

Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
Department of Quality Assurance and Academic Accreditation

Academic Program Description Form for Colleges and Institutes
For the Academic Year 2025–2026

University: Shatt Al-Arab University College
College / Institute: College of Science
Scientific Department: Computer Science
Date of Form Completion: 1 / 9 / 2025



اسم المعاون العلمي : م.د. مها قاسم محمد
التاريخ : 1/9/2025



التوقيع :
اسم رئيس القسم : م.د. علي كاظم مطر
التاريخ : 1/9/2025



دقق الملف من قبل: شعبة ضمان الجودة والأداء الجامعي



التوقيع:
اسم مدير شعبة ضمان الجودة والأداء الجامعي: اية عبد الحسين عبد الرزاق
التاريخ:



مصادقة عميد الكلية

Academic Program Description

This academic program description provides a concise summary of the program's main characteristics and the expected learning outcomes that students are required to achieve, demonstrating whether they have made the most of the available learning opportunities. It is accompanied by a description of each course within the program.

Shatt Al-Arab University College	Educational Institution
Science Collage	Scientific Department / Center
Computer Science	Name of the Academic or Professional Program
B.CS.	Name of the Final Degree
Bologna System	Study System: Annual / Course-Based / Other
Application Submitted for ABET Programmatic Accreditation	Accredited Program
1/9/2026	Date of Description Preparation
Academic Program Objectives	
1. Preparing and qualifying specialists to meet the requirements of the public and private sectors of the labor market in Computer Science by diversifying teaching and learning methods and training students to apply the knowledge and skills they acquire to solve real-world problems. 2. Providing a suitable learning environment that enables students to apply their acquired knowledge and skills to identify the needs and problems of society, including social issues related to computers and technology in general. 3. Offering distinguished academic programs in both the theoretical and practical aspects of Computer Science, in accordance with international academic quality standards and in response to labor market needs. 4. Encouraging and promoting scientific research in Computer Science and Information Technology in general, particularly in the fields of Artificial Intelligence, Computational Linguistics, Software, Networks, and Databases.	

5. Creating a stimulating environment for academic staff to develop their knowledge, teaching skills, and research capabilities.
6. Establishing and strengthening partnerships with government and private-sector organizations and all institutions of society.

Required Program Learning Outcomes, Teaching and Learning Methods, and Assessment Methods

A. Knowledge Objectives:

A1. To equip students with knowledge of programming languages and the skills required to design various application software using multiple programming languages, enabling them to develop scientific and software-based solutions to societal problems.

A2. To teach students the fundamentals of computer network management and develop their ability to use and improve communication technologies, including wired and wireless networks, in addition to acquiring the skills necessary to design and manage websites.

A3. To provide students with the fundamental principles of evaluating and developing software systems, enabling them to analyze and assess systems before beginning the design process. Students' understanding of software system implementation will be enhanced through an understanding of how computers operate.

A4. To develop students' skills in designing and developing intelligent systems based on analysis, inference, reasoning, and self-directed learning.

A5. To enhance students' knowledge and skills required for managing database information systems.

B. Program-Specific Skills Objectives:

B1. To develop students' ability to design, write, and debug programs using programming languages.

B2. To enable students to use appropriate computer-based support tools.

B3. To develop students' proficiency in research, report writing, presentation, discussion, and searching the Internet for information related to course topics.

B4. To enhance students' critical thinking, analytical thinking, and problem-solving skills.

B5. To develop students' ability to deliver effective presentations appropriate to the allocated time, venue, and audience.

Teaching and Learning Methods
1- Lectures and discussions. 2- Laboratory sessions to apply the fundamental concepts covered in theoretical classes. 3- Homework assignments and tasks. 4- Projects and presentations.
Assessment Methods
1- Centralized and monthly examinations. 2- Quizzes and short tests. 3- Scientific reports. 4- Practical examinations. 5- Projects and research papers.
C. Affective and Values-Based Objectives: C1. To foster positive attitudes among students toward learning Computer Science. C2. To encourage students to take pride in their practical skills when working directly with computers. C3. To promote teamwork and cooperation among students in developing websites that serve the public interest. C4. To help students recognize the importance of the knowledge and skills they acquire in facilitating and improving various tasks and activities. C5. To instill appropriate behavioral habits in students when interacting with others during academic sessions.
Teaching and Learning Methods
1- Field training. 2- Seminars. 3- Group projects.
Assessment Methods
1- Continuous assessment and monitoring. 2- Tests and problem-based exercises covering various topics. 3- Submission of assignments, reports, and other tasks assigned during lectures.

D. General and Transferable Skills (Other Skills Related to Employability and Personal Development):

D1. Developing the ability to work effectively as part of a team.

D2. Developing the ability to engage in self-directed learning.

D3. Developing the ability to present ideas and participate in discussions.

D4. Developing the ability to address problems through logical and systematic approaches.

Teaching and Learning Methods

1- Cooperative learning.

2- Group discussions.

3- Individualized learning.

Assessment Methods

1- Observing students' participation and interaction in various situations.

2- Presenting real-world issues and problems and assessing how students address them through programming solutions.

3- Evaluating group and individual work.

4- Assessing students' solutions to problems encountered during summer training through graduation projects.

Program Structure

Year	Semester	Module Title	ECTS	CL	Lab/Tut	Module Type
Bologna First 60	First 30	Programming Fundamentals I	8	3	2/1	رئيسي
		Computational Thinking for Problem Solving	6	3	0/1	رئيسي
		Mathematics for Computer Science	6	3	0/1	اساسي
		Computer Skills	6	2	2/0	اساسي
		English Language I	2	2	0/0	Support
		Democracy Education & Human Rights	2	2	0/0	Support
	Second 30	Programming Fundamentals II	8	3	2/1	رئيسي
		Digital Logic Design	7	3	2/0	رئيسي
		Discrete Structures	6	2	0/1	اساسي
		Principles of Information technology	7	2	2/0	اساسي

		Arabic Language I	2	2	0/0	Support
Bologna Second 60	First 30	Object Oriented programming I	7	2	2/1	رئيسي
		Visual Programming	6	2	2/1	اساسي
		Computer Organization & Architecture	5	2	0/1	اساسي
		System Analysis and Design	4	2	0/1	اساسي
		Probability and statistics	4	2	0/1	Support
		Al-Baath Party Crimes	2	2	0/0	Support
		English Language II	2	2	0/0	Support
	Second 30	Object Oriented Programming II	7	2	2/1	رئيسي
		Data Structures and Algorithms I	6	2	2/1	رئيسي
		Computation Theory	5	2	0/1	اساسي
		Database Systems	5	2	2/0	اساسي
		Web Development	5	2	2/0	اساسي
		Arabic II	2	2	0/0	Support
Bologna Third 60	First 30	Artificial Intelligence I	7	2	2/1	اساسي
		Computer Networks I	6	2	2/1	اساسي
		Visual Programming	6	2	2/1	اساسي
		Web Technologies	6	2	2/1	اساسي
		Computer Graphics	5	2	2/0	اساسي
	Second 30	Artificial Intelligence II	6	2	2/1	اساسي
		Computer Networks II	6	2	2/1	اساسي
		Compiler Construction	6	2	2/1	اساسي
		Software Engineering	6	2	0/1	رئيسي
		Operations Research	4	2	0/1	Support
		Arabic II	2	2	0/0	Support
Bologna Fourth 60	First 30	Operating Systems	6	2	2/1	اساسي
		Information Security	6	2	2/0	اساسي
		Mobile Application Development	6	2	2/1	اساسي
		Cloud Computing	6	2	2/0	اساسي
		Graduation Project I	6	2	0/2	رئيسي
	Second 30	Selected Topics in Computer Science	6	2	2/1	Elective
		Cybersecurity	6	2	2/1	اساسي
		Computer Vision	6	2	2/1	اساسي
		Internet of Things	6	2	0/1	اساسي
		Graduation Project II	6	2	0/0	رئيسي

Personal Development Planning

1. E-learning.
2. Utilizing web-based resources and the Internet.
3. Using modern communication technologies.

Admission Criteria (Establishing Regulations Governing Admission to the College or Institute)

1. Centralized Admission System.

2. Students are admitted based on their average grades as specified in the centralized admission lists and according to their preferences, with the exception of the children of academic staff, who are distributed among the departments in accordance with the applicable regulations.

Key Sources of Information About the Academic Program

<https://www.sa-uc.edu.iq>

Curriculum Skills Matrix – Academic Year 2026–2027
Department of Computer Science | College of Science | Shatt Al-Arab University College

Knowledge Objectives

Course Name	Course Type	Year / Study System	A1	A2	A3	A4	A5
Programming Fundamentals I	Major	First Year / Bologna				✓	✓
Computational Thinking for Problem Solving	Major	First Year / Bologna				✓	✓
Mathematics for Computer Science	Core	First Year / Bologna				✓	✓
Computer Skills	Core	First Year / Bologna					
English Language I	Supporting	First Year / Bologna					
Democracy Education & Human Rights	Supporting	First Year / Bologna		✓		✓	✓
Programming Fundamentals II	Major	First Year / Bologna				✓	✓
Digital Logic Design	Major	First Year / Bologna				✓	
Discrete Structures	Core	First Year / Bologna				✓	
Principles of Information Technology	Core	First Year / Bologna					
Arabic Language I	Supporting	First Year / Bologna		✓		✓	✓
Object-Oriented Programming I	Major	Second Year / Bologna		✓		✓	✓
Visual Programming	Core	Second Year / Bologna				✓	✓
Computer Organization & Architecture	Core	Second Year / Bologna				✓	✓
System Analysis and Design	Core	Second Year / Bologna				✓	
Probability and Statistics	Supporting	Second Year / Bologna					
Al-Baath Party Crimes	Supporting	Second Year / Bologna					
English Language II	Supporting	Second Year / Bologna		✓		✓	✓
Object Oriented Programming II	Major	Second Year / Bologna		✓		✓	
Data Structures and Algorithms I	Major	Second Year / Bologna				✓	✓
Computation Theory	Core	Second Year / Bologna				✓	✓

Course Name	Course Type	Year / Study System	A1	A2	A3	A4	A5
Database Systems	Core	Second Year / Bologna			✓	✓	
Web Development	Core	Second Year / Bologna					
Arabic II	Supporting	Second Year / Bologna				✓	✓
Artificial Intelligence I	Core	Third Year / Bologna				✓	✓
Computer Networks I	Core	Third Year / Bologna		✓	✓	✓	✓
Visual Programming	Core	Third Year / Bologna			✓	✓	
Web Technologies	Core	Third Year / Bologna				✓	
Computer Graphics	Core	Third Year / Bologna				✓	
Artificial Intelligence II	Core	Third Year / Bologna			✓	✓	
Computer Networks II	Core	Third Year / Bologna		✓	✓	✓	
Compiler Construction	Core	Third Year / Bologna				✓	
Software Engineering	Major	Third Year / Bologna				✓	
Operations Research	Supporting	Third Year / Bologna					
Arabic II	Supporting	Third Year / Bologna				✓	
Operating Systems	Core	Fourth Year / Bologna				✓	
Information Security	Core	Fourth Year / Bologna		✓	✓	✓	
Mobile Application Development	Core	Fourth Year / Bologna				✓	
Cloud Computing	Core	Fourth Year / Bologna		✓	✓	✓	✓
Graduation Project I	Major	Fourth Year / Bologna				✓	✓
Selected Topics in Computer Science	Elective	Fourth Year / Bologna		✓	✓	✓	✓
Cybersecurity	Core	Fourth Year / Bologna				✓	
Computer Vision	Core	Fourth Year / Bologna		✓	✓	✓	✓
Internet of Things	Core	Fourth Year / Bologna		✓	✓	✓	✓
Graduation Project II	Major	Fourth Year / Bologna					

Program-Specific Skills Objectives

Course Name	Course Type	Year / Study System	B1	B2	B3	B4	B5
Programming Fundamentals I	Major	First Year / Bologna		✓	✓	✓	✓
Computational Thinking for Problem Solving	Major	First Year / Bologna				✓	✓
Mathematics for Computer Science	Core	First Year / Bologna	✓	✓	✓	✓	✓
Computer Skills	Core	First Year / Bologna		✓	✓	✓	✓
English Language I	Supporting	First Year / Bologna				✓	✓
Democracy Education & Human Rights	Supporting	First Year / Bologna	✓	✓	✓	✓	✓
Programming Fundamentals II	Major	First Year / Bologna			✓	✓	✓
Digital Logic Design	Major	First Year / Bologna	✓			✓	✓
Discrete Structures	Core	First Year / Bologna	✓		✓	✓	✓
Principles of Information Technology	Core	First Year / Bologna				✓	✓
Arabic Language I	Supporting	First Year / Bologna	✓	✓	✓	✓	✓
Object-Oriented Programming I	Major	Second Year / Bologna	✓	✓	✓	✓	✓
Visual Programming	Core	Second Year / Bologna	✓		✓	✓	✓
Computer Organization & Architecture	Core	Second Year / Bologna	✓	✓	✓	✓	✓
System Analysis and Design	Core	Second Year / Bologna				✓	✓
Probability and Statistics	Supporting	Second Year / Bologna				✓	✓
Al-Baath Party Crimes	Supporting	Second Year / Bologna		✓	✓	✓	✓
English Language II	Supporting	Second Year / Bologna	✓	✓	✓	✓	✓
Object Oriented Programming II	Major	Second Year / Bologna	✓	✓	✓	✓	✓
Data Structures and Algorithms I	Major	Second Year / Bologna	✓		✓	✓	✓
Computation Theory	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Database Systems	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Web Development	Core	Second Year / Bologna				✓	✓
Arabic II	Supporting	Second Year / Bologna	✓		✓	✓	✓

Course Name	Course Type	Year / Study System	B1	B2	B3	B4	B5
Artificial Intelligence I	Core	Third Year / Bologna	✓		✓	✓	✓
Computer Networks I	Core	Third Year / Bologna		✓	✓	✓	✓
Visual Programming	Core	Third Year / Bologna			✓	✓	✓
Web Technologies	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Computer Graphics	Core	Third Year / Bologna			✓	✓	✓
Artificial Intelligence II	Core	Third Year / Bologna	✓		✓	✓	✓
Computer Networks II	Core	Third Year / Bologna		✓	✓	✓	✓
Compiler Construction	Core	Third Year / Bologna				✓	✓
Software Engineering	Major	Third Year / Bologna				✓	✓
Operations Research	Supporting	Third Year / Bologna				✓	✓
Arabic II	Supporting	Third Year / Bologna	✓		✓	✓	✓
Operating Systems	Core	Fourth Year / Bologna	✓		✓	✓	✓
Information Security	Core	Fourth Year / Bologna		✓	✓	✓	✓
Mobile Application Development	Core	Fourth Year / Bologna			✓	✓	✓
Cloud Computing	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Graduation Project I	Major	Fourth Year / Bologna			✓	✓	✓
Selected Topics in Computer Science	Elective	Fourth Year / Bologna	✓		✓	✓	✓
Cybersecurity	Core	Fourth Year / Bologna			✓	✓	✓
Computer Vision	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Internet of Things	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Graduation Project II	Major	Fourth Year / Bologna					

Affective and Values-Based Objectives

Course Name	Course Type	Year / Study System	C1	C2	C3	C4	C5
Programming Fundamentals I	Major	First Year / Bologna	✓	✓	✓	✓	✓
Computational Thinking for Problem Solving	Major	First Year / Bologna	✓	✓	✓	✓	✓
Mathematics for Computer Science	Core	First Year / Bologna	✓	✓	✓	✓	✓
Computer Skills	Core	First Year / Bologna	✓			✓	✓
English Language I	Supporting	First Year / Bologna	✓				
Democracy Education & Human Rights	Supporting	First Year / Bologna	✓	✓	✓	✓	✓
Programming Fundamentals II	Major	First Year / Bologna	✓	✓	✓	✓	✓
Digital Logic Design	Major	First Year / Bologna	✓	✓	✓	✓	✓
Discrete Structures	Core	First Year / Bologna	✓	✓	✓	✓	✓
Principles of Information Technology	Core	First Year / Bologna	✓				
Arabic Language I	Supporting	First Year / Bologna	✓	✓	✓	✓	✓
Object-Oriented Programming I	Major	Second Year / Bologna	✓	✓	✓	✓	✓
Visual Programming	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Computer Organization & Architecture	Core	Second Year / Bologna	✓	✓	✓	✓	✓
System Analysis and Design	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Probability and Statistics	Supporting	Second Year / Bologna	✓				
Al-Baath Party Crimes	Supporting	Second Year / Bologna	✓			✓	✓
English Language II	Supporting	Second Year / Bologna	✓	✓	✓	✓	✓
Object Oriented Programming II	Major	Second Year / Bologna	✓	✓	✓	✓	✓
Data Structures and Algorithms I	Major	Second Year / Bologna	✓	✓	✓	✓	✓
Computation Theory	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Database Systems	Core	Second Year / Bologna	✓	✓	✓	✓	✓
Web Development	Core	Second Year / Bologna	✓				
Arabic II	Supporting	Second Year / Bologna	✓	✓	✓	✓	✓

Course Name	Course Type	Year / Study System	C1	C2	C3	C4	C5
Artificial Intelligence I	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Computer Networks I	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Visual Programming	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Web Technologies	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Computer Graphics	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Artificial Intelligence II	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Computer Networks II	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Compiler Construction	Core	Third Year / Bologna	✓	✓	✓	✓	✓
Software Engineering	Major	Third Year / Bologna	✓	✓	✓	✓	✓
Operations Research	Supporting	Third Year / Bologna	✓				
Arabic II	Supporting	Third Year / Bologna	✓	✓	✓	✓	✓
Operating Systems	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Information Security	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Mobile Application Development	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Cloud Computing	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Graduation Project I	Major	Fourth Year / Bologna	✓	✓	✓	✓	✓
Selected Topics in Computer Science	Elective	Fourth Year / Bologna	✓	✓	✓	✓	✓
Cybersecurity	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Computer Vision	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Internet of Things	Core	Fourth Year / Bologna	✓	✓	✓	✓	✓
Graduation Project II	Major	Fourth Year / Bologna					

General and Transferable Skills

Course Name	Course Type	Year / Study System	D1	D2	D3	D4
Programming Fundamentals I	Major	First Year / Bologna	✓	✓	✓	✓
Computational Thinking for Problem Solving	Major	First Year / Bologna	✓	✓	✓	✓
Mathematics for Computer Science	Core	First Year / Bologna	✓	✓	✓	✓
Computer Skills	Core	First Year / Bologna	✓	✓	✓	✓
English Language I	Supporting	First Year / Bologna	✓	✓	✓	✓
Democracy Education & Human Rights	Supporting	First Year / Bologna	✓	✓	✓	✓
Programming Fundamentals II	Major	First Year / Bologna	✓	✓	✓	✓
Digital Logic Design	Major	First Year / Bologna	✓	✓	✓	✓
Discrete Structures	Core	First Year / Bologna	✓	✓	✓	✓
Principles of Information Technology	Core	First Year / Bologna	✓	✓	✓	✓
Arabic Language I	Supporting	First Year / Bologna	✓	✓	✓	✓
Object-Oriented Programming I	Major	Second Year / Bologna	✓	✓	✓	✓
Visual Programming	Core	Second Year / Bologna	✓	✓	✓	✓
Computer Organization & Architecture	Core	Second Year / Bologna	✓	✓	✓	✓
System Analysis and Design	Core	Second Year / Bologna	✓	✓	✓	✓
Probability and Statistics	Supporting	Second Year / Bologna	✓	✓	✓	✓
Al-Baath Party Crimes	Supporting	Second Year / Bologna	✓	✓	✓	✓
English Language II	Supporting	Second Year / Bologna	✓	✓	✓	✓
Object Oriented Programming II	Major	Second Year / Bologna	✓	✓	✓	✓
Data Structures and Algorithms I	Major	Second Year / Bologna	✓	✓	✓	✓
Computation Theory	Core	Second Year / Bologna	✓	✓	✓	✓
Database Systems	Core	Second Year / Bologna	✓	✓	✓	✓
Web Development	Core	Second Year / Bologna	✓	✓	✓	✓
Arabic II	Supporting	Second Year / Bologna	✓	✓	✓	✓
Artificial Intelligence I	Core	Third Year / Bologna	✓	✓	✓	✓
Computer Networks I	Core	Third Year / Bologna	✓	✓	✓	✓
Visual Programming	Core	Third Year / Bologna	✓	✓	✓	✓
Web Technologies	Core	Third Year / Bologna	✓	✓	✓	✓
Computer Graphics	Core	Third Year / Bologna	✓	✓	✓	✓
Artificial Intelligence II	Core	Third Year / Bologna	✓	✓	✓	✓
Computer Networks II	Core	Third Year / Bologna	✓	✓	✓	✓
Compiler Construction	Core	Third Year / Bologna	✓	✓	✓	✓
Software Engineering	Major	Third Year / Bologna	✓	✓	✓	✓

Course Name	Course Type	Year / Study System	D1	D2	D3	D4
Operations Research	Supporting	Third Year / Bologna	✓	✓	✓	✓
Arabic II	Supporting	Third Year / Bologna	✓	✓	✓	✓
Operating Systems	Core	Fourth Year / Bologna	✓	✓	✓	✓
Information Security	Core	Fourth Year / Bologna	✓	✓	✓	✓
Mobile Application Development	Core	Fourth Year / Bologna	✓	✓	✓	✓
Cloud Computing	Core	Fourth Year / Bologna	✓	✓	✓	✓
Graduation Project I	Major	Fourth Year / Bologna	✓	✓	✓	✓
Selected Topics in Computer Science	Elective	Fourth Year / Bologna	✓	✓	✓	✓
Cybersecurity	Core	Fourth Year / Bologna	✓	✓	✓	✓
Computer Vision	Core	Fourth Year / Bologna	✓	✓	✓	✓
Internet of Things	Core	Fourth Year / Bologna	✓	✓	✓	✓
Graduation Project II	Major	Fourth Year / Bologna				

