Description of the academic program

This academic program description provides a necessary summary of the most important characteristics of the program and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available opportunities. It is accompanied by a description of each course within the program .

1. Educational institution	College of Education for Pure Sciences
2. Scientific department center/	Department of Computer Science
3. Name of the academic or professional program	Bachelor's Program/Computer Science
4. Name of the final certificate	Bachelor of Computer Science
5. : Academic system 6. Annual/courses/others	Annual system
7. Accredited accreditation program	Ministry of Higher Education and Scientific Research
8. Other external influences	Annual application in schools
9. Date the description was prepared	1/6/2023
10.Objectives of the academic program	

The Department of Computer Science at the College of Education for Pure Sciences at the University of Basra always 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. . It 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 its educational programs. The department 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 goals:

✓ 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 what the administration of the schools in ,which he works needs , such as distributing teaching sessions, recording students' grades .and organizing 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

1. program outcomes and teaching, learning and evaluation methods

A- Cognitive goals

A1- Knowledge, enabling the student to understand the physical components of computers and software Computer 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

B. Skills objectives of the programme

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 as few errors as .possible

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

Teaching and learning methods

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-paced, interactive and applied learning methods by following different methods of teaching and learning methods:

Teaching and learning methods in the department:

1. Lectures)Lectures :(

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.

2. : Discussion_

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.

3. Peer teaching_ _

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.

4. **Practical work_ _**

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.

5. **:Education based on technical resources**

Computer-aided education - audio-visual media - World Wide Webwww

Evaluation methods

The department's student evaluation methods take into account the measurement of the targeted learning outcomes that have been achieved through previous learning methods, and students are evaluated through:

1 - 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.

2 - 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

❖ . exams

❖ Daily exams

.C- Emotional and value goals

- C1Storming Brain :

It is intended to generate and produce creative ideas and opinions from individuals And groups to solve a specific problem, and these ideas and opinions are good and useful, that is, putting the mind in a state of excitement to think in all directions to generate the largest amount of ideas about the problem or topic at hand, so that the individual has an atmosphere of freedom that allows all opinions and ideas to emerge. The method of discussions and brainstorming is applied during lectures and .in all educational situations

C2 - Group orcooperative work :

This method relies on dividing learners into small groups (of 2 to 4 individuals) of different abilities who work together to achieve common goals and interact among ,themselves. This method helps learners increase their learning and communication

acquire communication skills, work in a team, and exchange and evaluate
.viewpoints

C3 - Problem-based learning(learning based-Problem) :

method usually begins with the presentation of a problem by a faculty member, and it is impossible to solve this problem without collecting some data and information and mastering some skills (which are considered among the targeted educational outcomes of the course). It is called the problem solving method (The scientific method of thinking) The work begins to find a solution to these problems with the help of the faculty member and the supporting staff: collecting data - proposing .alternatives - choosing the best solution - making the final decision

C4 - Learning througha casestudy :

In this method, what has been studied theoretically is applied in a practical form through a case study, whether realistic or fictional, developed by a faculty member to serve the purpose of the educational process. This gives the student the ability to analyze - arrange ideas - build conclusions - summarize the main points - find . solutions

Teaching and learning methods

- ✓ .discussions
- ✓ . Seminars
- ✓ .Lectures
- ✓ .exercises
- ✓ .Duties and preparing reports

Evaluation methods

- ✓ Daily tests with multiple-choice questions that require scientific skills
- ✓ Participation marks for competition questions for academic subjects
- ✓ Assigning grades for homework
- ✓ Practical tests
- ✓ Reports and studies

D - General and qualifying transferable skills (other skills related to employability and personal development).

D1- Self-skills for learning software And information technologies

D2- Communication skills with programmers and developers Software and information technologies

D3- Skills in writing scientific reports

D4- Work skills under harsh conditions

D5- Working skills within one team

D6- Skills in solving software and information technology problems

D7- Skills of dividing time according to the problem to be solved

Leadership skills And the administration

Teaching and learning methods

the study includes the teaching methods used that are compatible with the nature of the computer science student and require 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-paced, interactive and applied learning methods by following different methods of teaching and learning methods:

- ✓ Lectures_ _
- ✓ Discussion_ _
- ✓ Peer teaching_ _
- ✓ Practical work_ _
- ✓ Education based on technical resources

Evaluation methods

Student performance is evaluated and monitored by the department to ensure that they reach the goals desired and expected of them at every stage, which qualifies graduate students to reach the educational goals required for the program. The student's performance in each academic subject is evaluated separately. The teacher responsible for the subject provides the semester's endeavor grade according to the student's academic stage in that subject, and the type of evaluation varies from one subject to another according to the type of subject and its requirements. The student is usually evaluated through a set of daily and monthly assignments and examinations In addition to classroom participation, effectiveness, and productivity in laboratories. Some subjects require projects from the student, while others require reports and an oral presentation of their work. The projects taken by the student may require evaluation from a committee of teaching staff. An example of this is the subject of the final project presented by a student in the final stages, where the student is asked to write a report on his project and present the project to a .committee. From the teachers, discussing it and answering questions about it

Credit hours		Name of the course or course	Course or course code	Educational level
practical	theoretical			
2	2	Logical design		The first
2	2	Structured programming		The first
---	3	mathematics		The first
2	2	Computer techniques and installation		The first
---	3	Intermittent structures		The first
---	2	Educational psychology		The first
----	2	Foundations of education		The first
----	2	English language		The first
---	1	human rights		The first
2	2	Data structures		the second
2	2	Entity programming		the second
2	2	Microprocessing and assembly language		the second
2	2	Numerical Analysis		the second
2	2	Systems and database analysis		the second
---	3	Computational theory		the second
---	2	Research methodology		the second

1. Program structure

---	2	Developmental psychology		the second
---	2	Secondary education and educational administration		the second
2	2	Artificial intelligence		Third
2	2	Translators		Third
2	2	Computer drawing		Third
2	2	visual Basic		Third
---	2	Computer architecture		Third
--	2	Software engineering		Third
---	2	Mental health guidance		Third
---	2	Curricula and teaching methods		Third
2	2	Data security		fourth
2	2	operating system		The fourth
---	2	research project		fourth
2	2	computer networks		fourth
2	1	Internet programming		fourth
---	2	Data mining		fourth
---	2	Measurement and evaluation		fourth
---	2	Practical education		fourth

2. Planning for personal development

- ➤ Participation in scientific conferences inside and outside the country
- ➤ Participation in scientific workshops and seminars inside and outside the country
- ➤ Summer training in institutions, companies and state departments
- ➤ Twinning with international universities
- ➤ Scientific trips

3. Admission standard (establishing regulations related to admission to the (college or institute

The department has specific 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 and the University of Baghdad. With regard to new students, the department follows the general standards determined by the university and college in admission and according to the averages . The ministerial examination for 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

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

The student is distributed among the scientific departments in the College of - 2 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 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 the student has previously studied and equated with the academic units taught at the institution from which he is transferred. And it is done Calculating the academic units required of these students 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.

4. The most important sources of information about the program

- The college and university website
- University requirements
- Local scientific trends
- Global scientific requirements

/Year level	Course Code	Course Name	Basic or optional	Learning outcomes required from the programme															
				_ 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	A2	A3	A4	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	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○
		Educational Psychology	Basic	●	●	●	○	●	●	●	○	●	●	○	○	●	○	○	○
		English Language	Basic	●	●	●	○	●	●	●	○	●	●	●	●	○	○	○	○
		Foundations of education	Basic	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		human rights	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
second		Object Oriented programming	Basic	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●
		Research methodology	Basic	●	●	●	●	●	●	●	○	●	●	●	○	●	●	●	●
		Databases	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		_ Microprocessing	Basic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Year		Course	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Data structures	**Basic**	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Developmental psychology	**Basic**	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●
		Numerical Analysis	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Automate Theory	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Management and supervision	**Basic**	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Third		**Computer architecture**	**Basic**	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Visual programming	**Basic**	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	●
		compiler	**Basic**	●	●	●	○	●	●	●	○	●	●	●	●	○	○	○	○
		Artificial intelligence	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Computer Graphics	**Basic**	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Software engineering	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Counseling and Psychological Health	**Basic**	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●
		Teaching Methods	**Basic**	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
fourth		**Computer security**	**Basic**	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		operating system	**Basic**	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●
		computer networks	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Data mining	**my choice**	●	●	●	●	●	●	●	○	●	●	○	○	●	●	●	●
		Web Design	**my choice**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Measurement and evaluation	**Basic**	●	●	●	●	●	●	●	○	●	●	●	○	●	○	○	○
		research project	**Basic**	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		Practical education	**Basic**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●