Program Specification

(Bachelor)

Program:	**Computer Science**
Program Code (as per Saudi university ranking):	*Enter Program Code.*
Qualification Level:	Bachelors
Department:	Computer Science
College:	College of Science
Institution:	Majmaah University
Program Specification:	New ☒ updated* ☐
Last Review Date:	11-November-2026

*Attach the previous version of the Program Specification.

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A. Program Identification and General Information

1. Program's Main Location:

Computer Science and Information Department , College of Science, Majmaah University, Zulfi- 11932

2. Branches Offering the Program (if any):

None

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

None

4. Professions/jobs for which students are qualified

- **Software Developer**
- **Software Tester**
- **System Programmer**
- **Computer Security Specialist**
- **Information Security Manager**
- **Information Security Analyst**
- **Network Security Specialist**
- **Data Architect**
- **Data Analyst**
- **Computer Vision Engineer**
- **Machine Learning Engineer**
- **UX Designer**
- **IT Project Manager Mobile App Developer**
- **Artificial Intelligence Engineers**
- **Video Game Developer**

5. Relevant occupational/ Professional sectors:

- **Aerospace and defense**
- **Agricultural**
- **Financial services**
- **Healthcare**
- **Manufacturing**
- **Public and third sectors**
- **Retail**
- **elecommunications**

6. Major Tracks/Pathways (if any):			
	Major track/pathway	**Credit hours** (For each track)	**Professions/jobs** (For each track)
1.	**Software Engineering**	18	Software Developer, Software Tester, System Programmer, Consultant
2.	**Computer Security**	18	Computer Security Specialist, Information Security Manager, Data Security Analyst, Information Security Manager, Network Security Specialist
3.	**Data Science**	18	Data Architect, Data Analyst, Data Scientist
4.	**Artificial Intelligence**	18	Computer Vision Engineer, Machine Learning Engineer, Game Developer

7. Exit Points/Awarded Degree (if any):	
exit points/awarded degree	**Credit hours**
1. Diploma in Computer and Information Technology	64

8. Total credit hours: (139 Credit Hours)

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

Providing outstanding higher education to acquire professionals in computer science who are well trained, qualified, and capable of competing in the labor market; meeting the requirements of sustainable development; and contributing to scientific research and community service.
The following statements summarize the university, college and department missions.
Mission 1. Quality education (university, college, and department)
Mission 2. Research Services (university)
Mission 3. Serve society (university, college, department)
Mission 4. Highly skilled graduates (college, department)

2. Program Objectives:

The program will produce graduates who:

PEO 1: Be gainfully employed in computer science or related career paths including industrial, academic, governmental, and non-governmental organizations.

PEO 2: Continue their professional development by engaging in professional activities and/or training to enhance their careers and/or pursue post-graduate studies.

PEO 3: Acquire graduates' methods and procedures to communicate and work effectively within multi-disciplinary team.

PEO 4: Follow appropriate practices within a professional, legal, and ethical responsibility.

3. Program Learning Outcomes*

Knowledge	
K1	Understand and identify mathematics and science principles of computing problem appropriate to its solution.
K2	Describe the fundamental principles in all core areas of computer science (algorithms, programming languages, computer systems, software development methodology).
K3	Gain significant application of software design systems to construct and demonstrate intermediate mastery of their applications.
Skills	
S1	Use abstraction, modeling, and mathematical concepts, methods, and techniques to analyze computing-based problems.
S2	Analyze a complex computing problem, apply principles of computing, and other relevant disciplines to identify solutions.
S3	Use computer science principles and the relevant concepts at basic and advanced levels.
S4	Apply systems and software development and management principles, methodologies, techniques, and tools to innovatively and creatively analyze, design, implement and evaluate systems and applications at various complexity levels.
S5	Investigate Artificial Intelligence (AI) theories, principles, and relevant mathematical models to automate processes, develop smart decision support systems, or simulate real-world situations at various complexity levels.
S6	Compare, contrast, and evaluate competing data science methods appropriate to the context of the problem.
Values	
V1	Communicate effectively with a range of audiences as a member or a leader of a team.
V2	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

* 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	-	-	-
	Elective	6	12	8.6%
College Requirements	Required	18	53	38.1%
	Elective	-	-	-
Program Requirements	Required	17	50	35.9%
	Elective	6	18	12.9%
Capstone Course/Project	Required	2	5	3.5%
Field Training/ Internship	Required	1	1	0.7%
Residency year				
Others				
Total		50	139	100%

* 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	EN 111	English 1 (لغة إنجليزية 1)	**Required**		5 (3,4,0)	College
	IT 112	Computer Fundamentals (أساسيات الحاسب)	**Required**		3 (3,1,0)	College
	MH 113	Calculus1 (حساب التفاضل والتكامل 1)	**Required**		3 (3,0,1)	College
	PHY 123	Physics 1 (فيزياء 1)	**Required**		3 (2,2,0)	College
	SALM	Elective Islamic Culture (1) (مقرر إختياري حضارة إسلامية 1)	**Elective**		2 (2,0,0)	Institution
	-	Elective General Course (1) (مقرر إختياري عام 1)	**Elective**		2 (2,0,0)	Institution
Level 2	MH 121	Discrete Mathematics (الرياضيات المتقطعة)	**Required**		3 (3,0,1)	College
	EN 122	English 2 (لغة إنجليزية 2)	**Required**	EN 111	3 (2,2,0)	College
	CS 131	Programming 1 (برمجة الحاسب 1)	**Required**		4 (3,2,0)	College

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	MH 132	Calculus 2 (حساب التفاضل والتكامل 2)	**Required**	MH 113	3 (3,0,1)	**College**
	STAT 133	Probability and Statistics (الاحتمالات والإحصاء)	**Required**	MH 113	3 (3,0,1)	**College**
	-	Elective General Course (2) (مقرر إختياري عام 2)	**Elective**		2 (2,0,0)	**Institution**
Level 3	CS 211	Programming 2 (برمجة الحاسب 2)	**Required**	CS 131	4 (3,2,0)	**College**
	EN 212	Technical English 1 (لغة إنجليزية تقنية 1)	**Required**	EN 122	2 (2,0,0)	**College**
	IS 213	Fundamental of Database (أساسيات قواعد البيانات)	**Required**	CS 131	3 (3,0,1)	**College**
	MH 222	Linear Algebra (الجبر الخطي)	**Required**		3 (3,0,1)	**College**
	PHY 214	Physics 2 (فيزياء 2)	**Required**	PHY 123	3 (3,0,1)	**Program**
	SALM	Elective Islamic Culture (2) (مقرر إختياري ثقافة إسلامية 2)	**Elective**		2 (2,0,0)	**Institution**
Level 4	EN 221	Technical English 2 (لغة إنجليزية تقنية 2)	**Required**	EN 212	2 (2,0,0)	**College**
	CS 231	Data Structures (هياكل البيانات)	**Required**	CS 211	3 (3,1,1)	**College**
	IT 232	Selected Topics in Emerging Technologies (موضوعات مختارة بالتقنيات الناشئة)	**Required**		2 (0,4,0)	**Program**
	MH 223	Differential Equations (المعادلات التفاضلية)	**Required**	MH 132	3 (3,0,1)	**Program**
	CS 233	Computer Graphics (الرسومات باستخدام الحاسب)	**Required**	CS 211	3 (3,0,1)	**Program**
	---	Elective General Course (3) (مقرر إختياري عام 3)	**Elective**		2 (2,0,0)	**Institution**
Level 5	CS 311	Operating Systems (أنظمة التشغيل)	**Required**	CS 231	3 (3,0,1)	**College**
	CS 314	Software Engineering (هندسة البرمجيات)	**Required**	CS 211	3 (3,0,1)	**Program**

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	CS 322	Computer Organization (تنظيم الحاسب)	**Required**	MH 121	3 (3,0,1)	Program
	GE 313	Engineering Chemistry (كيمياء هندسية)	**Required**		3 (3,0,1)	Program
	CS 323	Programming Languages (لغات البرمجة)	**Required**	CS 231	3 (3,0,1)	Program
	---	Elective General Course (4) (مقرر إختياري عام 4)	**Elective**		2 (2,0,0)	Institution
Level 6	IT 324	Data Transmission &Computer Networks (تراسل البيانات وشبكات الحاسب)	**Required**	CS 231	3 (3,0,1)	Program
	CS 331	Seminar (ندوة)	**Required**	70 Credits	1 (1,0,0)	Program
	IT 335	Ethics & Professional Practice (االخالقيات والممارسات المهنية)	**Required**	70 Credits	2 (2,0,0)	Program
	IS 333	Software Project Management (إدارة مشاريع البرمجيات)	**Required**	70 Credits	3 (3,0,1)	Program
	CS 334	Algorithm Design and Analysis تصميم وتحليل) الخوارزميات)	**Required**	CS 231	3 (3,0,1)	Program
	CS ---	Track Course (مقرر مسار)	**Elective**		3	Program
	CS ---	Track Course (مقرر مسار)	**Elective**		3	Program
Level 7	CS 414	Summer Training (تدريب صيفي)	**Required**	90 Credits	1 (1,0,0)	Program
	CS 412	Compilers (المترجمات)	**Required**	CS 323	3 (3,1,0)	Program
	CS 413	Software Modeling and Analysis نمذجة وتحليل) البرمجيات)	**Required**	CS 314	3 (3,0,1)	Program
	CS 415	Graduation Project 1 (مشروع التخرج 1)	**Required**	90 Credits	2 (2,0,0)	Program
	IT 420	Information Security (أمن المعلومات)	**Required**	IT 324	3 (3,0,1)	Program
	CS ---	Track Course (مقرر مسار)	**Elective**		3	Program
	CS ---	Track Course (مقرر مسار)	**Elective**		3	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 8	CS 448	Graduation Project 2 (مشروع التخرج 2)	**Required**	CS 415	3 (3,0,0)	**Program**
	CS 439	Parallel and Distributed Computing (الحوسبة المتوازية والموزعة)	**Required**	CS 322	3 (3,0,1)	**Program**
	MH 423	Numerical Methods (طرق عددية)	**Required**	MH 223	3 (3,0,1)	**Program**
	CS 424	Artificial Intelligence (الذكاء الاصطناعي)	**Required**	MH 121	3 (3,1,0)	**Program**
	CS ---	Track Course (مقرر مسار)	**Elective**		3	**Program**
	CS ---	Track Course (مقرر مسار)	**Elective**		3	**Program**

* Include additional levels (for three semesters option or if needed).
** Add a table for the courses of each track (if any)

Track Courses

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Software Engineering Track Choose 18 credits	CS 430	Design and Architecture of Large Software Systems (تصميم وبناء نظم البرمجيات الكبيرة)	**Elective**	CS 314	3 (3,0,1)	**Program**
	CS 431	Low-Level Design of Software (تصميم البرمجيات منخفضة المستوى)	**Elective**	CS 314	3 (3,0,1)	**Program**
	CS 434	Software Evolution (Maintenance) ("صيانة"تطور البرمجيات)	**Elective**	CS 314	3 (3,0,1)	**Program**
	CS 435	Software Architectures (أبنية البرمجيات)	**Elective**	CS 314	3 (3,0,1)	**Program**
	CS 436	Selected Topics in Software Engineering (موضوعات مختارة في هندسة البرمجيات)	**Elective**	CS 314	3 (3,0,1)	**Program**
	CS 446	Software Requirements Analysis (تحليل متطلبات البرامج)	**Elective**	CS 314	3 (3,0,1)	**Program**

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	CS 447	User Interface and User Experience Design (واجهة المستخدم وتصميم تجربة المستخدم)		CS 314	3 (3,0,1)	Program
Computer Security Track Choose 18 credits	CS 451	Coding and Information Theory (نظرية الترميز والمعلومات)	Elective	IT 324	3 (3,0,1)	Program
	CS 452	Security Management (إدارة الأمن)	Elective	IT 324	3 (3,0,1)	Program
	CS 453	Computer Security (أمن الحاسب)	Elective	IT 324	3 (3,0,1)	Program
	CS 454	Formal Methods for Cryptography (الطرق المناسبة للتشفير)	Elective	IT 324	3 (3,0,1)	Program
	CS 455	Internet Security, tools & techniques (أمن الإنترنت، الأدوات والتقنيات)	Elective	IT 324	3 (3,0,1)	Program
	CS 456	Network Management and Security (إدارة وأمن الشبكات)	Elective	IT 324	3 (3,0,1)	Program
Artificial Intelligence Track Choose 18 Credits	CS 460	Computer Vision (الرؤية باستخدام الحاسب)	Elective	CS 231	3 (2,2,0)	Program
	CS 461	Intelligent Agents (عملاء الذكاء)	Elective	CS 424	3 (3,1,0)	Program
	CS 462	Machine Learning (تعلم الآلة)	Elective	STAT 133	3(3,1,0)	Program
	CS 463	Natural Language Processing (معالجة اللغة الطبيعية)	Elective	CS 323	3 (3,1,0)	Program
	CS 464	Robotics (الروبوتات)	Elective	CS 424	3 (3,0,1)	Program
	CS 465	Selected Topics in AI (مواضيع مختارة في الذكاء الاصطناعي)	Elective	CS 424	3 (3,1,0)	Program
	CS 466	Artificial Neural Networks (الشبكات العصبية الاصطناعية)	Elective	CS 424	3 (3,0,0)	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Data Science Track Choose 18 Credits	CS 470	Introduction to Data Science (مقدمة في علم البيانات)	**Elective**	STAT 133	3 (3,1,0)	**Program**
	CS 471	Big Data Analytics (تحليل البيانات الضخمة)	**Elective**	STAT 133	3 (2,2,0)	**Program**
	CS 472	Probability Statistics for Data Science (التحليل الإحصائي لعلم البيانات)	**Elective**	STAT 133	3 (2,2,0)	**Program**
	CS 473	Data Visualization (التصوير المرئي للبيانات)	**Elective**	STAT 133	3 (3,1,0)	**Program**
	CS 474	Selected Topics in Data Science مواضيع مختارة في علم (البيانات)	**Elective**	STAT 133	3 (3,1,0)	**Program**
	CS 475	Data Mining (التنقيب عن البيانات)	**Elective**	STAT 133	3 (3,0,0)	**Program**
	CS 476	Ethics in Data Science (الأخلاقيات في علم البيانات)	**Elective**	STAT 133	3 (3,0,0)	**Program**

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

Course specification
Course specification
Course specification

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			Skills						Values	
	K1	K2	K3	S1	S2	S3	S4	S5	S6	V1	V2
IT 112	I			I							
EN 111						I					
EN 122						I					
IT 232	I			M							
CS 131		I			I	M				I	
CS 211		M			M		I			M	
CS 231		P		P		P					I
CS 311		P			P		M				M
EN 212						P					
EN 221						P					
IS 213		I			P		P			I	
IS 333	M				P				I		P
IT 335		I				P					P
MH 121	I			M						M	
MH 113	I			M						M	
MH 132	I			M						P	
PHY 123	I			M						P	
STAT 133	I			M						P	
CS 322	P	M		M	M	P				P	
CS 314		M	I	M	M	P				M	
IT 324		P		P	P	P					P
MH 222	I			M					P		
CS 323	M	M		P		P				P	
CS 334	P	P		P	P	M				M	M
CS 233		P		P			M				P
CS 424			M		P		M	I		M	
CS 412		P		P		M				P	
CS 439				P	M		P				
CS 331						I				P	I
CS 413			P	P	M	M				P	
IT 420	M	P		M		P	**P**			P	
GE 313	I			I						M	
MH 223	I			M						M	

Course code & No.	Program Learning Outcomes										
	Knowledge			Skills						Values	
	K1	K2	K3	S1	S2	S3	S4	S5	S6	V1	V2
MH 423	I			M						P	
PHY 214	I			M						**M**	
CS 415			P	P			P	M	M	P	P
CS 448			P		P		P	P	P	P	P

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

Artificial Intelligence Track

Course code & No.	Program Learning Outcomes										
	Knowledge			Skills						Values,	
	K1	K2	K3	S1	S2	S3	S4	S5	S6	V1	V2
CS 460		P		P			P				M
CS 461			P		P		P	M		P	
CS 462		P			M		M		P	M	
CS 463			P			P				P	
CS 464			P					P	P	M	
CS 465			P		M		P	P		M	
CS 466		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.

NCAAA Code	Program Learning Outcome Descriptor	Teaching Strategies
K1	Understand and identify mathematics and science principles of computing problem appropriate to its solution.	Classroom Teaching
K2	Describe the fundamental principles in all core areas of computer science (algorithms, programming languages, computer systems, software development methodology).	Classroom Teaching
K3	Gain significant application of software design systems to construct and demonstrate intermediate mastery of their applications.	Classroom Teaching

S1	Use abstraction, modeling, and mathematical concepts, methods, and techniques to analyze computing-based problems.	Classroom Teaching
S2	Analyze a complex computing problem, apply principles of computing, and other relevant disciplines to identify solutions.	Mini Project, Lab Exercises
S3	Use computer science principles and the relevant concepts at basic and advanced levels.	Oral /Written Communication, Seminar
S4	Apply systems and software development and management principles, methodologies, techniques, and tools to innovatively and creatively analyze, design, implement and evaluate systems and applications at various complexity levels.	Mini Project, Graduation Project, Lab Exercises
S5	Investigate Artificial Intelligence (AI) theories, principles, and relevant mathematical models to automate processes, develop smart decision support systems, or simulate real-world situations at various complexity levels.	Classroom Teaching
S6	Compare, contrast, and evaluate competing data science methods appropriate to the context of the problem.	Mini Project, Graduation Project, Lab Exercises
V1	Communicate effectively with a range of audiences as a member or a leader of a team.	Mini Project, Graduation Project, Lab Exercises
V2	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	Classroom Teaching, Graduation Project

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).

NCAAA Category	NCAAA Code	SO Descriptor	Teaching Strategies	Assessment Methods
Knowledge	K1	Understand and identify mathematics and science principles of computing problem appropriate to its solution.	ClassroomTeaching	Class Test, Mid Exam, Final Exam
	K2	Describe the fundamental principles in all core areas of computer science (algorithms, programming languages, computer systems, software development methodology).		ClassroomTeaching
	K3	Gain significant application of software design systems to construct and demonstrate intermediate mastery of their applications.	ClassroomTeaching	ClassroomTeaching
Skills	S1	Use abstraction, modeling, and mathematical concepts, methods, and techniques to analyze computing-based problems.	ClassroomTeaching	Class Test, Mid Exam, Final Exam
	S2	Analyze a complex computing problem, apply principles of computing, and other relevant disciplines to identify solutions.	Mini Project, Lab Exercises	Lab Based Assignments, Mini Project
	S3	Use computer science principles and the relevant concepts at basic and advanced levels.	Oral /Written Communication, Seminar	Group Assignments , Mini Project
	S4	Apply systems and software development and management principles, methodologies, techniques, and tools to innovatively and creatively analyze, design, implement and evaluate systems and applications at various complexity levels.	Mini Project, Graduation Project, Lab Exercises	Case Study Implementation/ Laboratory /Mini project

	S5	Investigate Artificial Intelligence (AI) theories, principles, and relevant mathematical models to automate processes, develop smart decision support systems, or simulate real-world situations at various complexity levels.	ClassroomTeaching	Class Test, Mid Exam, Final Exam	
	S6	Compare, contrast, and evaluate competing data science methods appropriate to the context of the problem.	Mini Project, Graduation Project, Lab Exercises	Case Study Implementation/ Laboratory /Mini project	
Values	V1	Communicate effectively with a range of audiences as a member or a leader of a team.	Mini Project, Graduation Project, Lab Exercises	Oral or Written Communication, Seminar	
	V2	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	Classroom Teaching, GraduationProject	Class Test, Mid Exam, Final Exam	

(PLO) Assessment process

The assessment of student outcomes is performed every semester through direct and indirect assessments. All student outcomes are considered to be attained when the average score reaches 70 % and above .Direct assessment:

- The assessment is performed on the defined assessment tools for all the courses. The assessment tools are provided in the course portfolio.

Indirect assessment:

- This is mainly used as a supplementary assessment measure and is done through the following surveys:
  - Course surveys
  - Summer internship survey
  - Graduation project survey
  - Exit survey

Figurebelow, illustrates various direct and indirect assessment methods

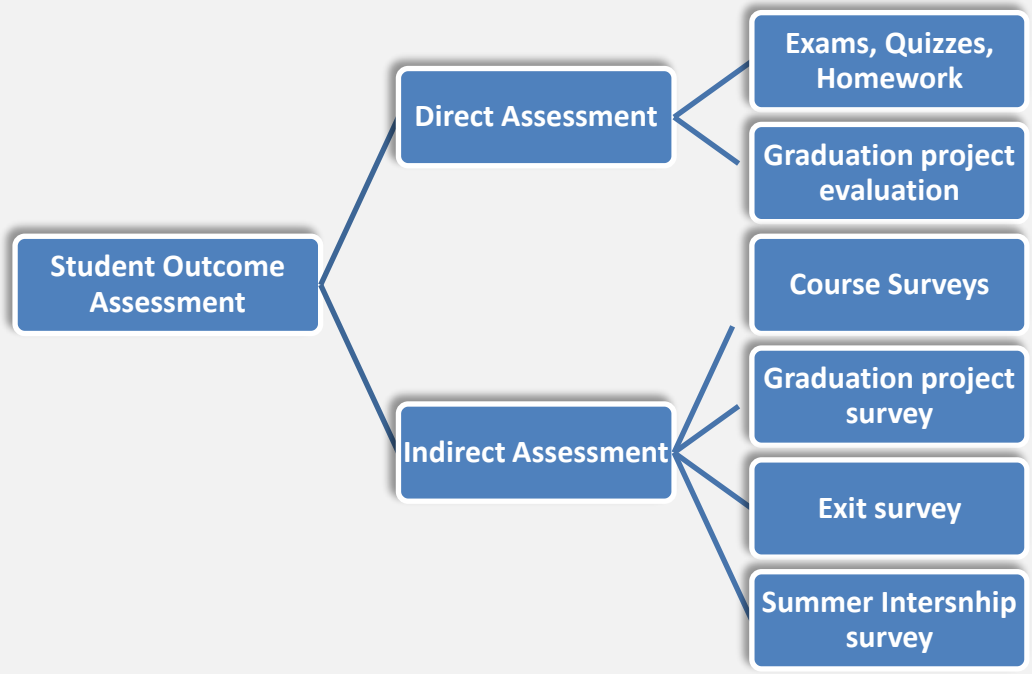

Figure: Student outcomes assessment

assessment of student outcomes.

Table: below, describes the instruments that are used in direct and indirect assessment of student outcomes.

Table: Students outcomes assessment tools – Direct and Indirect

	Assessment Tool	Frequency	Media	How Collected	Source	Collected and evaluated by
Direct Assessment	Mid exam, Class test, Quiz, Assignment, Final Exam	Every Semester	Course Assessment Report	Electronic	Faculty Members	Quality Unit
Indirect Assessment	Course Surveys	Every Semester	Survey	Paper / Electronic	Faculty Members	Faculty Members
	Exit Surveys	Every Semester	Survey	Paper	Faculty Members	Quality Unit
	Graduation Project Surveys	Every Semester	Survey	Paper	Faculty Members	Graduation Project Coordinator

	Summer Internship Surveys	Every year	Survey	Paper	Summer Training and Employability Unit	Summer Training and Employability Unit

Direct Assessment

In the IT program, each course targets a subset of the student outcomes with a certain percentage. These outcomes are directly assessed in every course using pieces of student work (questions in exam, homework, project, etc.,) Specific questions from the desired assessment tools are designed to assess a targeted outcome in the course. The designated level of performance (60% and above) indicates the achievement of SOs in the course.

In every course, the faculty member is expected to assess the achievements of the relevant student outcomes in the course. The final assessment is preferably done close to the end of the semester.

The faculty member prepares a direct assessment report and evaluates the student outcome achievement in each course. If the assessment revealed any weaknesses in a specific student outcome, the faculty should identify the cause and propose corrective action plan that can be implemented in the course or in one of the prerequisite courses in order to improve that specific outcome achievement in the future.

The proposed corrective actions are implemented in the following semester and their impact on the specific outcome achievement shall be assessed.

The measurement and evaluation unit aggregate the outcomes achievement in all courses in IT program and computes the average score. If an outcome achievement appears to be unsatisfactory, the faculty member/department propose corrective action plan at the course level, the curriculum level, or both.

Different courses contribute to a specific outcome achievement at the program level depending on their number of credit hours and the percentage by which they target that specific outcome.

The student outcomes' assessment process is conducted every semester.

Each course instructor provides direct assessment reports and outcome evidences:

- Brief description of the student works used to measure the achievement of student outcomes (assignments, projects, exams, etc.),
- A description of which specific work is meant to assess which outcome.
- Student outcomes achievement.
- Analysis of the student outcomes achievements and identifying strengths and weaknesses.
- Proposals to fix any identified weaknesses to be applied during the following semester.
- Samples of students' work.

The measurement and evaluation unit reviews the provided material and checks:

- to what extent did the students demonstrate they attained every outcome,
- whether the work evidence is appropriate for the assessment and
- the adequacy of the improvement proposals with regards to the identified improvement area.

The measurement and evaluation unit then writes a report to the quality unit with their findings. The findings are processed by the quality unit and forwarded to department.

The measurement and evaluation unit keeps track of the improvement proposals and checks the achieved improvement at the end of the following semester.

Indirect Assessment

The indirect assessment consists of the following processes:

- Course survey
- Summer internship survey
- Graduation project survey
- Exit survey

The surveys are described in the following sections.

Course survey

Faculty are required to conduct course survey to assess the course learning outcomes(CLOs) achievement from the students' point of view.

Faculty members need to analyze the survey data in order to assess the achievement of the CLOs of their courses and consequently the student outcomes. The students' perception should also be discussed in the light of the direct assessment results obtained from students' work. Faculty write an indirect assessment report, where they identify issues and their causes (if any) and suggest corrective actions or improvements to be applied in the following semester. The assessment report is submitted to the measurement and evaluation unit to check adequacy of the proposed actions and follow up their implementation. All courses' surveys and their results are available with the faculty members.

Summer internship survey

After the students finished their summer internship, they are asked to fill in a survey to assess their summer internship experience and outcomes. The measurement and Evaluation unit analyses the survey data, where in which corrective actions may be suggested.

Graduation project survey

After the students present their graduation projects, they are asked to fill in a survey to assess their project experience and outcomes. The graduation project coordinator analyzes the survey data and submits a report to the measurement and evaluation unit, where in which corrective actions may be suggested.

Exit survey

An exit survey is filled in by the graduates at the end of their graduation semester. The exit survey contains questions that directly target every one of the student outcomes. At the end of every semester, the survey data are analyzed by the measurement and evaluation unit and a report

identifying weaknesses is produced and submitted to the department.

Based on the students' outcome direct and indirect assessment reports, the assessment will compute the program outcomes achievement at the program level. In addition to keeping track of the identified weaknesses at the course levels, the measurement and evaluation unit will identify weaknesses that may need a global corrective action at the program level. It may propose corrective actions to the accreditation and quality unit and department council. Those actions may relate to the curriculum by changing some courses or adding new ones in order for the IT program to better achieve the student outcomes.

Frequency of Assessment

The assessment frequency is detailed in Table: below

Table: Assessment frequency

Formative	Every semester
Summative	
Course survey	
Graduation project survey	
Exit survey	
Summer internship survey	Every year

Assessment Process

The assessment and evaluation of SOs of an individual course during the semester based on data collection is explained in detail.

1. Data Collection

   a) The direct assessment is evidence of student outcome. It is tangible, visible, measurable and tends to be more compelling evidence of exactly what students have and does not learned. The evidence of students' performance to determine what they've learned is available in the course portfolio.
   b) Indirect assessment evidences tend to be composed of proxy signs that students are probably learning. An example of indirect evidence is a survey through which asking students their self-report that what they have learned. This is evidence that students probably are learning what they report to have learned, but it is not as compelling as a faculty member looking at students' work. It is not uncommon in students' self-reports to either inflate or undervalue what they have learned.

c) Course assessment report is a consolidated evidence by the instructor of each and individual section. It contains the data collected from direct and indirect assessments, which were practiced during semester. The information is gathered using several instruments at regular intervals. For example, an exit survey is a data collection instrument that is used to gather information about the graduating students' opinion to measure the SOs achievement. These instruments are described in detail at later sections.

2. Data Preparation: The data preparation involves validation and transformation to make it ready for use in evaluation of SOs. For example, the paper-based survey data is converted to electronic format. The illegible, incomplete, erroneous or duplicate submissions are discarded whenever necessary.

Evaluation Processes

1. Data Interpretation: Metrics are used to summarize data and its interpretation based on the points of interest. For example, the survey responses are used to calculate weighted averages scored of SOs.

2. Attainment Evaluation: The attainment of evaluation for all the SOs are measured in this step. For example, the verification of the SO achievement from various data sources with reference to the threshold values (EE-Exceeding Expectation, ME-Meeting Expectation, PE-Progressing towards Expectation & DNME-Does Not Meet Expectation) are carried out.

3. Issue Analysis: Wherever the evaluation of targeted SOs are not achieved, an issue based deeper analysis is conducted. For example, reviewing faculty course assessment reports, discussing with faculty and students to determine underlying issues for poor achievement.

4. Improvement plan: An action plan is developed to remedy the identified issues and recommended implementation over the issue.

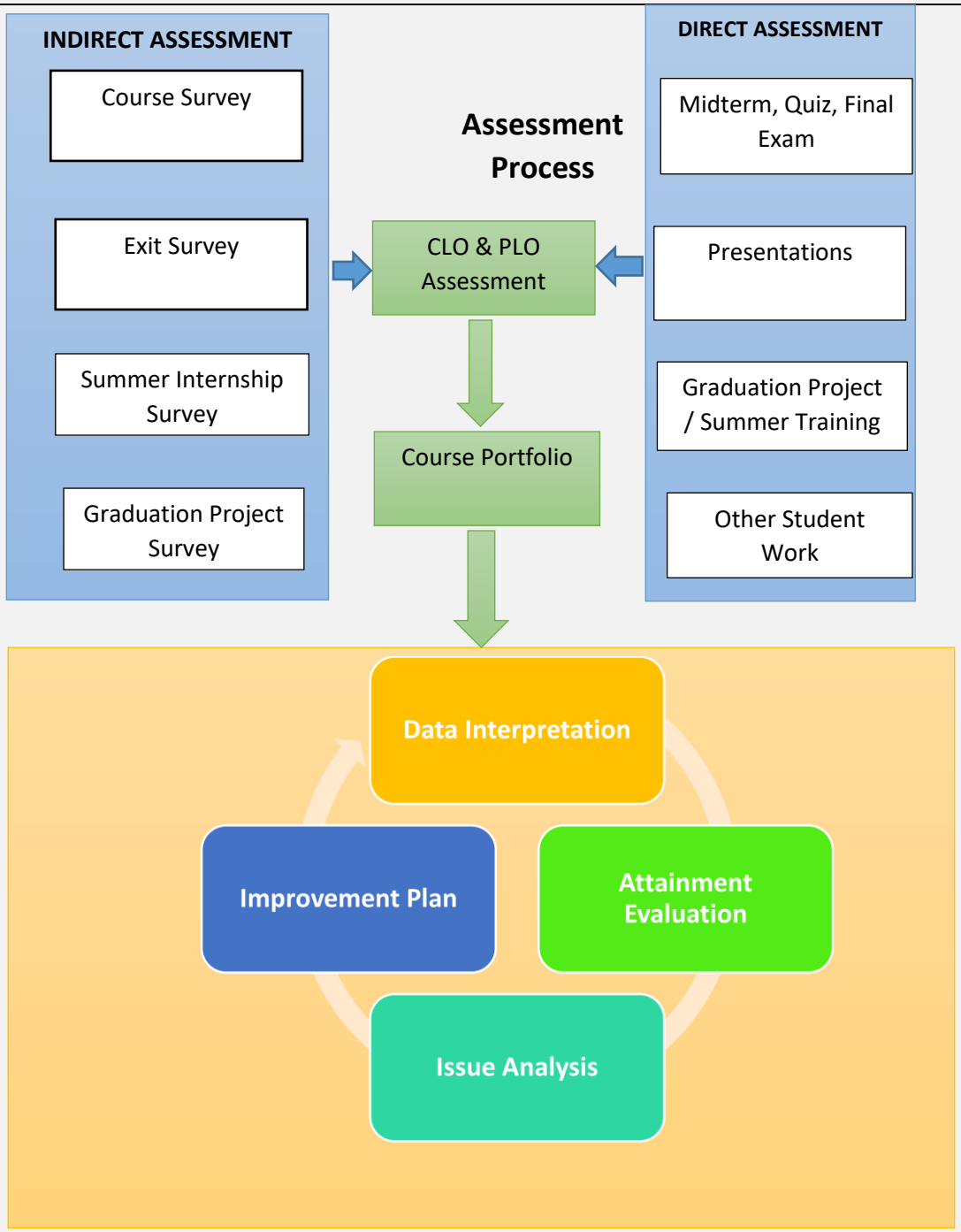

Figure: Assessment and Evaluation Processes

Expected levels
The expected levels of satisfaction are defined as follows:

For direct assessment:
For direct assessment, when evaluating an outcome achievement using students' work, the evaluated outcome is considered to be attained, if the student achieved a score of 60% or above in the corresponding work.
Five levels of satisfaction have been defined:

- Excellent is given to a student whose score in a specific outcome is above 90%.
- Very Good is given to a student whose score in a specific outcome is between 80% and
- Good is given to a student whose score in a specific outcome is between 70% and 80%,
- Fair is given to a student whose score in a specific outcome is between 60% and 70%,
- Unsatisfactory is given to a student whose score in a specific outcome is 60% or lower,

For indirect assessment:
For indirect assessment (surveys), an outcome is considered to be attained if the student answer to the corresponding question is "Agree" or "Strongly Agree". Five levels of satisfaction have been defined:

- Excellent: corresponds to Strongly Agree in a specific outcome.
- Very Good corresponds to Agree in a specific outcome.
- Good: corresponds to Neutral in a specific outcome.
- Fair: corresponds to Disagree in a specific outcome.
- Unsatisfactory: corresponds to Strongly Disagree in a specific outcome.

For a whole course:
Four levels of outcome achievement at section or course level have been defined. For a section or whole course, the final judgment of the attainment of the student outcomes by all students enrolled in a course or a section is evaluated as follows (Table 10):

Table 10: Assessment Attainment Level

Exceeds Expectations (EE)	Meets Expectations (ME)	Progressing Towards Expectations (PE)	Does Not Meet Expectations (DNME)
>=80% or more of students are achieving the satisfactory level or above	>=70% and <80% of students are achieving the satisfactory level or above	>=60% & <70% of students are achieving the satisfactory level or above	< 60% of students are not achieving the satisfactory level

* Program Learning Outcomes are assessed twice in an academic year in Fall and Spring

D. Student Admission and Support:

1. Student Admission Requirements

In general, students applying to the college are centrally admitted by the deanship of admission and registration to the preparatory year. The University council decides the number of admitted students for each upcoming year according to the recommendation of the college council, whichin turn take recommendations from the department council.

For a student to be admitted to the College of Computer and Information Sciences, the following conditions must be satisfied:

- The student must have obtained a recent Secondary School Certificate (not earlier than five years), or its equivalent.
- The student must be of Saudi nationality. Non-Saudis are treated in accordance with Majmaah University regulations of international students scholarship.
- The student must have good behavior and conduct.
- The student must be physically fit and in a good health for the purpose of study.
- Admission is based on a combination of the student score in the General Certificate of Secondary Education (GCSE), known as THANAWIA, and scores in two standard national exams organized and administered by the "National Center for Assessment in Higher Education" (QIYAS). These two Exams are:
    - General Aptitude Test, known as QUDRAT.
    - Scientific Track Admission Test, known as TAHSEEL.

If all the above conditions are satisfied, admission is granted to the preparatory year. Students who have an initial acceptance to the college before the preparatory year must maintain a GPA not less than 3.0 / 5 in order to be eligible to continue in the college.

After completing the preparatory year, students are distributed to the various programs of the university according to three criteria: their preference, GPA from the preparatory year, and the capacity of each program.

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).

- Orientation day is arranged for the newly admitted students in Level 3 ,to explain the important aspects of the university, college and the department and provide him/her with needed information to understand the program and department objectives..

- Workshops offered by different Units of CCIS
- Academic Advising - Freshmen students are considered under the academic advisingof the Academic Advising unit until they join a program. Once joined to one of the available programs, the student is assigned to a faculty member of the same programas an advisor.

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).

A full faculty member is assigned to each student for the duration of the student's enrollment with the program. Each faculty member is asked to define advising hours and announces them to the students. Freshmen students, however, are considered under the academic advising of the Academic Advising unit until they join a program.Once joined to one of the available programs, the student is assigned to a faculty member of the same program as an advisor.

Role of the Academic Advising Unit
The goal of academic advising unit is to connect faculty members with students through following-up, guidance and observation of students academically. This process can be achieved through:

1. Welcoming the new students in their first day of the academic year, and notifying them of the University and College systems and the environments.
2. Distributing the students according to their specialties all over the college staff.
3. General supervising of Academic advisors and following up what are raised tohim from student cases.
4. Resolving the cases that are raised to him from academic advisors or raising them to the academic vice dean or the dean according to the situation.
5. Organizing events and meetings with students at various levels related to academic advising.

Enrollment Advising
The academic advising unit is primarily responsible for advising students prior to the start of each academic year. The unit allocates groups of students to faculty members,which, in turn, is recorded into the university's electronic registration system, EduGate. The student can see his/her advisor's name in the electronic registration system, and the advisor has access to the records of his/her advisees through the EduGate portal.

Academic advisors

Academic advisors are meant to provide educational counseling for students. The academic advisor's primary responsibility is to evaluate the student's study plan to ensure it will satisfy university requirements while it meets each student's specific needs. To be effective, the advisor must recognize that each student has different abilities, interests, aspirations, needs, experiences, and problems so that his/her approach in dealing with students can be different from one to another. Academic advising cannot, therefore, be a mechanical, routine matter. To fulfill this requirement,the general advising duties can be stated as follows:

1. Students are encouraged to meet with their academic advisors regularly during the semester for consultation and guidance. The relation between academic advisors and students can be summarized as follows:

   a. Revising and studying the student academic register, including the courses studied and his academic plan and its data. This is to ensure that each student comply withthe study plan he/she enrolled in and to avoid delays in graduation

   b. Helping student in choosing the courses among his academic program.

   c. Following up the student continuously, and resolving the problems that may appear during his study.

   d. Raising statistical reports about the department students to the department chief.

   e. Preparing a complete file for each student advised by him, including his academic schedule, transcript, study plan and attendance during current semester.

2. Academic advisors are requested to conduct group meeting with all students at the beginning of each semester.

3. Advisors should regularly follow up student 4 times during the term to check his/her attendance and academic progress rate during fifth, eighth, eleventh and fourteenth weeks.

4. Students can meet his advisors in other times during the semester to discuss any academic-related issues that may arise and be of concern to the study progress ofany student.

After assigning an academic advisor for each student in the program, the student is required to meet his/her academic advisor for the purpose of registration based on his/her study plan, addressing any academic or career issues, and meeting graduation requirements. Each student has his/her own study plan based on the progress in his/heracademic study and his/her choice of the program's tracks. The student is required to maintain an updated study plan each semester to help him/her in choosing appropriate courses for registration in the following semester and to easily follow up the academicprogress. The study plan is available for both students and academic advisors .

The student can add/drop courses during the first week of each semester after obtaining the permission from the academic advisor. The student is allowed to registerup to 18 credit hours per semester but not less than 12. Exceptions to this rule can be made after getting the

approval of academic advisor and Department Chair.

Career Advising
Career advising is provided to the students through academic advisors, industry/governmental affiliates, experts in the fields, etc. and organized by the Academic Advising Unit.

4. Special Support

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

- The instructors are invited to submit list of students who suffer difficulties in their classes to academic advisors. This will help the advisors to present assistance to those students in order to improve their performance in the class.
- Students are encouraged to stop by their instructor's office during the office hours to discuss with them any concerns regardingthe course.

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		1		1	0	1
Associate Professor		4		6	0	6
Assistant Professor		8		5	3	8
Lecturer	8			4	4	8
Teaching Assistant						
Technicians and Laboratory Assistant						
Administrative and Supportive Staff						
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.)

- Under the supervision of the Deanship of Students' Affairs, the university provides aid to the students under the Students Fund Board through several programs; examples are students loans, students employment, and academic text books.
- All library needs (textbooks, e-books, journals, publications, periodicals, databases, etc.) are available through the central library.
- In addition, 10 laptops and 6 iPADs are available in innovation center to access **Saudi Digital Library**(SDL) containing access to several e-text booksand journal papers.
- In addition, the college has provided (286) textbooks serving (29) titles from offered courses.
- **Student Information System (EduGate)**-The Deanship of Admission and Registration provides an electronic services portal (EduGate) for students and faculty, through which, students can perform online registration, review their academic progress, view and print transcripts/grades, and monitor their absence rates. While instructors can monitor students under their academic advising, view their academic progress and results, insert marks and absencesfor students in their class, edit self-profiles, view their academic schedules.
- **Learning Management System – BLACK BOARD**-The Deanship of E-Learning and Distance Learning is providing a learning management system BLACK BOARD to managecourses electronically and provide other possible learning opportunities to the students. It provides not only an easy way for course material management, but also a way of communication between faculty, colleagues, and students through virtually any deviceconnected to the Internet, anytime, anywhere.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

The College of Computer and Information Sciences building is spread over four floors in addition to the main lobby, which contains offices for the Dean, Vice-Dean for Educational Affairs, administrative staff (including Dean's and Vice-Dean's secretaries), and other educational and managerial facilities. The

Computer Science Department's faculty offices are in the second floor which is shared with the other departments as well; Information Technology, Information Systems, and Computer Engineering departments. All other infrastructure (including classrooms, labs) are distributed among the rest of the building, which are also accessible to all departments.

Attached to the Dean's office is a meeting room enough to hold up to 25 people and equipped with a modern teleconference/presentation facility to conduct national and international meetings and/or interviews.

Offices (administrative, faculty, clerical, and teaching assistants)

The department main facilities reside in the second floor, which comprises the department head's office, department secretary, ten offices (four faculty, four TAs, and 2 shared offices for lecturers), one shared meeting room equipped with presentation facilities and enough to hold up to nine people, all offices are around 9′×9′ in size, equipped with large working desk area, book shelves, folders cabinet, chairs to conduct students' meetings, desktop (or laptop) computer with regular software installed (Windows, MS Office, etc.), office stationeries (messages keeper, stapler, puncher, pen holder), IP phone, wired and wireless Internet access, and air-conditioned. Most offices are also equipped with desk-size printers, in addition to a large shared networked printer in the same floor. All offices have access to fresh air and daylight. In addition, there are two large shared offices in the female side (33′×16′ and 23′×23′) for TAs (7 and 4 TAs, respectively).

Other shared resources are spread over the lobby and fourth floor include: six large displays for important announcements, rest area, general meeting room that can hold up to 90 people, prayer room, recreation area, and cafeteria. All the shared resources are air-conditioned and have access to fresh air and daylight.

Classrooms

There are total twenty-two classrooms (17 for the male side and same for the female side) to conduct lectures distributed over the ground, first and second floors shared between all the departments. Classrooms are of various sizes and capacities; they can accommodate students ranging from 30 to 50 students each. All classrooms are equipped with presentation podiums, wired (dedicated to the podiums) and wireless Internet access, single students' chairs (right- and left-handed), and fully air-conditioned. All classrooms have access to fresh air and most of them have daylight access.

Laboratories

Seven laboratories equipped with dual operating systems (Windows and Mac) are being used to conduct tutorials, experiments and/or lectures. Some of these labs are for special courses only while the others are for general programming courses. In addition to two labs available in the female side for certain courses that require lab work.

Currently, the CS program has full access to Image Processing, Robotics, Network, Computer Engineering, Database, and Operating Systems Labs totaling a capacity of (116) seats in addition to instructors' seats.

Research Laboratories

Some of the laboratories are utilized for research purposes as well as educational courses. They contain all necessary equipment, hardware, and software needed for faculty to conduct research in different areas, including:

- Image Processing
- Robotics
- Computer Engineering

Computing Resources

A total of (8) servers, (13) switches, (2) core switches, (2) routers are used to manage the whole network of all labs, administrative staff offices, and faculty offices totaling (504) Ethernet nodes. In addition, a total of (28) wireless access points are distributed all over the CCIS facility as an open source for the students to access the Internet using their own usernames and passwords.

In addition to the above, the building is equipped with e-classroom used to conduct seminars/workshops and/or classes between both male & female sides and equipped with two TV and camera sets and two desktop sharing screens with fast meeting capability. Also, a telepresence room attached to the Dean's office for meetings and interviewing new faculty members. All internal communication is managed through IP phones. The building is equipped with (63) ready-use IP phones, but only (45) are used by faculty, TAs, and administrative staff.

The CCIS building is secured with indoor/outdoor networked surveillance cameras distributed all over the building floors and labs.

Library Facilities

The Central Library hosts between its borders all the necessary materials, equipment, and software appropriate to serve the attendees of the library, including (but not limited to) adequate furniture, bookshelves, reading desks, private reading and Internet areas. Online access to the library index is possible through the Koha system.

Services provided by the library:

- Access to SDL (Saudi Digital Library) which constitutes the largest gathering of e-books in the Arab World with more than 114K full text e-books in multiple scientific disciplines, and more than 300 publishers worldwide (Elsevier, Springer, Pearson, Wiley, Taylor & Francis, McGraw-Hill and contain books of publishers such as world-class academics: Yale University, Oxford University, Harvard University)
- Free inquires capability (keywords, full text, title, author, subject, date of publication)
- Electronic citation service

- Information awareness
- Single access to the digital library
- Interlibrary loans
- Scan and print services for the students for educational purposes
- Access to thirty-one (31) global electronic databases
- Automated search service in the electronic catalog for the University Libraries

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

- Use and Update Labels and Signs One way of adhering to health and safety procedures, apart from the obvious aspect of providing safe and protective tools and equipment, is to use labels and signs.
- Provide Protective Equipment and Safe Tools.
- Implement Safety Protocols.
- Train The Staff Frequently.
- Encourage Open Communication

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.

Quality Assurance

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

- Monitoring by Academic Follow-up Unit of CCIS.
- Reviewing faculty member course evaluation for all courses each semester.
- Reviewing student course evaluations for all courses each semester.
- Student feedback.
- Course file evaluation of the faculty members

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

- **Vice Dean Academic Affairs**- The College Vice dean for academic affairs essentially focuses on the academic and educational affairs in the college (includingmale and female sections). Vice dean for academic affairs is responsible for supervising the academic and educational performance in the college.

  Roles in Academic affairs
  - Supervising the academic and educational performance in the college.
  - Supervising student cultural, social and sport activities.
  - Supervising the mission of students' rights in the advising council.
  - Supervising field training.
  - Supervising academic advising.
  - Studying and following up of student affairs.

- **The Department Chair (HOD)** is appointed by the university rector with the recommendation of dean of the college for two renewable years.

  Head of Department (HOD) is responsible and accountable for setting and advancingthe academic strategy of the Department in line with Faculty and University strategic plans and direction. HOD Chairs the Departmental Council and contribute to the overallleadership and management of the Faculty, also develop and sustain appropriate structures for management, consultation, decision-making and communication with staff and students.

- **Course Conveners** – Appointed by Vice Dean Academic Affairs, Course Convenerwill be senior faculty among all teaching the same course in different section. Course evaluation is a continuous process in which course is evaluated by facultymembers and course conveners after mid exam as well as after final Exam.

4. Assessment Plan for Program Learning Outcomes (PLOs)

Program Learning Outcomes are measured in Fall and Spring semesters from several courses as listed below and average score is calculated at the end of the academic year for each PLO.

NCAAA Category	NCAAA Code	PLO Descriptor	Courses used to Evaluate PLOs
Knowledge	K1	Understand and identify mathematics and science principles of computing problem appropriate to its solution.	IT112, IT232, IS333, MH121, MH113, MH132, PHY123, STAT133, CS322, MH222, CS323, CS334, IT420, GE313, MH223, MH423, PHY214
	K2	Describe the fundamental principles in all core areas of computer science (algorithms, programming languages, computer systems, software development methodology).	CS131, CS211, CS231, CS311, IS213, IT335, CS322, CS314, IT324, CS323, CS334, CS223, CS412, IT420, CS460, CS462, CS466
	K3	**Gain significant application of software design systems to construct and demonstrate intermediate mastery of their applications.**	CS424, CS413, CS415, CS448, CS461, CS463, CS464, CS465
Skills	S1	**Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions**	IT112, IT232, CS231, MH121, MH113, MH132, PHY123, STAT133, CS322, CS314, IT324, MH222, CS323, CS334, CS233, CS412, CS439, CS413, IT420, GE319, MH223, MH423, PHY214, CS415, CS460
	S2	**Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's Discipline**	CS131, CS211, CS311, IS213, IS333, CS322, CS314, CS324, CS334, CS424, CS439, CS413, CS448, CS461, CS462, CS465, CS466
	S3	**Communicate effectively in a variety of professional contexts**	EN111, EN122, CS131, CS231, EN212, EN221, IT335, CS322, CS314, IT324, CS323, CS334, CS412, CS331, CS413, IT420, CS463

	S4	**Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems. [IT]**	CS211, CS311, IS231, CS233, CS424, CS439, IT420, CS415, CS448, CS460, CS461, CS462, CS465, CS466
	S5	**An ability to apply knowledge of computing and mathematics appropriate to the discipline**	CS424, CS415, CS448, CS461, CS464, CS465
	S6	**Compare, contrast, and evaluate competing data science methods appropriate to the context of the problem.**	IS333, MH222, CS415, CS448, CS462, CS464, CS466
	V1	**Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline**	CS131, CS211, MH121, MH113, MH132, PHY123, STAT133, CS322, CS314, CS323, CS334, CS424, CS412, CS331, CS413, IT420, GE313, MH223, MH423, PHY214, CS415, CS448, CS461, CS462, CS463, CS464, CS465, CS466
	V2	**Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles**	CS231, CS311, IS333, IT335, IT324, CS334, CS233, CS331, CS415, CS448, CS460

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of Teaching & Assessment	Faculty	Quizzes and Exams	Beginning of semesters, Mid of semester and End of Semester
Effectiveness of Teaching & Assessment	Students	Survey	End of Semester
Availability of Learning Resources	Students	Exit Survey	End of Semester
Leadership	Students	Graduation Project Presentation	End of Level 7 and Level 8
Course Evaluation	Students	Exit Survey	End of Semester

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Graduation Students Evaluation	Students	Graduation Project Survey	End of Semester

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 (__1__) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time F-First Semester S-Second Semester
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	85%	Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year.	W16/S
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	4/5	Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey	W15/S
3	KPI-P-03	Students' evaluation of the quality of the courses	4/5	Average students overall rating for the quality of courses on a five-point scale in an annual survey.	W16/F-S
4	KPI-P-04	Completion rate	95%	Proportion of undergraduate students who completed the program in minimum time in each cohort.	W16/F-S

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time F-First Semester S-Second Semester
5	KPI-P-05	First-year students retention rate	100%	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.	W16/F-S
6	KPI-P-06	Students' performance in the professional and/or national examinations	100%	Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any).	W16/S
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	50%	Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year	W16/S
8	KPI-P-08	Average number of students in the class	25	Average number of students per class (in each teaching session/activity: lecture, small group, tutorial,	W16/S

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time F-First Semester S-Second Semester
				laboratory or clinical session)	
9	KPI-P-09	Employers' evaluation of the program graduates proficiency	4/5	Average of overall rating of employers for the proficiency of the program graduates on a fivepoint scale in an annual survey.	W16/S
10	KPI-P-10	Students' satisfaction with the offered services	3.5/5	Average of students' satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey.	W16/S
11	KPI-P-11	Ratio of students to teaching staff	20	Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program	W16/S
12	KPI-P-12	Percentage of teaching staff distribution based on: a. Gender b. Branches c. Academic Ranking Professor Associate Professor Assistant Professor Lecturer TA	 50% 50% 10% 20% 40% 20% 10%	Percentage of teaching staff distribution based on: a. Gender b. Branches c. Academic Ranking	W16/S
13	KPI-P-13	Proportion of teaching staff leaving the program	0%	Proportion of teaching staff leaving the	W16/S

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time F-First Semester S-Second Semester
				program annually for reasons other than age retirement to the total number of teaching staff.	
14	KPI-P-14	Percentage of publications of faculty members	90%	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.	W16/S
15	KPI-P-15	Rate of published research per faculty member	2	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of fulltime or equivalent faculty members during the year).	W16/S
16	KPI-P-16	Citations rate in refereed journals per faculty member	4	The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or	W16/S

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time F-First Semester S-Second Semester
				equivalent faculty members to the total research published).	
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	4	Average of beneficiaries' satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases… etc.) on a fivepoint scale in an annual survey.	W16/S

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	
Reference No.	
Date	