4) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	80%	Program Operational Plan	End of Year.
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	4	Surveys	End of Semester
3	KPI-P-01	Students' evaluation of the quality of the courses	4.5	Surveys	End of Semester
4	KPI-P-04	Completion rate	60%	Reports of Academic System	End of Academic Year
5	KPI-P-05	First-year students retention rate	100%	Reports of Academic System	End of Academic Year
6	KPI-P-06	Students' performance in the professional and/or national examinations.	NA	Reports from Alumni Unit	End of Academic Year
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs.	50%	Reports from Alumni Unit	End of Academic Year
8	KPI-P-08	Average number of students in the class.	15	Reports of Academic System	End of Academic Year
9	KPI-P-09	Employers' evaluation of the program graduates proficiency	4	Surveys	End of Semester
10	KPI-P-10	Students' satisfaction with the offered services	4	Surveys	End of Semester
11	KPI-P-11	Ratio of students to teaching staff	15:1	Reports from Deanship of Teaching Staff Affairs	End of Academic Year

12	KPI-P-12	Percentage of teaching staff distribution	Prof.: 20% Associate 20% Assistant 60%	Reports from Deanship of Teaching Staff Affairs	End of Academic Year
13	KPI-P-13	Proportion of teaching staff leaving the program	0%	Reports from Deanship of Teaching Staff Affairs	End of Academic Year
14	KPI-P-14	Percentage of publications of faculty members	100%	Reports from Scientific Research Unit	End of Academic Year
15	KPI-P-15	Rate of published research per faculty member	3	Reports from Scientific Research Unit	End of Academic Year
16	KPI-P-16	Citations rate in refereed journals per faculty member	10	Reports from Scientific Research Unit	End of Academic Year
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	4	Surveys	End of Semester
18	ADD-KPI-P-1	Number of research groups in the program	6	Reports from Scientific Research Unit	End of Academic Year
19	ADD-KPI-P-2	Number of funded research projects in the program	14	Reports from Scientific Research Unit	End of Academic Year
20	ADD-KPI-P-3	The percentage of students participating in extra-curricular activities	30%	Surveys	End of Academic Year

21	ADD-KPI-P-4	Employer's satisfaction about program vision, mission and goals	5	Surveys	End of Academic Year
22	ADD-KPI-P-5	Percentage of the student's graduation projects related to the surrounding community	50%	Reports from community service Unit	End of Academic Year

* including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	CS Department committee
Reference No.	15 th
Date	17/03/2021