



جامعة أم القرى
UMM AL-QURA UNIVERSITY



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





Computer Science Program Handbook 2023





Table of Contents

1. COLLEGE OF COMPUTING	5
2. COMPUTER SCIENCE PROGRAM	5
3. GENERAL INFORMATION	6
4. PROFESSIONAL OCCUPATIONS/JOBS	6
5. PROGRAM GOALS	6
6. RELATIONSHIP BETWEEN PROGRAM MISSION AND GOALS AND THE MISSION AND GOALS OF THE UNIVERSITY	7
7. GRADUATE ATTRIBUTES	7
8. PROGRAM LEARNING OUTCOMES	8
9. CURRICULUM STRUCTURE	8
10. PROGRAM STUDY PLAN	9
11. COURSE SPECIFICATIONS	10
12. TEACHING STAFF	11
LIST OF FACULTY MEMBERS	12
13. PROGRAM COMMITTEE AND CONTACT INFORMATION	14
14. STUDENT GUIDE FOR SUPPORT AND SERVICES	15



1. College of Computing

Overview

The UQU College of Computing was established in 1426 A.H. The college includes five academic departments: Computer Engineering and Networking, Computer Science and Artificial Intelligence, Software Engineering, Cybersecurity and Data Science. All these departments grant the bachelor's degree and master's degrees only in Computer Engineering and Networking as well as Computer Science and Artificial Intelligence.

Vision

To establish a hub for learners and scholars to facilitate computing and knowledge technology for community and industry.

Mission

Creation of a conducive environment for quality education and innovative research in computing and informatics promoting knowledge-based economy, societal needs and ethical values.

2. Computer Science Program

Overview

The program aims to provide highly qualified graduates which plays a significant role in achieving Saudi Arabia's vision 2030. The program of Computer Science helps to engage in education and research in order to serve society and industry in this era of rapidly changing computer technologies. The program endeavors 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.



3. General Information

Program Name	Computer Science
Specialization symbol	CS
Plan Number	44
Total credit hours for completing the program	201
Total students' number	Female (Alzaher campus): 472 Male (Alabdiah campus): 307
Year	2023

4. Professional Occupations/Jobs

- Software developments
- Cloud computing
- Business Intelligence Analysts/Developers/Testers
- Distributed ledger technology
- Database technology
- Network applications
- AI Developer
- Web Developments
- Mobile App Developments
- IT Project Manager
- Video Game Developer
- Computer forensics

5. Program Goals

1. To provide the community with professional graduates in the field of computers to design, implement and manage commercial and research projects.
2. 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 to create new ideas and innovations.
3. To enable graduates to adopt modern technologies that serve the needs of society.



6. Relationship between Program Mission and Goals and the Mission and Goals of the University

The program mission is in line with the UQU mission, i.e., “Excellence in research and innovation in a way that contributes to the development of the knowledge economy and community service”. The program serves the university mission which is to have a role in the leadership in scientific research .”

“Excellence in education” is mapped to the program objective where the program graduates are assumed to have the ability of assuming leadership positions in industry, academia and public service.

7. Graduate Attributes

Our focus in this program is supporting and motivating students to graduate while they equipped with the following:

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



8. Program Learning Outcomes

Knowledge and understanding	
K1	Understand with critical view of theories, concepts, techniques and key terms of computing, mathematics and natural science 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.

9. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	10	20	9.95%
	Elective	3	6	2.99%
College Requirements	Required	12	44	21.89%
	Elective	0	0	0
Program Requirements	Required	32	102	50.75%
	Elective	4	12	5.95%
Capstone Course/Project		3	9	4.48%
Field Experience/ Internship		1	8	3.98%
Others		0	0	0
Total		65	201	100%



10. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	ELCE1201	English Language 1	R		4	CR
	QR1101	Holy Quran 1	R		2	UR
	SE1101	Computational Thinking & Problem Solving	R		3	CR
	MTH1105	Introduction to Calculus	R		4	CR
	CS1101	Discrete Structures (1)	R		4	CR
Level 2	ELCE1202	English Language 2	R	ELCE 1201	4	CR
	ICC1201	Islamic Culture 1	R		2	UR
	CS1211	Computer Programming (1)	R	SE 1101	3	CR
	PHY1110	General Physics (1)	R		4	CR
	MTH1211	Linear Algebra 1	R	MTH 1105	4	CR
Level 3	ELCE1203	English Language 3	R	ELCE 1202	4	CR
	BA1901	Career Preparation Skills	R		2	UR
	CS1312	Computer Programming (2)	R	CS 1211	3	CR
	DS1302	Topics in Computing	R		3	CR
	MTH1501	Elementary of Statistics and Probability	R		4	CR
Level 4	QR2102	Holy Quran 2	R	QR1101	2	UR
	CS2113	Object Oriented Programming	R	CS1312	4	DR
	CEN2000	Digital Logic Design	R		4	DR
	CS2121	Computers and Society	R		2	DR
	BIO2101	Biology	R		2	DR
	CS2102	Discrete Structures (2)	R	CS1101	4	DR
Level 5	ICC2202	Islamic Culture 2	R	ICC1201	2	UR
	CS2214	Data Structures	R	CS1312	3	DR
	SEC2101	Introduction to Cybersecurity	R		3	DR
	CEN2001	Computer Organization and Architecture	R	CEN2000	4	DR
	SE2102	Foundations of Software Engineering	R	CS1211	3	DR
	CS2231	Database Fundamentals	R	CS1312	3	DR
Level 6	ARS1500	Arabic Writing and Editing	R		2	UR
	CS2341	Compiler Construction	R	CS2113	3	DR
	SE3037	Software Engineering	R	SE2102	3	DR
	CS2322	Project Management for Computer Scientist	R	SE2102	2	DR
	CS2315	Algorithm Fundamentals	R	CS2214	3	DR
	CS2342	Operating Systems Fundamentals	R	CEN2001 CS1312	3	DR
	ICC3203	Islamic Culture 3	R	ICC2202	2	UR
Level 7	CS3143	Operating Systems	R	CS2342	3	DR
	CS3116	Algorithms	R	CS2315	3	DR
	CS3123	Software Documentation and Technical Writing	R		3	DR
	CEN3002	Computer Networks & Communications	R	CS2342	4	DR
	CS3132	Database Systems	R	CS2231	3	DR
	QR3103	Holy Quran 3	R	QR2102	2	UR



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	xxxxxxx	University Elective 1	Elective		2	URE
	CS3224	Software Systems Implementation	R	SE3037	2	DR
	SEC3023	Introduction to Cryptography	R	CS2102	3	DR
	CS4217	Advanced Programming	R	CS2113	3	DR
	AI2101	Principles and Techniques of Artificial Intelligence	R	CS2315	3	DR
	CS3251	Web Development Fundamentals	R	CS2231	4	DR
Level 9	CS3370	Co-Op Training	R	Department Approval	8	DR
Level 10	QR4104	Holy Quran 4	R	QR3103	2	UR
	xxxxxxx	University Elective 2	Elective		2	URE
	CS4103	Scientific Computing	R	CS2102	3	DR
	CS4152	Mobile Applications Development	R	CS2231	4	DR
	HCI2004	User Interface Design	R	SE2102	4	DR
	CS4171	Graduation Project (1)	R	CS3132	3	DR
Level 11	ICC4204	Islamic Culture (4)	R	ICC3203	2	UR
	CS4244	Parallel and Distributed Computing	R	CEN3002	3	DR
	CS44xx	CS Elective (1)	Elective		3	DRE
	CS4225	Programming Languages	R	CS2341	3	DR
	CS4253	Computer Graphics	R	CS2113 MTH1211	4	DR
	CS4272	Graduation Project (2)	R	CS4171	3	DR
Level 12	xxxxxxx	University Elective 3	Elective		2	URE
	CS4345	Cloud Computing	R	CEN3002	3	DR
	CS44xx	CS Elective (2)	Elective		3	DRE
	CS44xx	CS Elective (3)	Elective		3	DRE
	CS44xx	CS Elective (4)	Elective		3	DRE
	CS4373	Graduation Project (3)	R	CS4272	3	DR

* The duration was specified in the "Cooperative Training" course description as 90 workdays, excluding Eid al-Fitr & al-Adha and weekends, which is equivalent to the duration of a quarter and a summer session.

11. Course Specifications

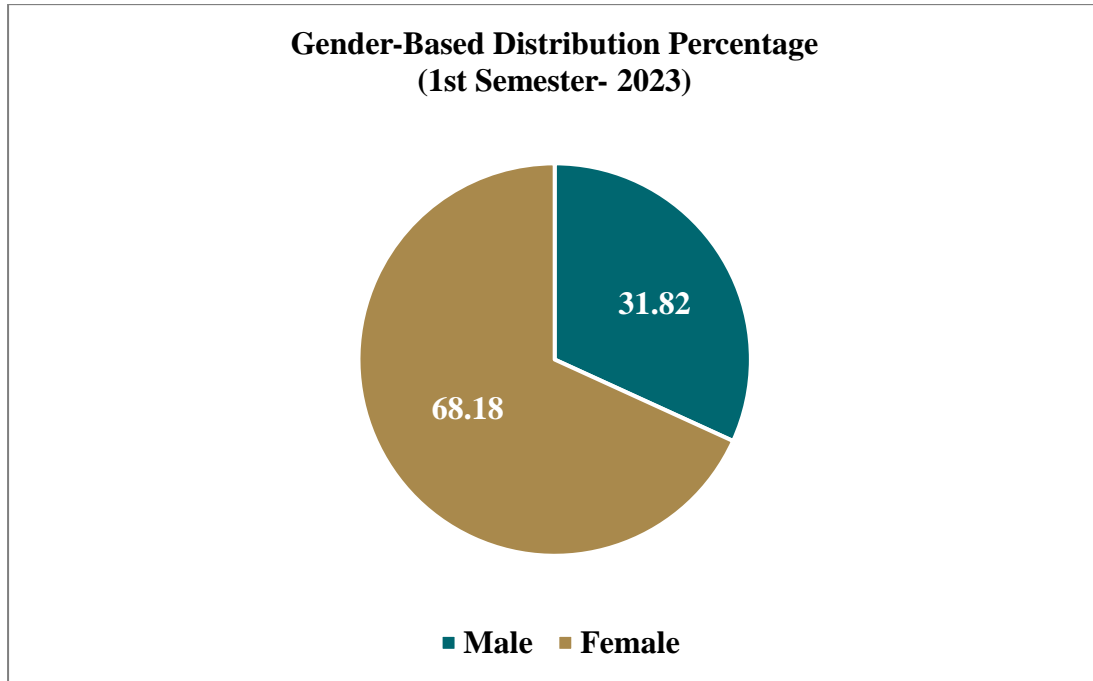
[CIS CS Undergraduate Curriculum Development Committee - توصيف مقررات علوم الحاسب مجلس القسم.pdf - All Documents \(sharepoint.com\)](#)



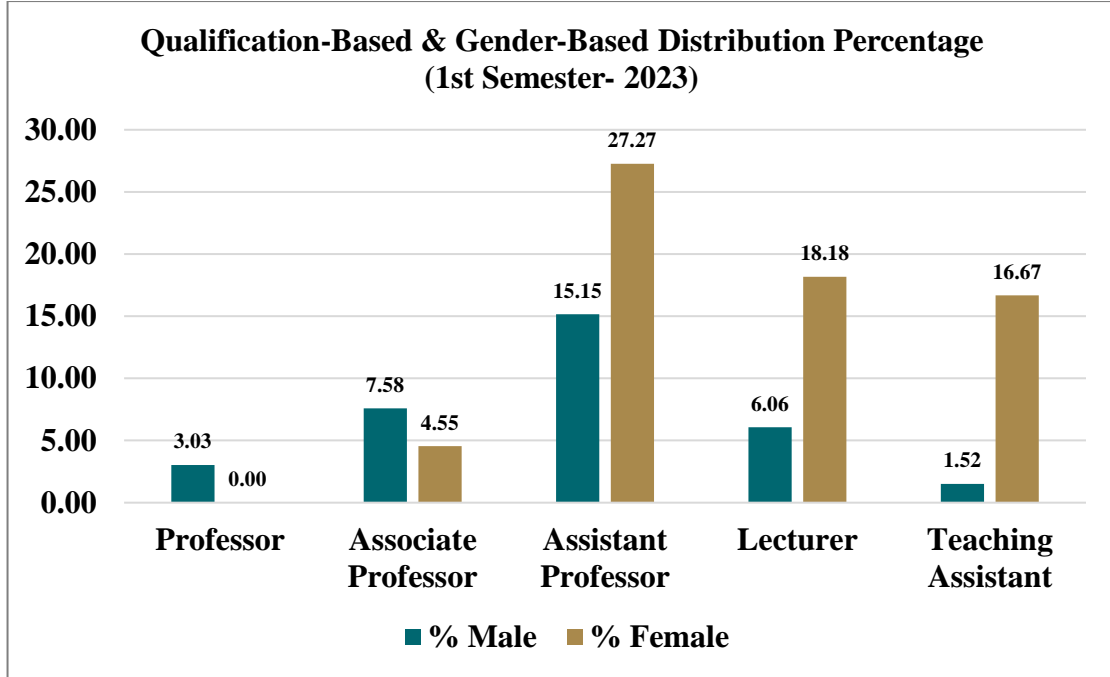
12. Teaching Staff

Overview

The program has 66 faculty members in total including 21 males and 45 females. The distribution of faculty members among the qualifications and based on their genders is shown in the following table and charts.



Qualification	Total #	# Male	# Female	Total %	% Male	% Female
Professor	2	2	0	3.03	3.03	0.00
Associate Professor	8	5	3	12.12	7.58	4.55
Assistant Professor	28	10	18	42.42	15.15	27.27
Lecturer	16	4	12	24.24	6.06	18.18
Teaching Assistant	12	1	11	18.18	1.52	16.67



List of Faculty Members

No.	Name	Qualification	Email
1	Turki Ali H Alghamdi	Professor	taghamdi@uqu.edu.sa
2	Muhammed Hamid	Professor	mahamid@uqu.edu.sa
3	Ahmad Hasan Alhindi	Associate Professor	ahhindi@uqu.edu.sa
4	Huda Alhazmi	Associate Professor	hnhazmi@uqu.edu.sa
5	Mohammed ALGhamdi	Associate Professor	maeghamdi@uqu.edu.sa
6	Manal Alghamdi	Associate Professor	maalghamdi@uqu.edu.sa
7	Saud Alotaibi	Associate Professor	ssotaibi@uqu.edu.sa
8	Deafallah Alsadie	Associate Professor	dbsadie@uqu.edu.sa
9	Tahani Alsubait	Associate Professor	tmsubait@uqu.edu.sa
10	Hanan Alshanbari	Associate Professor	hsshbari@uqu.edu.sa
11	Elham Hassanain	Assistant Professor	emhassanain@uqu.edu.sa
12	Abdullah Alharbi	Assistant Professor	asaharbi@uqu.edu.sa
13	Hawazin Badawi	Assistant Professor	hfbadawi@uqu.edu.sa
14	Mohanad Algadah	Assistant Professor	msqadah@uqu.edu.sa
15	Sarah Alshareef	Assistant Professor	saashareef@uqu.edu.sa
16	Majed Farrash	Assistant Professor	mmfarrash@uqu.edu.sa
17	Hind Alhashmi	Assistant Professor	hthashimi@uqu.edu.sa
18	Amal Alshahrani	Assistant Professor	amshahrani@uqu.edu.sa
19	Majid Alnnfiai	Assistant Professor	mknfiai@uqu.edu.sa



No.	Name	Qualification	Email
20	Afaf Almehmadi	Assistant Professor	amalmehmadi@uqu.edu.sa
21	Areej Alsini	Assistant Professor	aosini@uqu.edu.sa
22	Eman Alnabati	Assistant Professor	etnabati@uqu.edu.sa
23	Azhar Alhindi	Assistant Professor	ahyhindi@uqu.edu.sa
24	Amirah Alharbi	Assistant Professor	amnharbi@uqu.edu.sa
25	Hind Alsharif	Assistant Professor	hhsharif@uqu.edu.sa
26	Hana Alghamdi	Assistant Professor	hamghamdi@uqu.edu.sa
27	Khaled Tarmissi	Assistant Professor	kstarmissi@uqu.edu.sa
28	Seereen Noorwali	Assistant Professor	smnoorwali@uqu.edu.sa
29	Maryam Alsolami	Assistant Professor	mksolami@uqu.edu.sa
30	Atif Alhejali	Assistant Professor	amhejali@uqu.edu.sa
31	Manal Alharbi	Assistant Professor	mhharbi@uqu.edu.sa
32	Mourad Mars	Assistant Professor	msmars@uqu.edu.sa
33	Ahmad Alzahrani	Assistant Professor	aalzahrani@uqu.edu.sa
34	Manal Khayyat	Assistant Professor	mmkhayat@uqu.edu.sa
35	Bilal Bataineh	Assistant Professor	bmbataineh@uqu.edu.sa
36	Majdah Alsharif	Assistant Professor	mhsharif@uqu.edu.sa
37	Alaa Almelibari	Assistant Professor	aamelibari@uqu.edu.sa
38	Hassan Alhuzali	Assistant Professor	hrhuzali@uqu.edu.sa
39	Emtethal Alafghani	Lecturer	emafghani@uqu.edu.sa
40	Hanin Metwally	Lecturer	hometwally@uqu.edu.sa
41	Hanan Almafraijiu	Lecturer	hsmafrijiu@uqu.edu.sa
42	Fatimah Alzamzami	Lecturer	fyzamzami@uqu.edu.sa
43	Balsam Khojah	Lecturer	bzkhojah@uqu.edu.sa
44	Hadeel Alahmadi	Lecturer	amahmadi@uqu.edu.sa
45	Dalia Nahhas	Lecturer	dgnahhas@uqu.edu.sa
46	Sara Albakry	Lecturer	ssbakry@uqu.edu.sa
47	Daren Fadolalkarim	Lecturer	dkfadolalkarim@uqu.edu.sa
48	Faisal Najjar	Lecturer	fhnajjar@uqu.edu.sa
49	Abeer Alaql	Lecturer	aaaql@uqu.edu.sa
50	Rami Alghamdi	Lecturer	raghamdi@uqu.edu.sa
51	Omniah Nagoor	Lecturer	ohnagoor@uqu.edu.sa
52	Saeed Altalhi	Lecturer	smtalhi@uqu.edu.sa
53	Riyad Alrihieli	Lecturer	rmrihieli@uqu.edu.sa
54	Eiman Alharby	Lecturer	etharby@uqu.edu.sa
55	Daniah Alhendi	Teaching Assistant	dmhendi@uqu.edu.sa
56	Arwa Alsubhi	Teaching Assistant	amsubhi@uqu.edu.sa
57	Hanadi Merdah	Teaching Assistant	homerdah@uqu.edu.sa
58	Obai Mandorah	Teaching Assistant	ofmandorah@uqu.edu.sa
59	Bushra Algotiml	Teaching Assistant	bagotiml@uqu.edu.sa
60	Azizah Althagafi	Teaching Assistant	aththagafi@uqu.edu.sa
61	Randah Alahmadi	Teaching Assistant	raharbi@uqu.edu.sa



No.	Name	Qualification	Email
62	Hind Alamro	Teaching Assistant	haamro@uqu.edu.sa
63	Rihab Alsudais	Teaching Assistant	rasudais@uqu.edu.sa
64	Munirah Alotaibi	Teaching Assistant	mdotaibi@uqu.edu.sa
65	Elham Baqazi	Teaching Assistant	eabaqazi@uqu.edu.sa
66	Rawan Munshi	Teaching Assistant	rtmunshi@uqu.edu.sa

13. Program Committee and Contact Information

Committee Name	Email
Program Management Committee	
Curriculum and Academic Planning Committee	cis_cs_curriculum@uqu.edu.sa
Quality Assurance Committee	cis_cs_qa@uqu.edu.sa
Scheduling Committee	cis_cs_scheduling@uqu.edu.sa
Examination Committee	cis_cs_girls_exams@uqu.edu.sa
Student Affairs and Guidance Committee	cis_cs_academic@uqu.edu.sa
Graduation Projects Committee	cis_cs_gp@uqu.edu.sa
Postgraduate Studies Committee	cis_cs_postgrad@uqu.edu.sa
Faculty Affairs Committee	
Student Training Committee	cis_cs_st@uqu.edu.sa
Alumni Committee	cis_cs_industrial@uqu.edu.sa
Coordination Committee	
Advisory Committee	



14. Student Guide for Support and Services

• University-Level Support and Services

- Admission FAQs
<https://uqu.edu.sa/dadregis/App/GALLERY/153371?id=215167>
- The university guides.
https://drive.uqu.edu.sa/_/luc/files/دليل%20الطالب%20الجامعي.pdf
- Ghali Centre for disabled.
<https://uqu.edu.sa/studaff/App/FAQ/124146>
- Student Guidance and Counseling Center
<https://uqu.edu.sa/studaff/App/FAQ/124167>
- Department of Student Rights Protection and Disciplinary
<https://uqu.edu.sa/studaff/App/FAQ/124286>
- Student Accommodation
<https://uqu.edu.sa/studaff/App/FAQ/124293>
- Student Transportation Department
<https://uqu.edu.sa/studaff/App/FAQ/124272>
- Regulations for study and examinations
https://drive.uqu.edu.sa/_/dadregis/files/44/LDWEJ442C.pdf
- King Abdullah bin Abdul-Aziz Library.
<https://libencore.uqu.edu.sa/iii/encore/?lang=ara>
- Free Microsoft Office package for students
<https://uqu.edu.sa/it/1075>
- University Medical Centre.
<http://umcpp.uqu.edu.sa/umqweb/>

• College-Level Support and Services

- **Local college library**
<https://uqu.edu.sa/cis/Graduationprojects>
- **Guidance and orientation program for new students**
Orientation program takes place at the beginning of every new school year. It includes several activities to introduce new students to the university environment in general and to the college in specific. Welcome-meeting is an example of such activities at which new students get to know the faculty members, administrative staff and college amenities in addition to presentations about university regulations, deanships and departments. A guided tour to discover campus buildings is another activity that new students get invited to attend to familiarize themselves with the campus.



- **Injaz Event**

Injaz aims to present the achievements of the college, exemplified by the graduation projects of its students from diverse departments. The students accentuate their graduation projects through scientific posters, subsequently undergoing evaluation by a specialized committee. The exhibition is accompanied by the “Your Project in 3 Minutes (3MP)” competition, which is adapted from the well-known international competition “3 Minute Thesis (3MT)”. This competition is designed to elevate students' proficiency in delivering clear and concise presentations, motivating them to compete and showcase their ideas in innovative and unconventional ways. The following link shows a report on Injaz Event for 2023 [تقرير معرض إنجاز للعام 2023.pdf \(uqu.edu.sa\)](#)

- **Hackathon**

The college has organized and continues to organize numerous competitions and hackathons, such as the [Smart Makkah Hackathon](#), which brought together university students and faculty members to devise innovative solutions that serve the city of Makkah. To facilitate and streamline engagement in competitions and hackathons, the college has set up a specialized committee called the “Competitions and Internal and External Participations Committee”. This committee plays a pivotal role in supporting students throughout their participation journey, ensuring they receive regular updates on upcoming competitions, hackathons, and relevant opportunities. Moreover, the committee serves as a resource for students by providing guidance on preparing for competitions, offering mentorship, and facilitating access to necessary resources. For more information about participation in competitions and hackathons, please refer to the frequently asked questions at: [الأسئلة الشائعة بخصوص المسابقات - كلية الحاسبات | جامعة أم القرى \(uqu.edu.sa\)](#)

- **College initiatives**

Teach Me Voluntary Initiative:

It is a voluntary initiative among the members of the College of Computing Society to enrich the students' experience. Gestures and acts of generosity and charity through this initiative are purely for Allah's Sake, without any expected reward or possible gain, with no limitation period.



Etqan Initiative:

It is an initiative that aims to provide a training program to prepare students of the University for the requirements of the labor market. The initiative provides a training portfolio with a variety of technical training by continuously providing training programs throughout the week during the academic year. Experts from major technical companies and non-profit governmental and private entities concerned with technology will be sought for cooperation in this endeavor.

Digital Fountains Initiative:

The initiative concerns providing a series of virtual scientific lectures, meetings and discussions by a constellation of specialists in the technical and informational fields. This initiative aims to spreading knowledge among the largest number of beneficiaries, introducing the new technologies in the field of computing, taking advantage of the expertise and capabilities from inside and outside the college in serving the community and Contributing to community awareness in a technical and informational manner by organizing specialized seminars and meetings.

‘Communities Like You’ Initiative:

The initiative concerns to provide a safe environment for creatures living among us, such as the cats in our universities, and to spread the culture of kindness to animals which is urged by our religion and human nature.

- **Department-Level Support and Services**

- Academic Advisors play a fundamental role in this regard since they track students’ academic performance and their wellness physically and mentally. In addition, the department secretary for students is responsible about serving students during working days and directing them to the right person to solve any issue they may encounter.
- List of documents under [Quick Links](#) is very important to familiarize students with every aspect related to attending courses classes

Contact

Computer Science and Artificial Intelligence Department

URL Link: https://uqu.edu.sa/cis_cs

Email: cis_cs@uqu.edu.sa

Follow us at X : @UQU_CS



جامعة أم القرى
UMM AL-QURA UNIVERSITY

إعداد
لجنة إدارة برنامج علوم الحاسب
2023

