University of Technology

Department of Computer Science

Information Systems Branch Guide

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Establishment of the Department of Computer Science

The Department of Computer Science at the University of Technology was established in 1983 to keep pace with developments in the field of computer science and employ them in applied fields and prepare students to be specialists in this vital field to serve our beloved country in all sectors that need this important specialization. The department grants bachelor's degrees (BSc), diploma (DIP), master's degrees (MSc) and doctorate degrees (PhD) in computer science specializations. Since the establishment of the department, its most important goal has been to work towards scientific specialization. Currently, the department grants bachelor's degrees in six specializations: Software, Information Systems, Artificial Intelligence, Computer and Cyber Security, Network Management and Multimedia. Students study the theoretical and applied aspects of these sciences during their academic stages, noting that the practical aspect is an important part of the study requirements. The department provides specialized consultations in the field of computers to all state institutions. It also has tangible activity with employees in state departments by holding annual courses specialized in computer sciences. These courses are organized at the Continuing Education Center.

Vision

The vision of the Computer Science Department in the predictable term is to follow up the rapid developments in the field of computer science and its applications in the curriculum of the department and to graduate qualified and efficient staffs in the field of computer science and sustainable development in line with community service and Job marketing needs.

Mission

The Computer Science Department seeks to develop new branches that simulate development in the field of computer science applications and determine the specifications of the graduate in line with the requirements of the field of work in all scientific and educational aspects, which creates a sustainable environment that serves students and society at both levels of primary and postgraduate studies, master’s and doctorates.

The department's mission is based on the precise specializations of computer science, as the department has six branches, which are:

- Software branch
- Information Systems branch
- Artificial Intelligence branch
- Computer and Cyber Security branch
- Networks Management branch
- Multimedia branch

Objectives

1- Graduating students with the subspecialties of computer science in its subspecialty branches.
2- Preparing advanced and specialized academic staff in postgraduate studies for master's and PHD degrees in computer science to meet the needs of society and state departments and institutions in the public and private sectors of specialists in this field.
3- Practical application in the department's laboratories of the various concepts that are addressed during theoretical lectures.
4- The department works on developing the syllabus of theoretical and practical lectures in line with the marketing needs and global developments.
5- The student of the Department of Computer Science should be active and efficient through his contribution to the various university events such as sports, artistic and scientific and his participation in volunteer work.
6- The Computer Science Department meets the needs of society and the marketing needs through the establishment of workshops, seminars, courses and conferences related to computer science, modern technology and other areas of interest to society.
7- Provide support to students through educational counseling.
8- The Computer Science Department surveys the opinions of all beneficiary parties through questionnaires or involves them in boards and committees.
9- The use of electronic technologies and electronic software in the internal transactions of the department as an effective part in the field of sustainable development.
10- Building and developing strategic relationships and partnerships with various companies and other institutions, which serve the community in many ways.

11- The department's website contains all interest things to its students, owners, graduates and employers of the technology companies, and is linked to social media in order to deliver its content to a larger number of followers.

12- Obtaining advanced positions in Arabic, local and international classifications and working to spread the culture of quality.

Computer Science Department Council

1)	Prof. Dr. Alaa Kadhim Farhan	Head of computer science department	Head of
2)	Asst. Prof. Dr. Mustafa Jasim Hadi	Assistant Head of Department for Academic Affairs	Member
3)	Asst. Prof. Dr. Bashar Saadoon Mahdi	Assistant Head of Department for Administrative Affairs	Member
4)	Prof. Dr. Ahmed T. Sadiq	Faculty Representative	Member
5)	Asst. Prof. Dr. Ayad Hazim Ibrahim	Head of Software branch	Member
6)	Asst. Prof. Dr. Athraa Jasim Mohammed	Head of Information Systems branch	Member
7)	Dr. Dena kadhim Muhsen	Head of Artificial Intelligence branch	Member
8)	Dr. Rana Mohammed Hassan	Head of Computer and Cyber Security branch	Member
9)	Dr. Saif Bashar Neamah	Head of Networks Management branch	Member
10)	Dr. Nada Hussain Ali	Head of Multimedia branch	Member
11)	Dr. Mustafa Tareq Eid	Department decision	Member

Information Systems branch

Establishment

The Information Systems Department was established in 1997 within the Computer Sciences Department. The department's graduates work in the field of designing and building systems and databases, as well as designing and updating websites, and also studying the concepts of building systems within security specifications and protection from hackers by teaching students the basic concepts of data security.

Vision

The Department of Information Systems seeks to be a leading center in education and research for the development and analysis of information systems, an effective contributor to the digital transformation of institutions and society, and keeping pace with the latest global technological developments.

Mission

Providing high-quality education in the field of information systems to qualify distinguished cadres with theoretical and practical skills, and conducting innovative applied research that contributes to solving real problems and supports the development of society, industrial and academic fields.

Objectives

The objectives of learning information systems include several aspects that aim to qualify students and researchers to understand and use information systems efficiently, including the following:

1. Understanding the basics of information systems: Learning the basic principles of information systems and how they integrate with technology to achieve organizational goals.

2. Systems analysis and design: The ability to analyze business requirements and design technological systems that meet these requirements effectively.

3. Data management: Learning how to store, organize and manage data to ensure its quality, security and ease of access.

4. Decision support: Using information systems to analyze data and help make strategic decisions based on accurate and reliable information.

5. Learning programming tools and techniques: Acquiring the skills necessary to develop and manage software, such as databases and information management systems.

6. Understanding information ethics and integrity: Identifying ethical issues related to the use of technology and the importance of protecting privacy and cyber security.

7. Business analysis and developing technological solutions: The ability to develop technological solutions that improve work efficiency and contribute to improving organizational performance.

Fields of work for a graduate

• The process of development and progress in companies and institutions, raising productivity and improving the level of efficiency in companies.

• Facilitating the decision-making process and planning better to improve the company's strategy, and achieving the desired results in the least possible time, effort and cost.

• Meeting the needs of companies to collect, store, process, distribute and provide information and data properly

• Contributing to planning and analyzing various data more easily and speed in documenting and retrieving information

• Managing information at all levels, making operational decisions and providing detailed reports accurately.

• Strategic planning for information systems and their development

• Technical consultant

• E-commerce worker

• Systems analyst and database analyst

• Business systems project manager

Classrooms and laboratories

* Classrooms: Classrooms have been prepared for the Information Systems Department with the necessary supplies provided.

* Laboratories: Specialized laboratories have been prepared for the Information Systems Department equipped with computers with modern specifications, high efficiency and accuracy that support different types of software in addition to physical components that meet the student's needs within this precise scientific specialization.

The teaching staff affiliated

The Information Systems Department Council includes:-

1)	Asst. Prof. Dr. Athraa Jasim Mohammed	Head of Information Systems branch
2)	Zainab Ali Yakoob	Information Systems branch decision
3)	Prof. Dr. Akbas Ezaldeen Ali	Member
4)	Prof. Dr. Rehab Falih Hassan	Member
5)	Asst. Prof. Dr. Shatha Habeeb jafer	Member
6)	Asst. Prof. Dr. Ekhlas Falih Naser	Member
7)	Asst. Prof. Dr. Nuha Jameel Ibrahim	Member
8)	Asst. Prof. Dr. Suhiar Mohammed Zeki	Member
9)	Asst. Prof. Dr. Farah Tawfiq Abd El-hussien	Member
10)	Dr. Mohammed Gheni Alwan	Member
11)	Eman shakir Mahmood	Member
12)	Yasir M. smaeel	Member

13)	Sora Ali Majeed	Member
14)	Rasha mohammed mohsin	Member
15)	Mustafa Ghazal	Member

Scientific Committee

1)	Prof. Dr. Shaimaa hameed shaker
2)	Prof. Dr. Nidaa Flaih Hassan
3)	Prof. Dr. Rehab Falih Hassan
4)	Asst. Prof. Dr. Nuha Jameel Ibrahim
5)	Asst. Prof. Dr. Suhiar Mohammed Zeki

Academic Guidance Committee

1)	Asst. Prof. Dr. Suhiar Mohammed Zeki
2)	Yasir M. smaeel
3)	Rasha mohammed mohsin

Academic System

1-Semester system for the third and fourth stages:

The third and fourth stages in the branch adopt a semester system, where the study materials for each academic stage are divided into two sections, with two semesters for each stage. The subjects taken during the semester system are divided into subjects within the university requirements, subjects within the department requirements, and specialized subjects within the branch requirements.

Number of semesters for the semester system

The study includes two semesters, the first is called: the first semester, which begins according to the university calendar and lasts for 15 weeks, and the second is called: the second semester, which begins according to the university calendar and lasts for 15 weeks.

The study unit for semester system subjects

It is a study effort of one or two hours (theoretical or practical), and each theoretical study hour is considered one study unit, and each two practical hours are considered one study unit.

The number of units for semester system subjects

In order for a student to obtain a bachelor's degree in computer science, he must collect 132 units during the four academic years.

2- Bologna Track System for the First and Second Stages:

The first and second stages in the branch adopt the Bologna system, where the study materials for the first and second stages are divided into two semesters. The subjects taken during the first and second semesters are divided into subjects within the university requirements, subjects within the department requirements, and specialized subjects within the branch requirements.

Number of semesters for the Bologna Track System

The study within the first and second stages of the Bologna Track includes two semesters, the first is called: the first semester, which begins according to the university calendar and lasts for 15 weeks, and the second is called: the second semester, which begins according to the university calendar and lasts for 15 weeks.

The study unit for the subjects of the Bologna Track System

Each subject has a number of units determined by the scientific department, and one unit is equivalent to 25 learning hours of the student's study load. The student's study load refers to the time it takes the student to learn in each course, including all the activities and assignments that the student accomplishes inside and outside the classroom.

Number of units for Bologna Track courses

In order for a student to obtain a Bachelor’s degree in Computer Science, he must collect 240 units during the four academic years.

Curricula for the Academic Year 2024-2025

First Year – First Semester

Code	Title	Hours/ Week				
		Lect.	Lab.	Tut.	Prc.	ETCS
PRFU111	Programming Fundamental	4	2	1		8
MATH112	Mathematics	4	2	1		8
STPR113	Statistics and Probability	4		2		6
PRIS114	Principle of Information System	2		2		4
DEHR105	Democracy and Human Rights	2				2
WSHS106	Workshop				3	2
Totals		16	4	6	3	30

First Year – Second Semester

Code	Title	Hours/ Week				
		Lect.	Lab.	Tut.	Prc.	Units
STPR121	Structured Programming	4	2	1		8
DIST122	Discrete Structure	3		1		5
COLD123	Computer Organization and Logic design	3	2	1		6
E-TE124	E-Techniques	2	2	1		5
INTE125	Information Technology	2		2		4
WSHS106	Work shop	-	3	-	3	2
Total		14	9	6	3	30

Second Year – First Semester

Code	Title	Hours/ Week				
		Lect.	Lab.	Tut.	Prc.	ETCS
OBOP211	Object Oriented Programming	4	2	1		8
DAST212	Data Structures	2	2	1		5
NUAN213	Numerical Analysis	2	2	1		5
ITPM214	IT Projects Management	2	2	1		5
SYAD215	System Analysis and Design	2	2	1		5
CBRI201	Crimes of the Baath Regime in Iraq	2				2
Totals		14	10	5		30

Second Year – Second Semester

Code	Title	Hours/ Week				
		Lect.	Lab.	Tut.	Prc.	Units
DATA221	Database	4	2			7
MICR222	Microprocessor	2	2			5
SOSA223	Sorting and Searching Algorithms	2	2	1		5
GEIS224	Geographic Information Systems	2	2	1		5
INSM225	Information System Management	2		2		4
ENLA207	English Language	2				2
ARLA204	Arabic Language	2				2
Total		16	8	4		30

Third Year – First Semester					
Subject Code	Subject in English	Number of Hours / Week			
		Theory	Lab	Tutorial	Units
CSCL3123	Microprocessor	2	2	1	3
CSCL3125	Computation Theory	2	-	1	2
CSCL3127	Operations Research	2	-	-	2
CSCL3129	Knowledge Representation	2	2	-	3
CSIS3107	Distributed database	2	2	1	3
CSIS3109	Computer Graphic	2	2	1	3
CSIS3111	Web Information Systems	2	2	1	3
CSCL3133	English Language 3	2	-	-	2
		16	10	5	21

Third Year – Second Semester					
Subject Code	Subject in English	Number of Hours / Week			
		Theory	Lab	Tutorial	Units
CSCL3224	Computer Architecture	2	2	1	3
CSCL3226	Compiler Design	2	2	1	3
CSCL3228	Optimization	2	-	-	2
CSCL3230	Intelligent Searching Techniques	2	2	-	3
CSIS3208	Data Warehouse	2	-	1	2
CSIS3210	Geographic Information System	2	2	1	3
CSIS3212	Business Application Development	2	2	-	3
		14	10	4	19

Fourth Year – First Semester					
Subject Code	Subject in English	Number of Hours / Week			
		Theory	Lab	Tutorial	Units
CSCL4134	Static Web Programming	2	2	1	3
CSCL4136	Operating System 1	2	2	1	3
CSCL4138	Data Security 1	2	2	1	3
CSIS4113	Computer networking	2	2	1	3
CSIS4115	Soft Computing	2	2	1	3
CSIS4116	Management Iinformation System	2	-	-	2
		12	10	5	17

Fourth Year – Second Semester					
Subject Code	Subject in English	Number of Hours / Week			
		Theory	Lab	Tutorial	Units
CSCL4235	Dynamic Web Programming	2	2	1	3
CSCL4237	Operating System 2	2	2	1	3
CSCL4239	Data Security 2	2	2	1	3
CSIS4214	Cloud computing foundations	2	-	1	2
CSIS4217	Data Analysis Methods	2	2	1	3
CSIS4218	Accounting information Systems	2	-	-	2
CSCL444	Project	2	2	-	6
CSCL4142	English Language 4	2	-	-	2
		16	10	5	24