Academic program description form

University name: University of Basra
College/Institute: College of Education for Pure Sciences
Scientific Department: Department of Computer Science
Name of the academic or professional program: Bachelor of Computer Science
Name of final degree: Bachelor of Computer Science
Academic system: annual
Description preparation date: 2025-2026
File filling date: 2025 -2026

The Signature:
Name of scientific assistant: Assist. Prof Dr. Haider Kasim Fadel
Date: 2025-2026

The Signature:
Name of Department Head: Prof. Dr. Hamed Ali Abdel Assadi
Date : 2025-2026

Check the file from
The signature:
Division of Quality Assurance and University Performance
Name of the Director of the Quality Assurance and University Performance Division:
Assist. Prof. Dr. Ali Hussen Albadran
The date: 2025-2026
The signature:

Authentication of the Dean

1- Vision of the program

The Department of Computer Science at the College of Education for Pure Sciences at the University of Basra seeks to have a leading role in the field of pedagogical and scientific education by providing distinguished educational services and effective learning opportunities that take into account the balance between quantity and quality in preparing students. It also focuses on high-quality applied scientific research.

2- Mission of the program

The Computer Science Department continues its role in providing distinguished services to the community and also seeks to keep pace with international standards by providing all support for all of its educational programs.

3- Object of the program

Aims primarily to prepare and graduate a teacher with knowledge, critical thinking, and a sound vision for imparting knowledge and morals that qualify its students to achieve the goals of distinguished citizenship, and to be a good teacher capable of teaching computer science and the development that follows it, and who is qualified to complete his graduate studies. Through the following objectives:

- **To be raised to believe in God and love the country, and to interact with the requirements of good and distinguished citizenship in maintaining a dignified life in which there is mutual respect and accountability.**
- **To believe in the goals of the educational process and aspire to raise the nation's standing in all scientific and educational**

aspects.

- **To provide information in the field of computer science to cover what is taught in the middle and middle schools in Iraq.**
- **To keep pace with the great and rapid development in his field of specialization and work to advance himself to the best level.**
- **To provide information in programming The administration of the schools in which he works is needed to distribute teaching sessions, record student grades, and organize records using a calculator by designing and creating databases for that.**
- **To assist the teaching staff in schools and students and encourage them to use modern educational techniques and advanced means of illustration that have direct contact with the computer.**
- **Educational programs and bags for school students. He is able to establish computer laboratories with good specifications in middle and middle schools.**
- **To keep pace with the labor market and its requirements.**

4- Program accreditation

Nothing.

5- Other external influences

Nothing.

6- Program structure				
Program structure	**Number of courses**	**Study unit**	**percentage**	**Comments**
Enterprise Requirements	**9**	**14**		
College Requirements	**8**	**36**		
Department Requirements	**23**	**122**		
Summer training	**----**	**----**	**----**	**----**
Other	**----**	**----**	**----**	**----**

-• Notes may include whether the course is core or elective.

7- Program Description

Year/level	Course or course code	Name of the course or course	Credit hours	
/2025-2026 First	------	Logical design	Theoretical	Practical
/2025-2026 First	------	Structured programming	Theoretical	Practical
/2025-2026 First	------	Mathematics	Theoretical	------
/2025-2026 First	------	Computer techniques and organization	Theoretical	Practical
/2025-2026 First	------	Discrete structures	Theoretical	------
/2025-2026 First	------	Developmental and Educational Psychology	Theoretical	------
/2025-2026 First	------	Foundations of education	Theoretical	------
/2025-2026 First	------	Human rights and democracy	Theoretical	------
/2025-2026 First	------	Arabic language	Theoretical	------
/2025-2026 First	------	English Language	Theoretical	------

/2025-2026 Second	------	Numerical Analysis	Theoretical	Practical
/2025-2026 Second	------	Microprocessors	Theoretical	Practical
/2025-2026 Second	------	Database Design	Theoretical	Practical
/2025-2026 Second	------	Data Structured	Theoretical	Practical
/2025-2026 Second	------	Computational Theory	Theoretical	------
/2025-2026 Second	------	Object -Oriented Programming	Theoretical	Practical
/2025-2026 Second	------	Educational Leadership and Management	Theoretical	------
/2025-2026 Second	------	Curricula and School Textbooks	Theoretical	------
/2025-2026 Second	------	Teaching Thinking	Theoretical	------
/2025-2026 Second	------	Arabic Language	Theoretical	------

/2025-2026 Second	------	English language	Theoretical	------
/2025-2026 Second	------	Baath Party crimes	Theoretical	------
/2025-2026 Third	------	Software Engineering	Theoretical	------
/2025-2026 Third	------	Compiler	Theoretical	Practical
/2025-2026 Third	------	Visual Basic Programming	Theoretical	Practical
/2025-2026 Third	------	Computer Graphics	Theoretical	Practical
/2025-2026 Third	------	Computer Architecture	Theoretical	------
/2025-2026 Third	------	Artificial Intelligence	Theoretical	Practical
/2025-2026 Third	------	Curricula and Methods of Teaching	Theoretical	------
/2025-2026 Third	------	Advising and Psychological Health	Theoretical	------
/2025-2026 Fourth	------	Computer and Data Security	Theoretical	l Practical

/2025-2026 Fourth	------	Operating Systems	Theoretical	l Practical
/2025-2026 Fourth	------	Communication & Computer Networks	Theoretical	l Practical
/2025-2026 Fourth	------	Data Mining	Theoretical	------
/2025-2026 Fourth	------	Web Design	Theoretical	l Practical
/2025-2026 Fourth	------	Measure and Evaluations	Theoretical	------
/2025-2026 Fourth	------	Practical Education (Observation and	Theoretical	------
/2025-2026 Fourth	------	Application) Research Project	Theoretical	------

8- Expected learning outcomes of the programmed

Knowledge	
A. Cognitive Goals	**A1- Knowledge: enabling the student to understand the physical components of computers, computer software and information technologies and the ability to recall information related to the above.** **A2- Comprehension, enabling the student to translate theoretical concepts into computer programs and information technologies, as well as understanding and knowing the relationships that exist between theoretical concepts and the ability to deduce.** **A3- Application, enabling the student to apply the scientific concepts he has studied on the ground, that is, in practical life** **A4- Analysis: enabling the student to analyze the problem into parts, find a solution for each part, and then link the solutions together to give a complete solution to the problem.** **A5- Installation: Enabling the student to create unconventional and previously unused software and technologies for information** **A6- Evaluation: enabling the student to evaluate and evaluate the available software and information technologies**
Skills	

B. The programs skill objectives	**B1 - Observation: Providing a set of software and information technologies for the student for the purpose of studying and observing them** **B2 - Simulation: enabling the student to prepare and write programs and information technologies under the direct supervision of the professor, which is an imitation of programs and information technologies presented to him.** **B3 - Experimentation, which is similar to the previous goal except that the teaching supervision of the student is less and the student must implement the professor's directions and instructions.** **B4 - Practice, enabling the student to prepare and write software and information technologies without any guidance from the teacher and with the fewest possible number of errors.** **B5 - Mastery, enabling the student to master programming tools and information technologies and prepare and write correct programs and information technologies.** **B6 - Creativity, enabling the student to be creative and creative in preparing and writing correct software and information technologies.**
Values	
	Developing students' abilities to share ideas is an essential skill for their success in computer science. By sharing their ideas, students can:

	• **Learn effective communication skills: Sharing ideas gives students the opportunity to practice effective communication skills, such as speaking, listening, and writing skills.** • **Enhancing critical thinking skills: By sharing their ideas and receiving feedback from others, students can enhance their critical thinking, problem-solving and analysis skills.** • **Developing teamwork skills: Sharing ideas is an essential part of group work, as students can work together to develop new ideas and innovative solutions to problems.** • **Building self-confidence: By sharing their ideas and receiving appreciation from others, students can build their confidence and abilities.** • **Increase creativity: Sharing ideas encourages creative thinking and developing new solutions to problems.** • **Here are some ways to develop students' ability to share ideas in the Computer Science Department:** 1. **Computer Science professors must create a safe environment in which students can express their opinions without fear of ridicule or criticism.** 2. **Discussion and debate can be encouraged in class by asking open-ended questions and motivating students to exchange ideas.** 3. **Interactive educational techniques, such as discussion groups and brainstorming, can be used to develop students' abilities to share ideas.** 4. **Opportunities for teamwork can be provided through group projects and practical experiences.** 5. **Students can be given the opportunity to give presentations to explain their ideas and projects.**

	6. **Students can be assessed on their ability to share ideas through tasks that require them to express their opinions and explain their ideas.** 7. **Opportunities can be provided for students to participate in conferences and workshops to share their ideas with experts in the field of computer science.** 8. **Students can be encouraged to publish their research in scientific journals and websites.** 9. **Social media can be used to share ideas with other students and experts in the field of computer science.** 10. **Opportunities can be provided for students to connect with Computer Science graduates to learn about their experiences in sharing ideas in the field of work.**

9- Teaching and learning strategies

This part of the strategy includes the teaching methods used that are in line with the nature of the computer science student and that impose different educational methods that suit them and achieve the maximum benefit. In order to achieve this desired benefit, the department's education system relies on self-learning, interactive and applied methods, using different methods of teaching and learning.

Lectures represent the largest proportion of core courses in the bachelor's program to establish the basic principles of computer science for all department students.

Audio-visual aids are used in lectures: the scientific material is prepared on the presentation program and displayed using the display devices for those presentations, where questions or activities carried out by the student are

integrated between the scientific concepts presented, and there is no doubt that this interaction between the student and the lecturer prevents distraction. It helps the student to focus for as long as possible

It is a style in which The faculty member and the student are in a positive position, as the issue or topic is raised, after which the student's different opinions are exchanged. Then the faculty member follows up on that with what is correct and what is incorrect, and crystallizes all of that into points about the topic or problem.

This method is followed in many courses, where some students are assigned to prepare some topics related to the scientific material in the form of seminars and then present them to their colleagues in the form of presentations with a full explanation of those topics. This is done under the supervision of the faculty member who reviews the scientific material. Before presenting it to the student, he corrects any errors and asks to add what he deems appropriate. The student also encourages listeners to direct questions and inquiries to their colleague who is presenting.

A large number of the courses taught in the department contain an applied part. In this method, the student applies what has been explained by the faculty member and under his supervision.

Computer-aided education - audio-visual media - World Wide Web (www).

10- Evaluation methods

The department's student evaluation methods take into account the measurement of the targeted learning outcomes that were achieved through previous learning methods, and the student is evaluated through: Written theoretical tests, which measure all the targeted learning outcomes that can be measured through this type of tests, not only knowledge, but also all mental skills, through diversification in the types of questions used. Practical tests and other tests represented by other assessment methods that differ from one course to another with the aim of achieving the targeted learning

outcomes for each course and include:

□ Semester work

□ Tasks, assignments and projects

□ To examine the process

□ Daily exams

11- The teaching staff

Faculty Members

Scientific rank	Specialization		Requirements special skills (If any)		Preparing the teaching staff	
	private	General			temporal	Permanent employee
Professor	networks	Computer and communications engineering	---	---	---	Permanent employee
Professor	networks	Computer and communications engineering	---	---	---	Permanent employee

Professor	**networks**	**Computer and communications engineering**	**---**	**---**	**---**	**Permanent employee**
Professor	**networks**	**Computer and communications engineering**	**---**	**---**	**---**	**Permanent employee**
Professor	**networks**	**Computer and communications engineering**	**---**	**---**	**---**	**Permanent employee**
Professor	**networks**	**Computer and communications engineering**	**---**	**---**	**---**	**Permanent employee**
Professor	**networks**	**Computer and communications engineering**	**---**	**---**	**---**	**Permanent employee**
Assistant Professor	**Information systems and software engineering**	**computer science**	**---**	**---**	**---**	**Permanent employee**

Teacher	**Psychological counseling and educational guidance**	**Educational guidance**	**---**	**---**	**---**	**Permanent employee**
Teacher	**Image processing**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Teacher	**Computer Vision**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Teacher	**Visual computing**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Teacher	**Information technology and communications**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Teacher	**Data mining**	**Computer science**	**---**	**---**	**---**	**Permanent employee**

Teacher	**Computer security**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Assistant teacher	**Information technology**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Assistant teacher	**Artificial intelligence**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Assistant teacher	**Artificial intelligence**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Assistant teacher	**Artificial intelligence**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Assistant teacher	**Artificial intelligence**	**Computer science**	**---**	**---**	**---**	**Permanent employee**
Professional development						

Orienting new faculty members

Professional development for new CS department members is essential to ensure they have the skills and knowledge needed to succeed in their careers . Here are some ways to develop their skills:

1. **Providing orientation programs:**

Orientation programs can be provided for new CS department members to help them adapt to the new work environment and learn how to use the resources available to them.

2. Providing training courses:

Training courses can be offered to new members of the Computer Science Department in various areas, such as teaching skills, research skills, and information technology use skills.

3. Encouraging attendance at conferences and workshops:

New members of the Computer Science Department are encouraged to attend conferences and workshops to keep up with the latest developments in the field of computer science.

4. Providing opportunities to communicate with experts:

Opportunities can be provided for new Computer Science Department members to network with experts in the field of Computer Science through mentoring programs or participation in conferences and workshops.

5. Support scientific research: The scientific research of new members of the Computer Science Department can be supported by providing them with research grants or helping them to publish their research in scientific journals.

6. **Evaluating performance and providing feedback: The performance of new Computer Science department members can be evaluated periodically and feedback provided to them to help them improve their skills and perform their jobs better.**

7. Providing opportunities for career advancement: Career advancement opportunities can be provided to new CS department members through promotion programs or leadership training.

8. Creating a supportive environment for learning: Computer Science Department management must create an environment supportive of learning and professional growth for its new members.

Professional development for faculty members

Professional development for members of the Computer Science Department is essential to ensure they keep up with the latest developments in this fast-paced field. Here are some ways to develop the skills of members of the Computer Science Department:

1. **Attending conferences and workshops :**

Members of the Computer Science Department can attend conferences and workshops to learn about the latest developments in the field of computer science and learn new skills.

2. **Taking training courses:**

Members of the Computer Science Department can take courses in various areas of computer science, such as programming, information systems design, computer networks, and cybersecurity

3. **Reading books and scientific journals**:

Members of the Computer Science Department can read books and scientific journals to learn about the latest research and studies in the field of computer science.

4. **Participation in research projects**:

Members of the Computer Science Department can participate in research projects to develop their research skills and gain new experiences.

5. **Supervision of postgraduate students:**

Members of the Computer Science Department can supervise graduate students to develop their teaching and mentoring skills.

6. **Volunteering in the community :**

Members of the Computer Science Department can volunteer in the

community to share their expertise with others and develop their communication and teamwork skills.

7. Use of social media:

Members of the Computer Science Department can use social media to connect with experts in the field of computer science and share their ideas and experiences.

8. Joining professional associations

Members of the Computer Science Department can join professional associations in the field of computer science to participate in the events and activities organized by these associations

9. Obtaining professional certificates:

Members of the Computer Science Department can obtain professional certificates in various fields of computer science to demonstrate their skills and experience.

10. Continue learning.

12- Acceptance Standard

The department has certain policies in accepting new students and students transferred from other departments in accordance with the controls and laws in force by the Ministry of Higher Education and Scientific Research. With regard to new students, the department

follows the general standards determined by the university and college in admission and according to the averages of admission. The Ministerial Council approved the preparatory studies for that year and the criteria for competition among applicants for the scientific departments in the college. However, there are requirements that must be met by the applicant to study computer science at this college Requirements include:

1-The student must have an Iraqi secondary school certificate or its equivalent and in the scientific specialization.

2-The student is distributed among the scientific departments in the College of Education for Pure Sciences on the basis of competition among applicants according to their grades in the ministerial examination for preparatory study and

their desires and according to the admission plan for the Computer Science Department in that year.

3-The student must submit the documents and certificates required of him within a specific period of time.

4- A student who holds a high school diploma from outside Iraq must prove that he has completed twelve years of study Primary and secondary school from a recognized school, and must present a certificate equivalent to his secondary school certificate issued by the Ministry of Education in Iraq.

The department annually receives top students in institutes, hosting students

from other universities, and students transferred from other universities. The number of academic units is distributed to the student in proportion to the subjects that the student has previously studied and equated with the academic units taught in the institution from which he is transferred. The academic units required of these students are calculated by equating the subjects and academic units that he studied at that institution, where the student is required to complete the units that he did not study and is exempted from the subjects that he studied previously.

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13- The most important sources of information about the program

- **The website of the college and university.**
- **University requirements.**
- **Local scientific trends.**
- **Global scientific requirements.**

14- Program development plan

- **Participation in scientific conferences inside and outside the country. • Participation in scientific workshops and seminars inside and outside the country.**
- **Twinning with international universities.**
- **Scientific trips.**

Universities today face increasing challenges in keeping pace with rapid developments in the field of computer science. Therefore, it is necessary to review and develop study programs periodically to ensure that students obtain the skills and knowledge necessary to succeed in the labor market.

Steps to develop the study program:

To develop the study program for the Computer Science Department, the following steps must be followed :

- **Evaluation of the current program:**

✔ **Data collection: Data should be collected about the current program, including the opinions of students, faculty members, and department graduates.**

✔ **Data Analysis: The data collected must be analyzed to determine the strengths and weaknesses of the current program.**

- **Determine development goals:**

✔ **General objectives: General objectives must be determined for program development, such as keeping up with developments in the field of computer science or improving the skills of department graduates.**

✔ **Specific goals: Specific goals must be determined for developing the program, such as adding new materials, modifying the content of existing materials, or improving teaching methods.**

- **Curriculum development:**

✔ **Review the content of the materials: The content of the current materials must be reviewed to ensure their suitability to the needs of the labor market.** ✔ **Adding new materials: New materials must be added that cover the rapid developments in the field of computer science.**

✔ **Modifying teaching methods: Teaching methods must be modified to use modern methods that help students learn better.**

- **Faculty development**:

✓ **Providing training opportunities: Faculty members must be provided with opportunities to train on the latest technologies and teaching methods.**

✓ **Encouraging scientific research: Faculty members must be encouraged to conduct scientific research and publish their research in scientific journals**

✓ **Supporting participation in conferences and workshops: Faculty members' participation in conferences and workshops must be supported to keep pace with the latest developments in the field of computer science.**


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Curriculum Skills Chart

Please check the boxes corresponding to the individual learning outcomes from the program subject to evaluation

				Learning outcomes required from the programme															
Year/ level	Course Code	Course Name	Basic or optional	Cognitive _ _ objectives				Skills objectives of the programme				Emotional and value goals				General and qualifying transferable skills (other skills related to employability and personal (development			
				A1	A 2	A3	A 4	B 1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
first		Structured programming	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Logical design	Basic	●	●	●	○	●	●	●	●	●	●	●	○	●	●	●	●
		Discrete Structure	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		computer Technologies	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		mathematics	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○
		Developmental and	Basic	●	●	●	○	●	●	●	○	●	●	○	○	●	○	○	○
		English Language	Basic	●	●	●	○	●	●	●	○	●	●	●	●	○	○	○	○
		Foundations of education	Basic	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		human rights	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
second		Object Oriented	Basic	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●
		Research methodology	Basic	●	●	●	●	●	●	●	○	●	●	●	○	●	●	●	●
		Databases	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Microprocessing	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Data structures	Basic	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Developmental psychology	Basic	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●

		Numerical Analysis	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Automate Theory	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Management and	Basic	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Third		Computer architecture	Basic	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Visual programming	Basic	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●
		Compiler	Basic	●	●	●	○	●	●	●	○	●	●	●	●	○	○	○	○
		Artificial intelligence	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Computer Graphics	Basic	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Software engineering	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Counseling and	Basic	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Teaching Methods	Basic	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
fourth		Computer security	Basic	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		operating system	Basic	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		computer networks	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Data mining	my choice	●	●	●	●	●	●	●	○	●	●	○	○	●	●	●	●
		Web Design	my choice	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Measurement and	Basic	●	●	●	●	●	●	●	○	●	●	●	○	●	○	○	○
		research project	Basic	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		Practical education	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●