



جامعة أم القرى
UMM AL-QURA UNIVERSITY

College of Computing
Department of Computer Science and Artificial
Intelligence
Quality Assurance Manual

2024



Contents

Executive Summary	3
Terms and Definitions	4
Introduction	5
Overview of the CSAI Department	7
Overview of the CS program	9
Overview of the AI program	13
Organizational Structure	18
Quality Committees	19
Roles and Responsibilities	19
Key Performance Indicators (KPIs)	33
Adopted Quality Standards	36
Quality Assurance Plan	47
Quality Assurance Forms	52
References	52



Executive Summary

Umm Al-Qura University (UQU) expresses its dedication to ongoing enhancements in quality and performance across various aspects. Since its establishment, the university has consistently implemented gradual and well-established practices university-wide in terms of quality assurance planning and management. These practices encompass inputs, processes, and outcomes. The College of Computing aligns with the university's vision and strategy by implementing and monitoring quality practices.

The college's Quality and Development Vice-Deanship aims to systematically maintain and enhance the quality, equity, and efficiency of college's academic programs. The mission of the Quality Assurance committee, which was established within the department, is to foster a culture of excellence and continuous improvement in quality practices. This is achieved through the development and application of innovative quality system, models, tools, and methodologies that contribute to the realization of program objectives.

The purpose of the Quality Assurance Manual is to serve as a concise reference for the programs' quality system and the assessment of learning outcomes. It aims to emphasize essential QA policies, guidelines, and procedures that support the department's academic programs in ensuring the quality of practices across all domains, as well as for program accreditation.



Terms and Definitions

Quality can be defined as the degree of excellence or the extent to which something meets specified standards. It is a measure of how well a product, service, or process conforms to established criteria or expectations.

Academic Quality refers to the degree of excellence and effectiveness found in educational endeavors, encompassing aspects such as the curriculum's relevance and currency, proficiency of teaching methods, achievement of learning outcomes by students, impact of research, availability of adequate resources and facilities, provision of student support services, and the overall success and contributions of graduates. It involves a commitment to continuous improvement, with recognition from accrediting bodies (e.g., The National center for Academic Accreditation & Assessment - NCAAA) indicating adherence to established standards.

Quality Assurance (QA) is a process in determines both strengths and weaknesses points, and corrective and protective plans in academic programs leading to its quality improvement.

Quality System also known as a Quality Assurance (QA) system or a Quality Management System (QMS), is a management system that helps to ensure the consistency of quality of educational outcomes.



Introduction

The Department of Computer Science and Artificial Intelligence is keen to ensure ongoing enhancements in the department's academic programs through devising a well-established and consistent quality assurance system for all academic programs in the department. This is achieved through a systematic process involving self-evaluation, internal review, and constructive, formative feedback provided by external reviewers, including accreditation bodies at both national and international levels.

The QA system has three main objectives:

- (1) Ensure high quality of outcomes and continuous improvement of the programs.
- (2) Determine strengths and weaknesses, corrective and protective methods for continues improvement of the programs.
- (3) Document, integrate, and communicate the different procedures of the quality assurance system of the programs.

To achieve these objectives, the quality assurance system encompasses four main components, namely, Plan, Do, Check, Action, usually referred to as the PDCA process, as shown in Figure 1.



Figure 1: Quality Cycle



Overview of the CSAI Department

The Kingdom of Saudi Arabia is witnessing growth and development in all aspects of life including the rapidly growing sector of Information and Communication Technology (ICT) including the general umbrella of Computer Science (CS) and the more specific area of Artificial Intelligence (AI).

To contribute to achieving the national goals in the IT sector, the Department of Computer Science at Umm Al-Qura University in Makkah was established based on the decision of the Higher Education Council No. 13/19/1421, in its nineteenth session held on 10/11/1421 AH, which was approved by the Custodian of the Two Holy Mosques King Fahd bin Abdulaziz - may God have mercy on him - No. 89/A and dated 6/2/1422 AH. The department was renamed to the “The Department of Computer Science and Artificial Intelligence CSAI” at 2023 as part of a general institutional restructuring at the university level. As of 2024, the department offers two bachelor programs, namely, the Bachelor of Computer Science and the Bachelor of Artificial Intelligence.

Department Objectives

- Offer the students a strong scientific base reinforced with training and practical experience in Computer Science and Artificial Intelligence.
- Provide the society with distinct students specialized in Computer Science and Artificial Intelligence and capable of coping with the rapid development in this field.



- Build the capacity of the students to engage in the practical application and the scientific research in their society.
- Adopt modern technologies that the society needs.

Mission

The mission of the Department of Computer Science is to “provide quality education in the basics of computer science, and training students to be active in applying the concepts of computer science to solve real problems, provide innovative solutions and research to serve the Saudi and international community in computer technology, and to provide effective computer solutions to serve the Two Holy Mosques and the community of Makkah”.

Strengths:

- Highly qualified faculty with extensive experience in research and industry.
- Strong industry partnerships and collaborations that provide students with opportunities for internships and job placements.
- State-of-the-art facilities and resources that support teaching, learning, and research.
- Updated curriculum that cater to different interests and career goals.
- A vibrant and diverse student community that fosters learning, innovation, and creativity.
- Due to a very important strategic location (MAKKAH), the programs are continuously serving Hajj and Umra operations by incorporating state-of-the-art technologies



Weaknesses:/Challenges

- Limited funding for research and scholarships that may impact the quality of research.
- High workload for faculty members that may affect their ability to provide high impact research.

Opportunities:

- The increasing demand for graduates with skills in computer science and artificial intelligence in various industries and sectors in Saudi Arabia.
- The emergence of new technologies and applications that require innovative solutions and expertise.
- The potential for collaboration with other departments and institutions to address interdisciplinary research questions and challenges.

Threats:

- The rapid pace of technological change that may require constant updating of curricula and resources.
- The competition from other academic departments and institutions that offer similar programs.
- The potential impact of economic and political factors on funding and resources for education and research.

Overview of the CS program

The CS program aims to provide highly qualified graduates which plays a significant role in achieving Saudi Arabia's vision 2030, by engaging in education and research in order to serve society and industry in this era of rapidly changing computer technologies. The program endeavours to supply graduates -- to the computing industry, government, and academia -- equipped



with the skills that will enable them to provide technical leadership, explore new directions in computer technology and its applications, and succeed in the modern electronic age.

Mission

Preparing highly qualified graduates in the field of computer science through innovative education and scientific research, which develop creative and analytical abilities that contribute to the Kingdom's knowledge-based economy and development of society in various sectors.

The CS program mission is aligned with the mission of the institution and college:

Program Mission	College Mission	University Mission
Preparing highly qualified graduates in the field of computer science through innovative education and scientific research, which develop creative and analytical abilities that contribute to the Kingdom's knowledge-based economy and development of society in various sectors.	Creating a stimulating environment for quality education and innovative research in computing and informatics that enhances the knowledge economy, societal needs and ethical values.	Excellence in education, research and innovation, which contributes to the development of the knowledge economy and community service, based on our Arab and Islamic depth.

Alignment between the program mission and the missions of the College and UQU:



Program Mission	Elements of the College Mission			Elements of the Institution Mission	
	Creating a stimulating environment	For quality education and innovative research in computing and informatics	that enhances the knowledge economy, societal needs and ethical values.	Excellence in education, research and innovation,	which contributes to the development of the knowledge economy and community service, based on our Arab and Islamic depth.
Preparing highly qualified graduates in the field of computer science	√			√	
through innovative education and scientific research,		√		√	
which develop creative and analytical abilities that contribute to the Kingdom's knowledge-based economy and development of society in various sectors.			√		√

Goals

- To provide the community with professional graduates in the field of computers to design, implement and manage commercial and research projects.
- To give the graduates the ability to cope with the rapid change in computer science field through self-development and professional training which enable them enable to create new ideas and innovations.



- To enable graduates to adopt modern technologies that serve the needs of society.

Graduate Attributes

1. Deep discipline knowledge and intellectual breadth
2. Creative and critical thinking, and problem solving
3. Teamwork and communication skills
4. Professionalism and leadership readiness
5. Ethical competency
6. Digital capabilities

Program Learning Outcomes

Knowledge and understanding	
K1	Understand with critical view of theories, concepts, techniques and key terms of computing and mathematics appropriate to the discipline.
Skills	
S1	Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
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.
Values	
V1	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
V2	Practice self-learning and personal development skills as computer professionals in designing, developing and maintaining technical computing projects.
V3	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.



Overview of the AI program

In the past, the use of AI was limited to a few applications such as computer games, but now it has a wide range of applications for businesses, government, medical, and consumer use. To harness information and build information-based societies, highly skilled AI specialists are needed. AI is used in health care for surgical procedures. Voice recognition software uses AI to understand human speech and AI is widely used in translation software. Sophisticated computer games employ AI technology to improve various aspects of game-play experiences. The B.Sc. in Artificial Intelligence Program is important to produce highly skilled individuals who will be in high demand as AI technologies and applications become more ubiquitous in the Kingdom of Saudi Arabia.

Mission

Preparing highly qualified scientific cadres in artificial intelligence through innovative education and scientific research, which develop creative and analytical abilities that contribute to the Kingdom's knowledge-based economy and development of society in various sectors.

The AI program mission is aligned with the mission of institution and college:



Program Mission	College Mission	University Mission
Preparing highly qualified AI cadres through innovative and rigorous education and rich learning experiences to develop creative and analytical abilities that contribute to the Kingdom's knowledge-based economy and development of society in various sectors.	Creating a stimulating environment for quality education and innovative research in computing and informatics that enhances the knowledge economy, societal needs and ethical values.	Excellence in education, research and innovation, which contributes to the development of the knowledge economy and community service, based on our Arab and Islamic depth.

Alignment between the program mission and the missions of the College and UQU:

Program Mission	Elements of the College Mission			Elements of the Institution Mission	
	Creating a stimulating environment	For quality education and innovative research in computing and informatics	that enhances the knowledge economy, societal needs and ethical values.	Excellence in education, research and innovation,	which contributes to the development of the knowledge economy and community service, based on our Arab and Islamic depth.
Preparing highly qualified scientific cadres in artificial intelligence	√			√	
through innovative education and scientific research,		√		√	
contribute to the Kingdom's knowledge-based economy and development of society in various sectors, such as Hajj and Umrah.			√		√



Goals

- Provide students with the knowledge, skills, and values for building AI-based solutions targeting real-world problems in a variety of fields as AI specialists.
- Enable students to work effectively as AI specialists within a team and apply appropriate practices within a professional, legal, and ethical framework, and the need to contribute positively to society.
- Prepare students for continuous self-learning to enhance their skills and develop new AI-based techniques and methods through research and development in industrial or academic environments.

Graduate Attributes

1. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of intelligent computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
2. Design solutions for complex computing problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, Islamic, cultural, societal, and environmental considerations.
3. Identify, formulate, research literature and analyze complex computing problems reaching substantiated conclusions using first principles of mathematics, natural sciences, computer science and artificial intelligence.
4. Create, select and apply appropriate techniques, resources, and modern computing and AI tools, including prediction



- and modelling, to complex computing problems, with an understanding of the limitations.
5. Communicate effectively on complex computing activities with the AI community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
 6. Adherence to religious morals and values in the framework of Islamic Culture and Quran and displaying it in professional context and routine dealings by observing integrity and professional ethics in various aspects.
 7. Function effectively as an individual, and as a member in diverse technical teams.
 8. Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
 9. Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to computing and artificial intelligence technology practice and solutions to broadly defined computing problems.

Program Learning Outcomes

Knowledge and understanding	
K1	Students will be able to demonstrate advanced knowledge and understanding of processes, materials, techniques, conventions, and terminology associated with artificial intelligence.
K2	Students will be able to demonstrate a comprehensive, coherent, knowledge and understanding of the fundamentals and underlying theories, principles, and concepts of mathematics, science, and engineering fundamentals relevant to computing and artificial intelligence.



K3	Students will be able to demonstrate an understanding of research principles and methods.
K4	Students will be able to demonstrate knowledge and understanding of societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional computing practice.
Skills	
S1	Students will have the ability to design, implement and evaluate intelligent computer systems that satisfies a given set of requirements to solve real-world problems.
S2	Students will have the ability to adopt and utilize new AI-based techniques by independent self-learning and transfer their knowledge to novel application domains.
S3	Students will have the ability to communicate effectively through the use of a variety of appropriate methods to transfer ideas, knowledge and skills.
S4	Student will be able to conduct investigations of complex and unpredictable problems using a structured process of inquiry and evidence-based research.
S5	Students will be able to apply appropriate quantitative methods and computer software, in order to solve problem, interpret the data and draw conclusions
Values	
V1	Students will have the ability to recognize and apply standards of integrity, solidarity, professionalism, and ethical behavior in various academic, professional and research fields.
V2	Student will be able to plan and manage computing projects with high responsibility and autonomy, and function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
V3	Students will be able to assess own learning and performance autonomously and engage in independent life-long learning.



Organizational Structure

The following figure shows the organizational structure of the Computer Science and Artificial Intelligence Department. As can be seen from the chart, many committees are shared by the two Bachelor programs, which make it important to have a unified quality system that makes use of department's shared resources, yet ensures the continuous improvement of each program.

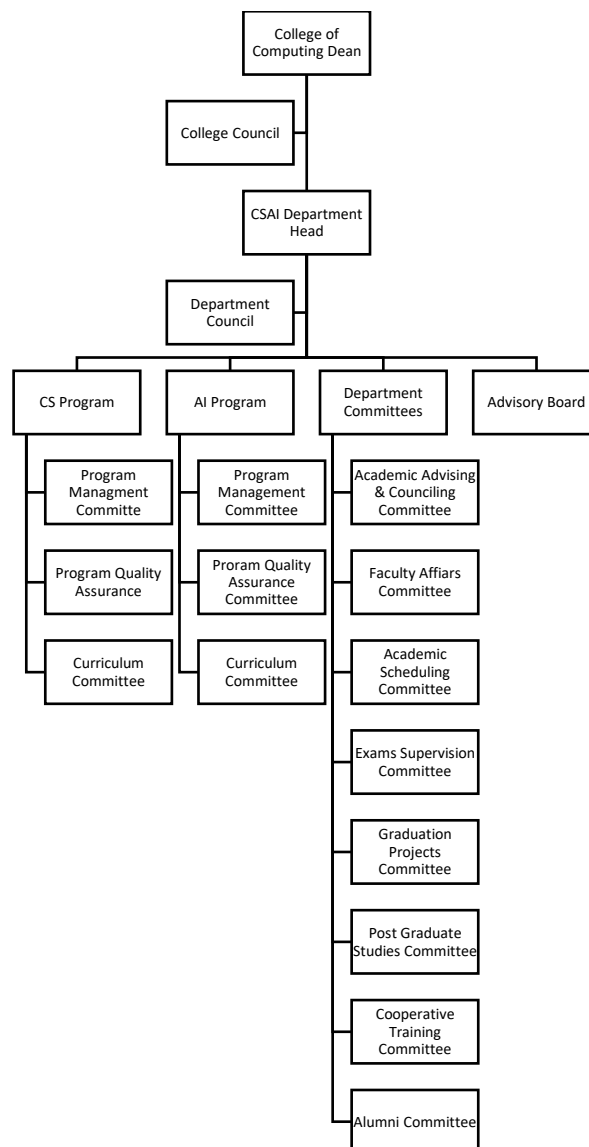


Figure 2: Department Organisational Chart



Quality Committees

The CS program and AI program has separate quality committees, yet great coordination between the two programs' quality committees is ensured through a unified quality system which encourages effective communication. The roles and responsibilities of the programs' quality committee, along with other department committees are detailed below.

Roles and Responsibilities

Committee	Suggested number of members	Expected Outcomes	Tasks
PROGRAM MANAGEMENT COMMITTEE	3-4	<ul style="list-style-type: none"> Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> Periodically reviewing the program's mission and objectives. Monitoring the extent to which the program's objectives have been achieved through specific performance indicators. Conducting a comprehensive periodic evaluation or a self-study every three to five years. Receiving periodic, quarterly and annual reports from the specific committees to prepare the quarterly and annual report for the program. Forming the Internal Evaluators Committee. Establishing standards for students' tests. Receiving reports from external evaluators.



CURRICULUM COMMITTEE			<ul style="list-style-type: none"> Following up on the meetings held by the Program's Advisory Committee and preparing plans to implement recommendations for improvement.
	3-4	<ul style="list-style-type: none"> Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> Reviewing curricula and urging faculty members to develop them as well as setting a time plan for continuous development commensurate with the graduates' actual needs in order to prepare them for the labor market. Matching the curricula with learning resources available to the student. Reviewing and evaluating the learning outcomes of the courses and linking them to the learning outcomes of the program. Holding periodic meetings with course coordinators to review and discuss the proposed development plans. Coordinating curriculum contents to ensure non-repetition and ensuring consistent and gradual academic and practical preparation for students. Reviewing course descriptions and reports formally and procedurally in accordance with academic accreditation requirements. Review student evaluations formally and procedurally in accordance with academic accreditation requirements. Preparing a quarterly report on the proposed curriculum development achievements and sending it to the Quality Assurance Committee for



			<p>documentation in preparation for presenting it to the Department Council and the College Vice Deanship for Development and Quality.</p> <ul style="list-style-type: none"> • Preparing a report on the difficulties that may face the implementation of the proposed courses and submitting it to the Department Council to take the appropriate actions. • Following up on preparing, compiling and submitting course report forms no later than the end of the second week of each semester, for the courses that were taught in the previous semester. • Preparing a quarterly report on academic courses in terms of the availability and updating course descriptions and their compliance with the models of the National Authority for Academic Accreditation and submitting it to the department's Quality Assurance Committee.
<p>QUALITY ASSURANCE COMMITTEE</p>	<p>3-4</p>	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each 	<ul style="list-style-type: none"> • Contributing to spreading the culture of quality assurance and accreditation to department members, through lectures, seminars, and training courses, all in coordination with the college's Vice Deanship for Development and Quality. • Supporting, assisting, following up and ensuring the progress of the program's workflow and the various quality and development activities by



		<p>semester and presenting it at the Department Council.</p> <ul style="list-style-type: none">• Committing to what is stated in the Committees' Governance Manual.• Building a report on the committees that delivered quality assurance related work.	<p>the standards and requirements of the university's quality system.</p> <ul style="list-style-type: none">• Adopting and measuring performance indicators for each program.• Identifying the difficulties and problems facing the programs development and proposing solutions.• Preparing periodic; monthly, quarterly, annually, reports on the committee's activity, and presenting them to the college's Vice Deanship for Development and Quality.• Documenting statistical information on the main elements related to the educational system, such as: inputs, processes, outputs, and feedback.• Providing information and an integrated database about all quality work and activities in the department.• Evaluating the extent of completion and archiving of quality requirements and documents, such as performance files and course files for the program in the department.• Evaluating the extent of completing and archiving the requirements of self-evaluation studies for the college's academic programs.• Providing feedback to the course coordinator after submitting the course files.• Directing course coordinators to provide feedback to faculty members after submitting the course model.• Heading department committee meetings, documenting them, and
--	--	--	---



			<p>sending copies of the meeting minutes to the college's Vice Deanship for Development and Quality at the end of each semester.</p>
ACADEMIC SCHEDULES COMMITTEE	3-4	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Preparing study schedules for all department programs, including bachelor's, diploma, and master's programs. • Preparing the schedule for each semester, taking into account the expected number of students according to the mechanisms followed by the University's Vice Deanship of Educational Affairs and the Deanship of Admission and Registration. • Dealing with emergency requests from students and faculty members from the beginning of the semester. • Communicating and coordinating with the college's Vice Deanship of Educational Affairs regarding the program's schedules.
EXAMS SUPERVISION COMMITTEE	3-4	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at 	<ul style="list-style-type: none"> • Organizing and coordinating the dates of periodic and final exams, setting exam schedules for students, and distributing exam proctoring duties. • Documenting problems during exams and developing appropriate solutions for them in coordination with the department's head, the college's Deanship for Educational Affairs, and the College Vice Deanship for Female Students.



		<p>the Department Council.</p> <ul style="list-style-type: none"> • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Supervising the progress of tests and the presence of proctors according to the schedule. • Monitoring and following up on students who are absent during the final exams, in coordination with the course instructor and the department's head, to ensure the validity of the absence excuses provided by the students. • Supporting students who are absent during final exams for courses provided by other departments and ensuring that approved absence excuses are sent according to university regulations to the department providing the course.
<p>ACADEMIC ADVISING & COUNCILING COMMITTEE</p>	<p>3</p>	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Holding meetings that support the academic guidance process for faculty members. • Preparing and distributing an academic guidance booklet for students at the beginning of the semester, and publishing an electronic copy of the booklet on the college's website. • Assigning academic advisors to students. • Direct counselors to create a file for each student that contains information and data about their hobbies, academic abilities, academic and social problems, their educational path, etc. • Ensuring that students know the office hours of faculty members.



GRADUATI ON			<ul style="list-style-type: none"> • Urging faculty members to communicate with students using approved means of communication. • Following up on the results of in periodic tests, aiding and guiding those who need assistance, early detection of students who are struggling and assisting students during unforeseen problems. • Providing Academic follow-up for students in different years, providing them with advice and guidance and directing them according to their academic status. • Preparing periodic reports on the academic problems that some students may face in different years. • Returning to students with the results, after presenting their problems, and explaining the proposed solutions. • Submit monthly reports to the department's head, and in their turn, they present what is necessary to the Department Council to make appropriate decisions.
	3	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the 	<ul style="list-style-type: none"> • Supervising students' graduation projects in the department. • Managing the mechanism for selecting projects' supervisors.



		<p>department at the end of each semester.</p> <ul style="list-style-type: none"> • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Considering the grievances and problems faced by students in the graduation project and recommend what deems appropriate. • Scheduling and managing project discussions. • Preparing an annual report that includes a description of projects and statistics. • Coordinating in preparation for the Enjaz Students' Exhibition.
<p>POST GRADUATE STUDIES COMMITTEE</p>	<p>2-3</p>	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the 	<ul style="list-style-type: none"> • Holding meetings that support the needs of post-graduate students in the department. • Supervising the status of post-graduate students in terms of their commitment to the regular study period. • Having the committee act as a reference for supervisors and students when needed. • Urging faculty members to communicate with students using approved means of communication. • Returning to students with the results, after presenting their problems, and explaining the proposed solutions.



FACULTY AFFAIRS COMMITTEE		Committees' Governance Manual.	<ul style="list-style-type: none"> • Submit monthly reports to the department's head, and in their turn, they present what is necessary to the Department Council to make appropriate decisions.
	3	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Preparing appropriate policies and procedures for selecting faculty members. • Regularly evaluating the performance of faculty members according to announced standards and providing them with feedback all in coordination with the head of the department. • Providing academic and professional development programs and encouraging faculty members to participate in them. • Opinion polling faculty members to evaluate the adequacy and quality of the services provided to them and measure their satisfaction. • Filtering applicants and arranging interviews with candidates. • Providing opinions and recommendations on the applications of applicants and candidates applying for academic and administrative positions in the department. • Preparing new faculty members, and urging them to attend orientation programs held by the university. • Following up on the affairs of the department's teaching assistants and



STUDENTS TRAINING COMMITTEE			<p>lecturers and supporting them to complete their postgraduate studies.</p> <ul style="list-style-type: none"> • Following up on the affairs of the department's scholarship members and communicating with them when needed.
	3	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Identify students eligible for summer training programs or collaborative training programs in the department. • Searching for training institutions for students in coordination with the college's Vice Deanship for Development and Quality. • Preparing the necessary letters to facilitate students' admission into the training institutions. • Disseminate instructions and regulations for summer and collaborative training programs for students and academic supervisors in coordination with the college's Vice Deanship for Development and Quality. • Commitment to meeting, at least once, with students eligible for summer or collaborative training programs and answering their inquiries. • Commitment to meeting with academic supervisors, at least once, regarding summer or collaborative training programs' obligations and answering their inquiries. • Assigning supervisors to students in coordination with the college's Vice Deanship for Development and Quality.



			<ul style="list-style-type: none"> Assigning students accepted into the same training institution to the same academic supervisor, as much as possible.
ALUMNI COMMITTEE	2-3	<ul style="list-style-type: none"> Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> Creating a database for program graduates and students expected to graduate. Work with the Graduates Committee at the college to introduce students to the services and programs provided by the university before and after their graduation. Inviting and motivating graduates and those expected to graduate to participate in courses, seminars, and workshops through continuing education programs. Involving and inviting graduates to college and university events. Informing graduates about the needs of the labor market and the local community regarding jobs suitable for their specializations. Measuring graduates' satisfaction with the quality of the program 6 months after their graduation, using questionnaires provided by the Deanship of Development and Quality.



<p style="text-align: center;">COORDINATION COMMITTEE</p>			<ul style="list-style-type: none"> Documenting and issuing periodic bulletins for graduates' academic, professional and community activities provided by the department and presenting them to the college's Graduates Committee. <p>Employers (recruitment and training agencies)</p> <ul style="list-style-type: none"> Creating a database on employers and all sectors related to students and graduates. Designing questionnaires with the aim of identifying the needs of employers and the local community. Measuring the needs of employers and the local community and the extent of their satisfaction with program's graduates, using questionnaires provided by the Deanship of Development and Quality.
	3	<ul style="list-style-type: none"> Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. Submitting a report on the committee's achievements at the 	<ul style="list-style-type: none"> Preparing the consolidated annual report for the program and its branches, highlighting the most important differences between the different headquarters providing the program. Studying the development requirements and required changes mentioned in the program's annual



		<p>end of each semester and presenting it at the Department Council.</p> <ul style="list-style-type: none"> • Committing to what is stated in the Committees' Governance Manual. 	<p>reports and issuing the necessary recommendations regarding them.</p> <ul style="list-style-type: none"> • Studying the strengths, weaknesses, and improvement priorities and issuing appropriate recommendations regarding them. • Coordinating collaboration to meet the program's needs in each headquarters by making use of the points of strength of those headquarters. • Obtaining approval of the records from the relevant departments and colleges' councils.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">ADVISORY COMMITTEE</p>	<p>8-12</p>	<ul style="list-style-type: none"> • Documenting the committees' meeting minutes and delivering them to the head of the department at the end of each semester. • Submitting a report on the committee's achievements at the end of each semester and presenting it at the Department Council. • Committing to what is stated in the Committees' Governance Manual. 	<ul style="list-style-type: none"> • Proposing new ideas, discussing them, and presenting them to the College Council or the Academic Department to discuss ways and possibilities of implementation. • Researching the difficulties and problems that may face the workflow in the college or the academic department in general, putting them up for discussion, and assisting the college or department in solving them. • Researching the topics and projects assigned by the college, department, or program to the Advisory Committee and seeking to develop a plan and a mechanism for their implementation. • Assisting in the process of evaluating and developing the program and improving its performance based on



			<p>the opinion of relevant graduates from the government and private sectors.</p> <ul style="list-style-type: none">• Representing the local community in expressing opinions on the admission policy for new students applying to the college as well as the academic program, in line with the Kingdom's geographical distribution and the actual needs of the community.• Working as a direct communication link between the college or program, state leaders, and decision-makers through direct relationships, wherever available, in order to convey a realistic picture of the college or the academic program's scientific and human capabilities and the actual needs for growth and development.• Reviewing the educational and training programs developed in the college or in the academic program and assisting in introducing those programs to the community, and showcasing the extent to which they reflect on community services in order to enhance confidence between the beneficiaries, including the graduates and those in charge of implementing the educational programs.• Positively contributing to overcoming obstacles that may stand in the way of implementing the plan of the college or the academic program for students' field training, or that may stand in the way of achieving the plans objectives at different stages.
--	--	--	--



			<ul style="list-style-type: none">Assisting in evaluating the results of agreements concluded between the college or the academic programs on the one hand, and various community institutions on the other hand and overcoming regulatory and administrative obstacles as much as possible through direct and indirect relationships to achieve educational goals, research goals and the goals of the community service field.
--	--	--	--

Key Performance Indicators (KPIs)

The CSAI department adopts the NCAAA 2023 suggested program's key performance indicators. The main purpose of the 11 adopted KPIs is to help the department assess and monitor the quality of the academic programs periodically and effectively.



Standard	Code	Key Performance Indicators	Description
-2- Teaching and Learning	KPI-P-01	Students' Evaluation of Quality of learning experience in the Program	Average of the overall rating of final year students of the quality of learning experience in the program, satisfaction with the various services offered by the program (restaurants, transport, sports facilities, academic, vocational, psychological guidance...), student satisfaction with the adequacy and diversity of learning sources (references, periodicals, information databases... etc.) on a five-point scale in an annual survey.
	KPI-P-02	Students' evaluation of the quality of the courses	Average of students' overall rating for the quality of courses on a five-point scale in an annual survey.
	KPI-P-03	Completion rate	The proportion of undergraduate students who completed the program in minimum time in each cohort.
	KPI-P-04	First-year students retention rate	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.
	KPI-P-05	Students' performance in the professional and/or national examinations	Percentage of students or graduates who were successful in the professional and/or national examinations, or their score average and median (if any)



Standard	Code	Key Performance Indicators	Description
	KPI-P-06	Graduates' employability and enrolment in postgraduate programs	Percentage of graduates from the program who within a year of graduation were: a. employed within 12 months, b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year.
	KPI-P-07	Employers' evaluation of the program graduates proficiency	Average of the overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey.
-4- Teaching Staff	KPI-P-8	Ratio of students to teaching staff	Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program
	KPI-P-9	Percentage of publications of faculty members	Percentage of full-time faculty members who published at least one research paper during the year to total faculty members in the program.
	KPI-P-10	Rate of published research per faculty member	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 full-time or equivalent faculty members during the year).
	KPI-P-11	Citations rate in refereed journals per faculty member	The average number of citations in refereed journals from published research per faculty member in the



Standard	Code	Key Performance Indicators	Description
			program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published).

Adopted Quality Standards

An effective quality system is governed by well-established standards. The CSAI department adopts the NCAAA 2022 quality and accreditation standards.



PROGRAM MANAGEMENT AND QUALITY ASSURANCE	
1	The program must have effective leadership that implements the institutional systems, policies and regulations. The program leadership must plan, implement, monitor, and activate a quality assurance system that achieve continuous development of program performance in a framework of integrity, transparency, fairness and within a supportive organizational climate.
1-1	Program Management
1-1-1	The program mission and its goals are consistent with the mission of the institution/college, and guide all its operations and activities.
1-1-2	The program has the sufficient number of qualified staff to perform its administrative, professional and technical tasks, and they have defined tasks and authorities.*
1-1-3	The program provide an organizational climate and supportive academic environment.
1-1-4	The program management monitors the achievement of its goals and actions are taken for improvement.



1-1-5	The program management applies mechanisms ensuring integrity, fairness, and equality in all its academic and administrative practices, and between the male and female student sections and branches (if any).
1-1-6	The program builds on the views of professionals and experts in the program specialization, to contribute to its evaluation, development, and performance improvement.
1-1-7	The program management provides reliable and publicly disclosed information to the community about the program description, performance, and achievements that suits the needs of the stakeholders.
1-1-8	The program management is committed to activating the values of the scientific integrity, intellectual property rights, rules of ethical practices, and proper conduct in all academic, research, administrative, and service fields and activities.*
1-1-9	The program management applies the systems, regulations, and procedures that are approved by the institution/college, including those related to grievance, complaints, and disciplinary cases.



1-2	Program Quality Assurance
1-2-1	The program management implements an effective quality assurance and management system that is consistent with the institution quality system.
1-2-2	The program analyzes the key performance indicators and the evaluation data annually and results are used in planning, development, and decision-making processes. *
1-2-3	The program conducts a periodic, comprehensive evaluation and prepares plans for improvement; and follows up its implementation.



TEACHING AND LEARNING	
2	Learning outcomes at the program level must be precisely defined, consistent with the requirements of the National Qualifications Framework and with the related specialized academic standards, and the labor market requirements. The curriculum must conform to professional requirements. The teaching staff must implement diverse and effective teaching and learning strategies and assessment methods that are appropriate to the different learning outcomes. The extent of achievement of learning outcomes must be assessed through a variety of means and the results are used for continuous improvement.
2-1	Learning Outcomes
2-1-1	The program identifies its intended learning outcomes that are consistent with its mission, and aligned with the specialized academic standards and the graduate attributes at the institutional level; they are approved, publicly disclosed, and periodically reviewed.
2-1-2	The learning outcomes are consistent with the requirements of the National Qualifications Framework, academic standards and labor market needs.*
2-1-3	The program identifies the learning outcomes for the different tracks (if any).



2-1-4	The program applies appropriate mechanisms and tools for measuring the learning outcomes, and verifying their achievement according to specific performance levels and assessment plans.*
2-1-5	The Program implements a clear and approved teaching, learning and evaluation strategy that articulates its educational philosophy and ensures that the Program's intended learning outcomes are achieved.
2-2	Curriculum
2-2-1	The curriculum design considers fulfilling the program goals and learning outcomes, and the educational, scientific, technical and professional developments in the field of specialization; and is periodically reviewed.*
2-2-2	The study plan ensures the balance between the general and specialty requirements, and between theoretical and applied aspects; and it takes into account the sequencing and integration of the courses.*
2-2-3	The construction of the program study plan considers the identification of exit-points requirements (if any) in accordance with international practices and similar programs.



2-2-4	The learning outcomes in the courses are aligned with the program learning outcomes (e.g., Matrix for the alignment of the learning outcomes of the courses with program learning outcomes).
2-2-5	Teaching and learning strategies and assessment methods in the program vary according to its nature and level, and are aligned with the learning outcomes of the program.
2-2-6	The program verifies the effectiveness of field training and the quality of its supervision, and follows up on the commitment of its operators to their mandated tasks according to specific mechanisms.
2-2-7	The program ensures a unified application of its study plan as well as the program and the course specifications offered at more than one site (sections of male and female students and different branches).*
2-3	Quality of Teaching and Students' Assessment
2-3-1	The program monitors the commitment of the teaching staff to the learning and teaching strategies and assessment methods included in the program and course specifications through specific mechanisms.*



2-3-2	The necessary training is provided for the teaching staff on learning and teaching strategies and assessment methods identified in the program and course specifications, along with the effective use of modern and advanced technology; and their use is monitored.
2-3-3	At the beginning of each course, students are provided with comprehensive information about the course, including learning outcomes, teaching and learning strategies, and assessment methods and dates, as well as what is expected from them during the study of the course and feedback on their performance is provided for them.
2-3-4	The program applies mechanisms to support and motivate excellence in teaching, and encourages creativity and innovation of the teaching staff.
2-3-5	The program implements clear and publicized procedures to verify the quality and validity of the assessment methods, and to ensure the level of student achievement.
2-3-6	Effective procedures are used to control academic integrity at the program level to verify that the work and assignments of students are their own. *



3	STUDENTS The criteria and requirements for student admissions in the program must be clear and publicly disclosed, and must be applied fairly. The information about the program and the requirements for completion of the study must be available, and students must be informed about their rights and duties. The program must provide effective guidance and counseling services, and extracurricular and enriching activities to its students. The program must evaluate the quality of all services and activities offered to its students and improve them. The program must follow its graduates.
3-0-1	The program applies approved and disclosed criteria and requirements for the admission, registration and graduation of students, the transition to another program and the equivalent of what students have previously learned, commensurate with the nature of the program and are applied fairly.
3-0-2	The program provides basic information to students, such as study requirements, services, and financial fees (if any), through various means.
3-0-3	Students are provided with effective academic, professional, psychological, and social guidance, and counseling services through qualified and sufficient staff.*



3-0-4	Mechanisms are applied to identify gifted, creative, talented, and underachieving students in the program, and appropriate programs are available to care for, motivate, and support each group of them.
3-0-5	Students in the program are offered extracurricular activities in variety of fields to develop their abilities and skills, and the program takes appropriate actions to support and motivate their participation.
3-0-6	The program implements an effective mechanism to communicate with its alumni and involve them in its events and activities, explore their views, and benefit from their expertise and support; and provides updated and comprehensive databases about them.
3-0-7	Effective mechanisms are applied to evaluate the adequacy and quality of services provided to students and measure their satisfaction with them; and the results are used for improvement.*



4	Faculty The program must have sufficient numbers of qualified teaching staff with the necessary competence and experience to carry out their responsibilities. The teaching staff must be aware of current academic and professional developments in their fields of specialization, participate in research and community service, and in improving the program and institutional performance. Teaching staff performance must be evaluated according to specific criteria, and the results of these evaluations must be used for development.
4-0-1	The program has an adequate number of faculty members at all sites where it is offered and appropriate verification mechanisms are applied.*
4-0-2	The teaching and adjunct staff in the professional programs include some experienced and highly skilled professionals in the field of the program.
4-0-3	The teaching staff participate in academic, research and scientific production activities efficiently and regularly, and their participation in these activities is considered as one of the criteria for their evaluation and promotion.
4-0-4	Teaching staff participate in community partnership activities; and their participation in these activities is considered as one of the criteria for their evaluation and promotion.
4-0-5	Teaching staff participate in professional and academic development programs in accordance with a plan that meets their needs and contributes to the development of their performance.
4-0-6	The performance of the teaching staff is regularly assessed according to specific and published criteria; feedback is provided to them; and the results are used in improving the performance.



LEARNING RESOURCES, FACILITIES, AND EQUIPMENT	
5	Learning resources, facilities, and equipment must be adequate to meet the needs of the program and its courses; and must be available to all beneficiaries using an appropriate arrangement. Teaching staff and students must participate in identifying such resources based on their needs, and in assessing their effectiveness.
5-0-1	The program ensure the adequacy and appropriateness of learning sources and services provided in accordance with its needs and student numbers, and updated them periodically.
5-0-2	The teaching staff, students, and employee of the program have the appropriate orientation and technical training and support for the effective use of resources and means of learning.
5-0-3	Safety, environmental conservation and hazardous waste disposal standards are applied efficiently and effectively, with all public and occupational health and safety requirements available in facilities and equipment, and educational and research activities. *
5-0-4	The program has the appropriate technologies, services, and environment for courses offered through distance or e-learning according to their own specific standards.
5-0-5	The program evaluates the effectiveness and efficiency of learning resources, facilities, and equipment of all types; and the results are used for improvement.
*Essential Criteria	

Quality Assurance Plan

#	Task	Frequency/Time of implementation	KPIs	Implementation mechanism
---	------	----------------------------------	------	--------------------------



1	<ul style="list-style-type: none"> Contributing to spreading the culture of quality assurance and accreditation to department members. 	Throughout the academic year	<ul style="list-style-type: none"> Number of emails sent from the quality committee Number of training programs conducted Percentage of member participation in training programs. 	<ul style="list-style-type: none"> Establish effective and sustainable communication mechanism between department members and quality committee team. Analyze training needs of department members regarding quality matters. Conduct lectures, seminars, and training courses, all in coordination with the college's Vice Deanship for Development and Quality.
2	<ul style="list-style-type: none"> Supporting, assisting, following up and ensuring the progress of the program's workflow and the various quality and development activities by the standards and requirements of the university's quality system. 	End of each trimester	<ul style="list-style-type: none"> Achieving 100% submission rate of quality related documents, per trimester 	<ul style="list-style-type: none"> Weekly meetings for the quality committee and other related department committees. Documenting all committee meetings. Following up on all meeting minutes and developing plans to implement required actions. Coordination with department and college administration to resolve any issues or obstacles.



3	<ul style="list-style-type: none"> Adopting and measuring performance indicators for each program. 	Depends on frequency of measuring each KPI.	<ul style="list-style-type: none"> Number of external and internal benchmarks acquired. Percentage of KPIs measured in their cycle. 	<ul style="list-style-type: none"> Reviewing standard KPIs suggested by NCAAA and suggesting any extra required KPIs. Devising a measurement plan for the KPIs, taking into consideration internal and external benchmarks.
4	<ul style="list-style-type: none"> Identifying the difficulties and problems facing the programs development and proposing solutions. 	End of each semester.	<ul style="list-style-type: none"> Number of meetings conducted with course coordinators. Number of periodical reports prepared. Percentage of action plans implemented. 	<ul style="list-style-type: none"> Reviewing course reports and meeting with course coordinators to identify any areas for improvements. Reviewing stakeholders' questionnaires reports and identifying any areas for improvements. Proposing suitable solutions and preparing action plans.
5	<ul style="list-style-type: none"> Preparing periodic reports on the committee's activity, and presenting them to the college's Vice Deanship for Development and Quality. 	As required	<ul style="list-style-type: none"> Number of periodical reports prepared. 	<ul style="list-style-type: none"> Preparing a timeline for the required reports. Preparing a draft for the required report, during weekly committee meetings. Sending the report for the department head for review/approval.
6	<ul style="list-style-type: none"> Documenting statistical information on the main 	Start/End of each trimester.	<ul style="list-style-type: none"> Number of stats elements gathered. Number of statistical analysis 	<ul style="list-style-type: none"> Gather required data from available outlets. Analyse data. Prepare analytical reports and



	elements related to the educational system, such as: inputs, processes, outputs, and feedback.		reports prepared.	required action plans.
7	<ul style="list-style-type: none"> Providing information and an integrated database about all quality work and activities in the department. 	End of each trimester	<ul style="list-style-type: none"> Percentage of quality activating included in the integrated database 	<ul style="list-style-type: none"> Creating an integrated database for quality activities. Documenting all quality activities in the database. Adding meeting minutes to the quality database and updating the database after each meeting.
8	<ul style="list-style-type: none"> Evaluating the extent of completion and archiving of quality requirements and documents, such as performance files and course files for the program in the department. 	End of each trimester	<ul style="list-style-type: none"> Achieving completion rate of 100%. 	<ul style="list-style-type: none"> Reviewing the completion rate after each trimester. Following up with course coordinators. Preparing reports on completion rates. Communicating with department head to resolve any issues.
9	<ul style="list-style-type: none"> Evaluating the extent of 	End of each trimester	<ul style="list-style-type: none"> Percentage of completion on a checklist of requirement 	<ul style="list-style-type: none"> Reviewing requirements through periodic



	<p>completing and archiving the requirements of self-study reports for the department's academic programs.</p>		<p>for the SSRP (starting at 80% and achieving 100% before applying to accreditation).</p>	<p>committee meetings.</p> <ul style="list-style-type: none"> • Preparing an action plan to complete the requirements. • Communication with department and college admiration to resolve any issues. • Organizing related documents and evidence in reasonable folders/subfolders.
10	<ul style="list-style-type: none"> • Providing feedback to the course coordinator after submitting the course files. 	<p>End of each trimester.</p>	<p>- Number of course reports reviewed and analysed (100%)</p>	<ul style="list-style-type: none"> • Sending reminders to course coordinators regarding submitting course reports. • Review course reports and prepare necessary feedback. • Directing course coordinators to provide feedback to faculty members after submitting the course model. • Prepare a general workshop for frequent feedbacks. • Prepare reports regarding strengths and possible areas for improvements.
11	<ul style="list-style-type: none"> • Conducting committee meetings, 	<p>End of each trimester.</p>	<p>- Number of meeting minutes.</p>	<ul style="list-style-type: none"> • Conduct a weekly meeting for the committee



	documenting them, and sending copies of the meeting minutes to the college's Vice Deanship for Development and Quality.			<ul style="list-style-type: none">• Document and archive the meeting minutes.• Submit the meeting minutes to the college.
--	---	--	--	--

Quality Assurance Forms

All quality related forms are accessible via the college's vice-deanship of quality and development:

<https://uqu.edu.sa/quality/App/FILES/149283>



References

1. Education and Training Evaluation Commission. NCAAA Standards for program Accreditation. 2022
2. UQU's College of Computing. Governance Manual for Academic Programs Committees. 2024



جامعة أم القرى
UMM AL-QURA UNIVERSITY