



# Program Specification

## (Bachelor)

Program: Computer Science

Program Code (as per Saudi university ranking): 061301

Qualification Level: Bachelor in Computer Science

Department: Computer Science

College: Computers and Information Technology

Institution: University of Tabuk

Program Specification: New  updated\*

Last Review Date: 7/3/2021 (as 2020's form approval date)

\*Attach the previous version of the Program Specification.



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## A. Program Identification and General Information

### 1. Program's Main Location :

- Main Campus (**Male**)
- Al Maseef Campus (**Female**)

### 2. Branches Offering the Program (if any):

### 3. Partnerships with other parties (if any) and the nature of each:

None

### 4. Professions/jobs for which students are qualified

- 251 : Software and applications developers and analysts
- 133005 : Communications Networks Manager
- 133006 : Software Manager
- 252 : Database and network professionals
- 251102 : Information Systems Analyst
- 3513 : Computer network and systems technicians
- 351203 : Software Support Technician

### 5. Relevant occupational/ Professional sectors:

- Public Sectors
- Private Sectors

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

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. NA		

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

exit points/awarded degree	Credit hours
1. NA	

### 8. Total credit hours: 137

## B. Mission, Objectives, and Program Learning Outcomes

### 1. Program Mission:

Provide a stimulating academic environment that graduates Computer Science professionals equipped with the necessary knowledge, skills, and professional ethics to meet labor market needs, advance their careers, serve the community, and engage in scientific research.



## 2. Program Goals:

**Goal 1:** Provide students with a solid understanding of fundamental concepts, theories, and principles in the field of Computer Science.

**Goal 2:** Empower students to acquire technical skills and competencies necessary for proficiently designing, developing, and managing computer-based solutions.

**Goal 3:** Enhance students' communication and teamwork skills, enabling them to collaborate effectively in computer-based projects, while raising their awareness about ethical and legal considerations.

**Goal 4:** Foster a culture of social responsibility and sustainability in the utilization of Computer Science tools, applications, and technologies.

**Goal 5:** Provide opportunities for continuous learning, research and professional development to keep up with the rapidly evolving in the realm of computer science.

## 3. Program Learning Outcomes\*

### Knowledge and Understanding

K1	Characterize and explain in-depth principles, concepts, methodologies, tools, and relevant Knowledge related to theoretical and technical topics in the field of Computer Science.
K2	Describe state-of-the-art theories, processes, techniques, models, materials, and practices in Computer Science domains.
K3	Identify the needed requirements, approaches, and practices involved in the implementation of integrated solutions, research, and projects in the field of Computer Science.

### Skills

S1	Apply relevant concepts and methods from computing and other related disciplines in diverse contexts within the field of Computer Science.
S2	Utilize the adequate and up-to-date theories, tools, methods, practices, and procedures in Computer Science domains.
S3	Construct and implement integral solutions, models, applications, and projects in the Computer Science field, as well as appraise the resulting outcomes and contributions.
S4	Develop applications, software systems, or processes by applying computational theories and algorithms, software engineering approaches, AI principles, and meeting specified requirements within given limitations
S5	Communicate effectively and skillfully in a range of professional contexts within the realm of Computer Science.

### Values, Autonomy, and Responsibility

V1	Adhere by professional and ethical practices, responsibilities, and values within the domain of the Computer Science.
V2	Collaborate effectively and with responsibility within a team to establish and achieve goals, as well as successfully complete tasks and activities within the realm of Computer Science.
V3	Engage proficiency in self-learning, proactive planning, and continuous professional development, while actively contributing to the advancement of the field of Computer Science and society.

\* Add a table for each track or exit Point (if any)





## C. Curriculum

### 1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	9	20	14.6%
	Elective	0	0	0%
College Requirements	Required	7	25	18.25%
	Elective	0	0	0%
Program Requirements	Required	25	76	55.47%
	Elective	4	12	8.76%
Capstone Course/Project		2	4	2.92%
Field Training/ Internship		1	0	0%
Residency year		0	0	0%
Others		0	0	0%
<b>Total</b>			<b>48</b>	<b>137</b>

\* Add a separated table for each track (if any).

### 2. Program Courses

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	COMM 100	Communication Skills	Required	--	2	Institution
	CSC 001	Computer Skills & Applications	Required	--	3	Institution
	MATH 100	Mathematics (1)	Required	--	3	College
	ELS 001	English Language Skills (1)		--	5	College
	PHYS 101	General Physics	Required	--	3	College
Level 2	LTS 100	Learning & Thinking Skills	Required	--	3	Institution
	MATH 101	Mathematics (2)	Required	Mathematics (1)	3	College
	BIO 101	General Biology	Required	--	3	College
	CHEM 101	Chemistry	Required	--	3	College
	ELS 002	English Language Skills (2)	Required	English Language Skills (1)	5	College
Level 3	ISLS 101	Islamic Culture(1)	Required	-	2	Institution
	CSC 101	Computer Programming (1)	Required	Computer Skills & Applications	4	Department





Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	ELS 210	English for Computer Students	Required	English Language Skills (2)	3	Department
	MATH 200	Fundamental of Integral Calculus	Required	Mathematics (2)	4	Department
	MATH 251	Discrete Structures	Required	Mathematics (2)	3	Department
	ARB 101	Language Skills	Required	-	2	Institution
Level 4	ISLS 201	Islamic Culture (2)	Required	Islamic Culture(1)	2	Institution
	CSC 102	Computer Programming (2)	Required	Computer Programming (1)	4	Department
	CSC 109	Computer Ethics	Required	Computer Skills & Applications	1	Department
	CEN 210	Logic Design	Required	Discrete Structures	3	Department
	STAT 201	General Statistics	Required	-	4	Department
	ARB 201	Writing Skills	Required	Language Skills	2	Institution
	PHYS 281	General Physics Lab.	Required	General Physics	1	Department
Level 5	CSC 210	Computer Organization and Assembly Language	Required	Computer Programming (1) Logic Design	4	Department
	CSC 220	Data Structures and Algorithms	Required	Computer Programming (2)	3	Department
	CIT 230	Internet and Web Technology	Required	Computer Programming (2)	3	Department
	MATH 241	Linear Algebra	Required	Discrete Structures	3	Department
	STAT 311	Probability Theory(1)	Required	General Statistics	3	Department
	CEN 211	Logic Design Lab	Required	Logic Design	1	Department
Level 6	CEN 312	Computer Architecture	Required	Computer Organization and Assembly Language	3	Department





Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	CSC 321	Design and Analysis of Algorithms	Required	Data Structures and Algorithms	3	Department
	CIS 340	Database Systems	Required	Data Structures and Algorithms	4	Department
	ELS 301	Technical Writing	Required	English for Computer Students	3	Department
	CSC 221	Software Engineering	Required	Data Structures and Algorithms	3	Department
	ISLS 301	Islamic Culture (3)	Required	Islamic Culture (2)	2	Institution
	CSC 390	CS Field Training	Required	-	0	Department
Level 7	CEN 330	Computer Networks	Required	Computer Architecture	4	Department
	CSC 420	Theory of Computation	Required	Data Structures and Algorithms	3	Department
	CSC 410	Operating Systems	Required	Computer Architecture	3	Department
	CSC 300	Programming Languages	Required	Data Structures and Algorithms	3	Department
	Cxx XXX	Elective Course (1)	Elective	-	3	Department
	CSC 490	CS Project (1)	Required	Internet and Web Technology, Database Systems, Software Engineering	1	Department
Level 8	CSC 450	Artificial Intelligence	Required	Design and Analysis of Algorithms	3	Department
	Cxx XXX	Elective Course(2)	Elective	-	3	Department
	Cxx XXX	Elective Course (3)	Elective	-	3	Department



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	Cxx XXX	Elective Course (4)	Elective	-	3	Department
	ISLS 401	Islamic Culture (4)	Required	Islamic Culture (3)	2	Institution
	CSC 491	CS Project (2)	Required	CS Project (1)	3	Department

\* Include additional levels (for three semesters option or if needed).

\*\* Add a table for the courses of each track (if any)

### 3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template

<https://drive.google.com/drive/folders/1L33LRCI2F56Y-cooXbe549E8G-FJdo33>

### 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, Autonomy, and Responsibility		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
COMM 100								I		I	
CSC 001	I			I				I		I	I
MATH 100	I							I		I	
ELS 001								I		I	
PHYS 101	I							I		I	
LTS 100										I	I
MATH 101	P							P		P	
BIO 101	I							I		I	
CHEM 101	I							I		I	
ELS 002								P			P
ISLS 101										I	I
CSC 101	I	I		I	I	I				I	I
ELS 210								P			P
MATH 200	P							P		P	
MATH 251	P							P		P	
ARB 101										I	I
ISLS 201										I	I
CSC 102	P	P	P	P		P	P			P	P

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills					Values, Autonomy, and Responsibility		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CSC 109	P			P				I	P	P	I
CEN 210	I	I	I	I	I						I
STAT 201								I		I	
ARB 201										I	I
PHYS 281								P			P
CSC 210	P	I		P		P	P			P	P
CSC 220	P	P		P	P	P	I			P	P
CIT 230	P	P	P	P	P	P	P			P	P
MATH 241	P							P		P	
STAT 311								P		P	
CEN 211	I					P				I	I
CEN 312	P	P	P	P		P	P				
CSC 321	P	P	P	P	P	P	P			P	P
CIS 340	P	P	P	P	P	I	I	P	I	P	I
ELS 301								M		M	
CSC 221	P	P	P	P	P	P	P	P		P	P
ISLS 301										I	I
CSC 390	P	M	M	M	P	M	P	P	M	M	M
CEN 330	P	I	P	P	P	P		P		P	
CSC 420	M	M	M	M	M	M	M		I	M	P
CSC 410	P	P	P	P		P	P				P
CSC 300	M	M	M	M	M	M	M		I	M	
CSC 490	M	M	M	M	M	P	P	M	M	M	M
CSC 450	P	P	P	P	P	P	P	P	P	P	P
ISLS 401										P	P
CSC 491	M	M	M	M	M	M	M	M	M	M	M

\* Add a separated table for each track (if any).

#### Elective Courses

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills					Values, Autonomy, and Responsibility		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CSC 301	M	P	M	M	M	P	P	M	P	P	M
CSC 411	M	M		M	M	M	M		I	M	P
CSC 421	M		M	M	M	M	M			M	M
CSC 422	P	P	P	P	P	P	P	P			
CSC 423	M	M	M	M	M	M	M	M	M	M	M

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills					Values, Autonomy, and Responsibility		
	K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
CSC 424	P	P	P	P	P	P	P	P			P
CIS 440	M	M	M	M	M	M	M	M	I	M	P
CIT 450	P	P	P	P	P	P	P			P	
CSC 452	M	M	M	M	M	M	M		I	M	P
CIT 453	M	M	M		M		M		M	M	M
CSC 454	M	M	M	M	M	M	M	P	I	M	P
CSC 455	M	p	p	M	p	p	p	p	p	M	p
CIT 460	P	P	P	P	P	P	P	P		P	

## 5. Teaching and learning strategies applied to achieve program learning outcomes.

Describe teaching and learning strategies, including curricular and extra-curricular activities, to achieve the program learning outcomes in all areas.

Program Learning Outcomes	Sample courses	Teaching strategies
<b>Knowledge and Understanding</b>		
K1	CSC101, CSC102 , CSC220	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Brainstorming</li> <li>• Group Discussion</li> <li>• Problem-Based Learning</li> </ul>
K2	CSC301, CIT450	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Group Discussions</li> <li>• Problem solving</li> </ul>
K3	CSC 490, CSC 491	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Research Activities</li> <li>• Case Studies</li> <li>• Simulation-based learning</li> </ul>
<b>Skills</b>		
S1	CIT430	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Group Discussion</li> <li>• Case Studies</li> <li>• Problem-Based Learning</li> </ul>
S2	CIT430	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Group Discussion</li> <li>• Case Studies</li> <li>• Problem-Based Learning</li> </ul>
S3	CIT460	<ul style="list-style-type: none"> <li>• Lectures,</li> <li>• Problem-Based Learning,</li> <li>• Inquiry-based learning,</li> <li>• Brainstorming,</li> <li>• Case Studies.</li> </ul>
S4	CIT230	<ul style="list-style-type: none"> <li>• Lectures.</li> <li>• Lab Sessions</li> </ul>





		<ul style="list-style-type: none"> <li>• Simulation-based learning</li> <li>• Group Discussion</li> </ul>
S5	CSC301	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Group Discussions</li> <li>• Lab Sessions</li> </ul>
<b>Values</b>		
V1	CIT430	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Case Studies</li> </ul>
V2	CSC 490, CSC 491	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Research Activities</li> <li>• Case Studies</li> <li>• Simulation-based learning</li> </ul>
V3	CSC101, CSC102	<ul style="list-style-type: none"> <li>• Lab Sessions</li> <li>• Group Discussion</li> <li>• Brainstorming</li> <li>• Problem-Based Learning</li> </ul>

## 6. Assessment Methods for program learning outcomes.

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

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least twice in the bachelor program's cycle and once in other degrees).

The direct assessment methods are:

- Individual and Group Projects.
- Worksheets and reports.
- Exams.
- Assignments.
- Individual and Group Presentation
- Portfolio (course material file).
- Professional exams.
- Oral Exam
- Posters

The indirect assessment methods are:

- Student surveys.
- Alumni surveys.
- Feedback from employers.
- Individual and group discussions.

Program Learning Outcomes	Direct/Indirect Assessment	
	First Year	Second Year
<b>Knowledge and Understanding</b>		
K1	✓	
K2	✓	
K3		✓
<b>Skills</b>		





S1	✓	
S2	✓	
S3	✓	
S4		✓
S5		✓
<b>Values, Autonomy, and Responsibility</b>		
V1		✓
V2	✓	
V3		✓

## D. Student Admission and Support:

### 1. Student Admission Requirements

#### University specific requirements:

- The applicant must be a Saudi national or have a Saudi mother.
- The applicant must have a high school certificate or its equivalent from within or outside the Kingdom.
- The high school certificate equivalency must be issued by the Equivalency Committee at the Ministry of Education if the certificate is from outside the Kingdom.
- The applicant must have completed high school on a full-time basis.
- The high school certificate should not be more than five years old, with consideration for specific requirements in health specialties.
- The applicant's age should not exceed 25 years.
- The minimum score in the General Aptitude Test should not be less than 50% (the available score during the application period will be considered).
- The minimum score in the General Achievement Test should not be less than 50% (the available score during the application period will be considered).
- The validity period for the General Aptitude Test and General Achievement Test scores is five years.
- The applicant should not have a previous academic record at Tabuk University during the last four academic terms.
- The applicant should not have been dismissed academically or disciplinarily from Tabuk University or any other university.
- The applicant should not be accepted or enrolled in the same academic degree or another academic degree at Tabuk University or any other university.
- The applicant is responsible for the accuracy of the provided information, and acceptance will be void if any discrepancies are found.
- The applicant is responsible for following the admission procedures through the university's official website and social media channels.

#### Program specific requirements:

- The applicant must hold a high school certificate (scientific track).
- The weighted average of the admission criteria must be met.
- The weighted average is calculated as follows:
  - 30%: Saudi General Secondary Education Certificate
  - 30%: General Aptitude Test





- 40%: General Achievement Test
- Applicants compete for available seats based on their weighted average score which is calculated as follows:  
Weighted average score = Saudi General Secondary Education Certificate score \* 30% + General Aptitude Test score \* 30% + General Achievement Test \* 40%.

The admission requirements are available on the following link:

<https://www.ut.edu.sa/en/Deanship/dar/Pages/default.aspx>

## 2. Guidance and Orientation Programs for New Students

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

There are several orientation workshops during the first week of the semester to guide new students about university and faculty regulations.

## 3. Student Counseling Services

(Academic, professional, psychological and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

Each student will be assigned an academic advisor who will act as a mentor, providing academic and career advice, and general counseling. Students are encouraged to meet their advisor at least once a month, during the semester. The Department will provide support to the students in the form of hosting extracurricular activities, field trips, and seminars by inviting guest speakers and providing an interactive learning environment. The Head of the Department is available to meet the students and listen to their academic problems and concerns. The faculty clubs are formed to help students undertake their activities.

Student counseling handbook: [Student counseling handbook Link](#)

## 4. Special Support

(Low achievers, disabled, gifted, and talented students).

There are series of supportive semester-based workshops for guiding low achievers' students passing academic obstacles.

The building has all the necessities for disabled students such as: ramps, elevators, bathrooms, class seats, etc.

There are annual academic awards for gifted and talented students per academic cohort.

## E. Faculty and Administrative Staff:

### 1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T



Professor	Computer Science			3	2	
Associate Professor	Computer Science			10	5	
Assistant Professor	Computer Science			6	6	
Lecturer	Computer Science			3	3	
Teaching Assistant	Computer Science			6	8	
Technicians and Laboratory Assistant	Computer Science			10	5	
Administrative and Supportive Staff	Business Administration			7	7	
Others (specify)	-			-	-	

## F. Learning Resources, Facilities, and Equipment:

### 1. Learning Resources

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

The required textbooks, references and other resources for teaching are identified by the instructor who teaching the course. The instructor's suggestions are submitted to the Department Council. All suggestions are collected and are reviewed by Library Committee. The Department council approves the Library Committee Decision. The Deanship of Computers and Information Technology will send list of textbooks and the references to the Library Deanship and list of software materials to the Deanship of Information Technology. According to the University regulation, each deanship is responsible to provide the requirements.

Open Access to all journals is available through the Saudi Digital library.

The University has partnerships with electronic platforms, for educational purposes, such as Blackboard, and Microsoft Office 365. In addition, the faculty has agreements with Oracle academy for professional training and educational services.

### 2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

The program has all the necessary books for the majority of its courses, and the program chair is ready to provide any more books required by the faculty members.

All the library resources required are fulfilled by the Saudi Digital Library (SDL) and the soft copies of the text books handed by the faculty members to the students.



Besides the Saudi Digital Library (SDL), faculty locate a library which contain the latest books and references that cover all courses of the program study plan. In addition, there is Central library located in university campus.

FCIT contains well-equipped laboratories for carrying the practical work for the courses, senior projects, and research projects. These laboratories are well maintained and regularly upgraded, thus they contributes effectively in adequately support the curriculum delivery.

There are three types of laboratories serve the teaching and learning activities within the program, which are as follows:

- Computer Laboratory.
- Digital Design Laboratory.
- Network and Communication Laboratory.

In FCIT, the classrooms are equipped with students' chairs, instructor's chair and desk, rostrum, a white board, and a roof mounted projector.

There is a well-equipped health care unit is available on the male campus for the medical care.

### 3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

**The general safety measures taken in the college are summarized as follows:**

**A well-equipped health care unit is available on the male campus for the medical care during the college hours.**

**A large and clean cafeteria is available where the students can sit and eat freely.**

**Smoke detectors are installed everywhere in the faculty building.**

**Fire extinguishers are installed everywhere in the faculty building.**

**Fire sprinklers are installed everywhere in the faculty building.**

**Antivirus is installed on all the PCs in the faculty, which is configured for automatic updates and real time scanning.**

**However, the safety and security of the UT campus are highly prioritized, with a well-rounded security system in place that includes security guards stationed strategically throughout the campus.**

**In the event of an emergency or disaster, every building at UT has a detailed evacuation plan that is widely distributed and easily accessible to all occupants. Additionally, the evacuation plan which was implemented by the CS program is also available on the UT website for convenient access and reference.**

**This plan encompasses all the requirements, instructions, and procedures that must be followed when declaring a state of emergency resulting from a disaster. It outlines the responsibilities and tasks expected from all members of the faculties and the necessary steps for coordinating with relevant authorities in managing emergencies. Furthermore, it elucidates all the prerequisites for the success of emergency and evacuation plans, supporting the faculties in their preparedness, mitigation, and response efforts to minimize the risks associated with emergencies.**

**In the FCIT Building No4, the escape maps and assembly points are clearly and prominently displayed for the benefit of occupants. These displays serve as important visual aids that can help in the safe and immediate evacuation of the building in the event of an emergency. Also, the CS program is in compliance with the university risk management guide. This plan includes a comprehensive disaster and emergency preparedness plan developed to address potential emergencies and disasters that may affect the university's facilities. It includes procedures for the immediate evacuation of the University buildings in emergency situations, along with all necessary measures to ensure the safety, well-being,**





and security of the occupants, guaranteeing their peace of mind. All instructions and directives included in university risk management were followed by the program in order to avoid any material or human losses that may occur in emergency situations.

Likewise, the CS program offers an introductory lecture to students at the beginning of each year, explaining the methods of risks prevention in the incident of power outages, sudden electrical elevator failures, electrical appliances and electrical installations failures, by referring to the risk prevention techniques stated in the environmental factors section in the Risk Management Guide for the University of Tabuk pages 67-75. The CS program has ensured that all laboratories are well-prepared for any potential hazards by providing essential safety equipment. This includes first aid boxes, fire extinguishers, smoke deletion systems, and fire alarm systems. These safety measures are in place to ensure the safety of all occupants and to enable the quick and effective response to any emergency situations that may arise.

## G. Program Quality Assurance:

### 1. Program Quality Assurance System

Provide a link to quality assurance manual.

The computer science program implements a quality assurance system that satisfies the national and international requirements.

The summary of quality assurance at the University of Tabuk is available in the prescribed link: [quality assurance at the University of Tabuk](#)

The faculty of computers and information technology (FCIT) at the university of Tabuk has developed a plan about the documentation of courses and Evaluating the program learning outcomes.

Quality Assurance and quality control are implemented in the computer science program where quality assurance is to assure the implementation of quality standards, all procedures, and processes. While the quality control monitors the quality environment in the computer science program and recommends any action if needed.

These practices are performed at different levels:

University level:

The Deanship of Quality assurance and development performs an annual monitoring process and Evaluating the quality Documents of CS program. This practice is used to check the Consistency of the program quality with the quality standards.

College level:

The vice Deanship of Quality assurance and development performs an annual internal audit review. This process is implemented under the supervision of quality assurance unit in the faculty of computers and information technology. The internal review uses special forms that cover the required standards and processes. At the end of the internal audit review, the CS program receives written formal feedback to be used as a tool for improvement.

All documents are to be discussed in the CS department council and feedback response is to be sent to all quality authorized bodies.

Department level:

The quality assurance committee in the CS department is responsible for the implementation of quality requirements and standards.



One of the major responsibilities is to evaluate the quality of the process by following the NCAAA standards and documents, such as:

Annual program report  
Course reports  
Exam results  
Quality documentation and archiving  
Updating manuals and guides  
Reports from internal and external reviews

The CS program uses self-evaluation skills to evaluate the education and quality procedures every two years.

More detailed information about quality monitoring and reviewing cycles are explained in the procedure's manual.

Link: [procedure's manual link](#)

The quality Committee in CS program and quality assurance unit are responsible for monitoring the quality in the CS program. The CS program follows the NCAAA requirements and implements its regulations, forms, KPIs and surveys.

## 2. Procedures to Monitor Quality of Courses Taught by other Departments

Regular meeting with the instructor of the course.  
Making student surveys and gathering feedback information.  
Checking course description, syllabus, exams, and Score analysis.  
Analyzing the course evaluation surveys by the quality Committee.

## 3. Procedures Used to Ensure the Consistency between Main Campus and Branches (including male and female sections).

- Supervising the delivery of courses across both male and female sections.
- Standardizing the final examination for courses.
- Consolidating reports from all sections of each course.
- Deriving unified recommendations and action plans from the consolidated course reports.
- Reviewing the unified reports in the department council to explore additional enhancements.

## 4. Assessment Plan for Program Learning Outcomes (PLOs),

The Computer Science (CS) uses different tools and processes to regularly assess and evaluate the extent to which the Program Learning outcomes (PLOs) are being attained.

These processes are used to gather the data necessary for assessment. Then, the evaluation of the data is carried out in order to determine how well the student outcomes are being attained. Finally, the results of the assessment and evaluation processes are used to affect the continuous improvement of the program.

The steps used for the assessment, evaluation, and feedback to the continuous improvement of the program are:

**Step 1. Assessment tools of the PLOs**





This step consists of collecting the appropriate data. The process of PLOs assessment is carried out by using either direct or indirect assessments.

The direct assessment of PLOs relies on the course work, such as exams, Homework's, project, assignments, etc. whereas; the indirect assessments are usually obtained by using surveys. This step includes designing forms of surveys and appropriate questions for the specific and applicable date.

**Step 2. Evaluation/interpretation process**

In this step, the collected data is analyzed and compared to a pre-set performance indicator.

In fact, the assessment and evaluation plan of CS program aims to evaluate the student outcomes for two years.

**Step 3. Continuous improvement**

The results of Evaluation/interpretation process will be used to improve the CS program mission, course objectives, teaching strategies, assessment methods and learning outcomes.

## 5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Indirect Assessment of program learning outcomes	Students Based on assessment plan of PLO: senior students, alumni, employees	PLOs survey	Annual
Direct Assessment of program learning outcomes	Faculty members	Analyzing the data from the course reports	At the end of each semester
Extent of achievement of course learning outcomes	Faculty members	Analyzing the data from the course report	At the end of each semester
Extent of achievement of program learning outcomes	Quality unit member	report of assessment PLOs	End of the first year and second year of assessment cycle
Effectiveness of teaching and assessment	Students	Course surveys	At the end of each semester
Course Reports	Faculty members	Analyzing the data from the course report	At the end of each semester
Annual Program Report	Faculty members	Analyzing the data from different sources	Annual
Program experience	Senior Students	Program experience survey	Annual
Program Evaluation	Senior Students	Program evaluation survey	Annual

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

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

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

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





## 6. Program KPIs\*

The period to achieve the target (\_\_\_\_) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P-01	Students' Evaluation of quality of learning experience in the program	4.4	Questionnaires: - Program evaluation questionnaire	Annually (end of academic year) Annually (end of academic year)
2	KPI-P-02	Students' evaluation of the quality of the courses	4.5	Questionnaires	Annually (end of academic year)
3	KPI-P-03	Completion rate	65%	Statistical data and analysis	Annually (end of academic year)
4	KPI-P-04	First-year students retention rate	95%	Statistical data and analysis	Annually (end of academic year)
5	KPI-P-05	Students' performance in the professional and/or national examinations	50%	Statistical data and analysis	Annually (end of academic year)
6	KPI-P-06	Graduates' employability and enrolment in postgraduate programs	60%	Statistical data and analysis	Annually (beginning of academic year)
7	KPI-P-07	Employers' evaluation of the program graduate's proficiency	4.3	Questionnaires	Annually (beginning of academic year)
8	KPI-P-08	Ratio of students to teaching staff	20:1	Statistical data	Annually (beginning of academic year)
9	KPI-P-09	Percentage of publications of faculty members	70%	Statistical data	Annually (beginning of academic year)
10	KPI-P10	Rate of published research per faculty member	2	Statistical data	Annually (beginning of academic year)
11	KPI-P11	Citations rate in refereed journals per faculty member	15	Statistical data Google Scholar and similar	Annually (beginning of academic year)

\*including KPIs required by NCAAA





## H. Specification Approval Data:

Council / Committee	Dr. Ahmed Mahmoud Alwakeel / Chair of Department Council
Reference No.	A/ Department Council
Date	12/11/2024

