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



Academic Program and Course Description Guide

2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic

program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Southern Technical University
Faculty/Institute: Technical Institute of Architecture
Scientific Department: Electronic and communications technologies
Academic or Professional Program Name: Diploma in computer systems techniques
Final Certificate Name: Diploma in in computer systems techniques technologies
Academic System: quarterly
Description Preparation Date: /6/2025
File Completion Date: /6/2025

Signature: **Signature:**

Head of Department Name: **Scientific Associate Name:**

…… ……

Date: - 6 -2025 **Date: - 6 -2025**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

……

Date: -6-2025
Signature:

Approval of the Dean Mol

Prof. Dr. Mohammed Salih Abed Ali

1. **Program Vision**
The Computer Systems Technology Department seeks to form a scientific or human base in the field of computer maintenance and programming related to computer science and applications. It seeks to prepare plans to develop staff and curricula to ensure that the requirements of quality standards are met, in addition to keeping pace with development and ready-made applications in order to contribute to achieving part of it, and for the department to be a scientific edifice. Distinguished research in its programmes, curricula and scientific research.

2. **Program Mission**
Working to prepare specialized staff with a high level of professionalism to deal with applied and information software and working to provide appropriate opportunities to develop the community's capabilities in investing in the developments in technology and meeting their needs in the field of computers, and providing training consulting services.

3. **Program Objectives**
1. Preparing technical staff qualified to use computers 2. Preparing and verifying data and entering it into the computer 3. Participate in testing, auditing and debugging programmed systems 4. Participate in preparing and designing software systems 5. Implementing software systems 6. Focusing on the educational and moral aspect of the student and instilling a spirit of dedication, tolerance and commitment.

4. **Program Accreditation**
None

5. Other external influences

1. External influences contribute to solving many of the dilemmas related to approved studies.
2. Labor market needs, quality of graduates, and support of students' skills.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	14 The first stage 13The second stage	46 units 45 units	50% 50%	Specialization + assistant
Summer Training	For one month for the first stage			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

The academic system in the Department of Computer Systems Technologies was transformed to the semester system according to University Order No. 7725/19 on 9/14/2021, and the curricula were updated and approved for the academic year 2023-2024 according to University Order No. 4894/19 on 7/13/2023.

الصف الاول - الفصل الأول

❖

ت	المادة الدراسية	عدد الساعات			عدد الوحدات	نوع المادة	الملاحظات
		ن	ع	م			
1	البرمجة بلغة C++ **I**	2	2	4	4	تخصصي	
2	**Computer Fundamentals** اساسيات الحاسوب	0	2	2	2	تخصصي	
3	**Network Fundamentals** اساسيات شبكات الحاسوب	2	2	4	4	تخصصي	
4	التصميم المنطقي	2	2	4	4	تخصصي	
5	الرياضيات و التحليل العددي	2	2	4	4	مساعدة	
6	حقوق الإنسان والديمقراطية	2	0	2	2	عامة	
7	اللغة العربية	2	0	2	2	عامة	
	المجموع	**12**	**10**	**22**	**22**		

❖ **الصف الاول - الفصل الثاني**

ت	المادة الدراسية	عدد الساعات			عدد الوحدات	نوع المادة	الملاحظات
		ن	ع	م			
1	البرمجة بلغة C++ **II**	2	2	4	4	تخصصي	
2	برمجة بلغة البايثون	2	2	4	4	تخصصي	
3	**Data Communication** تراسل البيانات	2	0	2	2	تخصصي	
4	أساسيات تصميم المواقع	2	2	4	4	تخصصي	
5	**Wireless Networks** الشبكات اللاسلكية	2	2	4	4	مساعدة	
6	اللغة الإنجليزية	2	0	2	2	عامة	
	المجموع	**12**	**8**	**20**	**20**		

الصف الثاني – الفصل الأول

ت	المادة الدراسية	عدد الساعات			عدد الوحدات	نوع المادة	الملاحظات
		ن	ع	م			
1	**Network performance analysis** تحليل اداء الشبكات	2	2	4	4	تخصصي	
2	اساسيات قواعد البيانات**SQL**	2	2	4	4	تخصصي	
3	امن و تشفير المعلومات	2	0	2	2	تخصصي	
4	شبكات الحاسوب متقدمة **Switching and Routing in the Network**	2	2	4	4	تخصصي	
5	تصميم المواقع الالكترونية متقدمة **PHP**	2	2	4	4	تخصصي	
6	اللغة الإنجليزية لدراسات تكنولوجيا الكمبيوتر	2	0	2	2	مساعدة	
7	مشروع	2	0	2	4	تخصصي	سنوي
	المجموع	**14**	**8**	**22**	**24**		

❖ **الصف الثاني – الفصل الثاني**

ت	المادة الدراسية	عدد الساعات			عدد الوحدات	نوع المادة	الملاحظات
		ن	ع	م			
1	**Network Management** أدارة الشبكات	2	2	4	4	تخصصي	
2	**Artificial Intelligence** الذكاء الصناعي	2	2	4	4	تخصصي	
3	الامن السيبراني – **Cyber Security**	2	0	2	2	تخصصي	
4	**Ethical hacking Fundamentals** أساسيات القرصنة الأخلاقية	2	2	4	4	تخصصي	
5	**Cloud computing**	2	0	2	2	تخصصي	
6	قواعد البيانات**SQL** متقدمة	2	2	4	4	تخصصي	
7	جرائم حزب البعث البائد	2	0	2	2	عامة	
8	مشروع	2	0	2	4	تخصصي	سنوي
	المجموع	**16**	**8**	**24**	**26**		

8. Expected learning outcomes of the program	
Knowledge	
1. Preparing and verifying data, entering it into the computer, and analyzing and designing database systems. 2. Ability to maintain and set up various operating systems with the ability to install service programs. 3. Participate in preparing and designing software systems and operating and using various ready-made applications. 4. The student's knowledge of the labor market and changes in computer fields. 5. The student's knowledge of how to conduct laboratory experiments and how to analyze and apply the results.	
Skills	
1. Ability to design and conduct experiments. 2. The ability to implement programming work and configure databases while connecting and distributing them through the network. 3. Designing and managing websites, operating network operating systems, and using various Internet applications. 4. The ability to use modern technological applications and tools to accomplish the necessary tasks. 5. Ability to maintain and install software and hardware.	
Ethics	

1. Developing students' abilities to share ideas 2. Communication skills and developing the ability to organize and present information effectively, whether orally, in writing, or using video and audio communication methods. 3. Ability to work within a team. 4. Ability to communicate effectively. 5. Put the graduate into the labor market and spread the spirit of fair competition. 6. Preparing the graduate to be successful in completing his academic career by obtaining certificates after the technical diploma and providing broad attention to the problems that arise in professional practice, including teamwork, leadership, occupational safety, ethics, service and economics.	

9. Teaching and Learning Strategies

- Education strategies:

1- Lecture or delivery: In which the professor presents information, facts, and other ideas to the students related to the topic at hand.
2- Discussion: In this type of teaching strategy, the professor determines the topic that will be discussed in the lecture
3- Problem solving: In this strategy, the cognitive environment of students is activated through problem-solving activities, through most positive processes and activities that stimulate thinking and raise motivation to learn.
4- Project-based learning: This strategy relies on design work that requires applied work. Students are assigned an applied project for the activity, and they are forced to research, read, and use books and all cognitive sources in order to accomplish what is required.
5- Self-learning through research and use of electronic platforms.

10. Evaluation methods

Daily, mid-term, and semester exams, theoretical and practical. As well as attendance, participation and reports

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor	Computer Science	Networks			staff	
Lecturer	Science	Physics			staff	
Lecturer	Engineering	Computer			staff	
Assistant Lecturer	Science	Computer			staff	
Assistant Lecturer	Science	Computer				Lecturer

Professional Development

Mentoring new faculty members

1-Holding workshops, seminars and seminars on developments in the field of computer and information technology.
2- Put them in courses to develop administrative skills, time management, and smart skills.
3- Keeping up with and following up on the implementation of the government program and entering the classifications.

Professional development of faculty members

The focus in the Computer Systems Technology Department in general is on continuous improvement. The department always seeks to improve the scientific and administrative process and overcome all the difficulties and obstacles that hinder the educational program by developing human resources for personal and professional development. The following procedures explain the steps implemented or in the process of implementation in this area:

D1. Continuous improvement and development of faculty members through training programs and workshops inside and outside the department and university.
D2. Increasing extracurricular activities, such as volunteering, scientific seminars, and personal and sports creativity, locally and regionally.
D3. Encouraging faculty members to obtain the highest academic and administrative ranks through promotions.
D4. Providing modern scientific sources and books for the department's library to keep pace with continuous progress.

12. Acceptance Criterion

1. Average for graduates of preparatory school/biological and applied science branch.
2. Examining the student's fitness and mental ability.
3. Central admission issued by the Ministry of Higher Education.

13. The most important sources of information about the program

- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.
- Internet research for similar experiences.
- Personal experiences.
- Labor market needs.
- Methodical books.
- • General and specialized computer programs.
- Technical Institute YouTube channel.

14. Program Development Plan

1. Adding materials that keep pace with the change and development taking place in the field of computers and artificial intelligence.
2. Deleting and creating old materials while preserving the basics and their continuity.
3. Use and development of comprehensive virtual laboratories.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024 First year		Programming in c++/1	Specialized		√	√		√	√		√	√	√	√	
		Logical design	Specialized	√	√			√	√		√		√	√	
		Computer fundamentals/1	Specialized	√		√		√	√				√	√	
		Mathematics and numerical analysis	assist	√						√		√			√
		Fundamentals of computer networks	Specialized	√	√	√		√		√				√	
		Human rights and democracy	General				√						√	√	√
		English language/1	General				√						√	√	√
		Fundamentals in web design	Specialized			√	√	√			√	√	√		
		Programming in Python	Specialized		√	√		√	√		√	√	√	√	
		Programming in c++/2	Specialized		√	√		√	√		√	√	√	√	
		Computer fundamentals/2	Specialized	√	√			√		√	√		√	√	
		Statistics	assist	√			√	√			√	√		√	√
2023-2024 Second year		Data structure	Specialized	√	√			√		√	√		√	√	
		Fundamentals of database SQL	Specialized	√		√	√			√	√	√	√		

		Operating systems	Specialized	√		√	√	√	√			√		√	
		System analysis	Specialized	√		√	√	√	√			√		√	
		Programming in visual basic	Specialized		√	√		√	√		√	√	√	√	
		Computer networks	Specialized	√	√	√		√		√				√	
		Advanced in web design	assist			√	√	√			√	√	√		
		English language/2	General				√						√	√	√
		Graduation project	Specialized	√	√				√		√	√		√	
		The crimes of the Baath regime in Iraq	General				√						√	√	√
		Information security and encryption	Specialized	√		√	√	√	√			√		√	

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Programming in c++/1
2. Course Code:
3. Semester / Year:
First and second semester / year 1
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
120 yearly / 4 hours a week - 120 units
7. Course administrator's name (mention all, if more than one name)
Assist. Prof. Dr. Nadia Ali Qassim
8. Course Objectives
Introducing the student to programming languages and their types, the C++ language, the general structure of the program and its sections, the types of data used in this language, writing the code code for programs, countries, procedures and data files, and using the possibility of drawing in them.
9. Teaching and Learning Strategies

Strategy	10. Lecture or diction strategy. 11. Problem solving strategy. 12. Project-based learning strategy.

13. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Providing students with the skill of preparing programs, writing code, analyzing and solving programmi ng problems	1. Abstract of programming languages What's a program language 2. The date and development of programming languages Levels of programming languages 3. Basic essentials for C++ language/ C++ language concepts What's C++ program contains? 4. What are the basic files? Simple explanation for basic files, that C++ program include 5. C++ language : beginning, development, its location within Levels of	Lecture and lab	Daily Exams, mid-term exam and final exam

			programming languages Basic element and tools of C++ language Language symbols 6. Definitions name keywords Constant represent Variables represent Data types in C++, and the represent methods in memory char type integer type real type Boolean (logical) type 7. Converting between deferent data types 8. Expressions types in C++ language, how formulate expression: 9. Arithmetic expression /deferent arithmetic operation and its priorities /		

			conversion manner of arithmetic expression to Arithmetic expression in C++ language/different examples Relational expression/ relational operations and its priorities/ formulate Relational expression Logical expression/ logical operation and its priorities/ formulate Logical expression 10. Compound expression/ priorities table of public operations/ different examples Give the primary values of constants and variables 11. Spaces and brackets		

			Type of comments Special tools, minim tools 12. Assignment statement, its types/ with explanation examples Arithmetic expression (equation), counters, counter types, different images for equations belong to C++ language Formatted Input and output functions output text Output numeric values Output Arithmetic expression 13. unFormatted Input and output functions Control, conditional, and loop statements		

			14. cond. Statement 15. Cond. Tools 16. If conditional statement 17. If…else statement 18. Nested conditional 19. switch conditional statement 20. nested conditional statement 21. repetition statements for loop ,Nested for		

14. Course Evaluation
The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

15. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Programming in Python
2. Course Code:
3. Semester / Year:
Two / year one
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours. 4 hours per week / 10 units
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher : Haider Jabbar Swadi
8. Course Objectives

Introducing the student to programming languages and their types, the Python language, the general structure of the program and its sections, the types of data used in this language, and writing the code code for programs, functions, procedures and data files.

9. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Providing students with the skill of preparing programs, writing code, analyzing and solving programmi ng problems	The Context of Software Development Software Learning Programming with Python Values and Variables Integer and String Values Identifiers User Input	Lecture and lab	Daily Exams, mid-term exam and final exam

			String Formatting Expressions and Arithmetic - Expressions - Arithmetic Examples Conditional Statements - Boolean expressions - If/Else statement - Other Conditional Expressions Iteration - Loops Using Functions - Introduction to Using Functions - Functions and Modules Writing Functions -1 - Function Basics - Parameter Passing - Custom Functions vs Standard Functions - Refactoring Writing Functions -2 - Global Variables - Making Functions Reusable - Functions as Data Objects - Using Objects		

			- String, File Objects Lists - Using Lists - Building Lists - List Traversal Tuples, Dictionaries, and Sets - Storing Aggregate Data - Enumerating the Elements of a Data Structure Class Design - Composition and Inheritance		

11. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Severance, Charles. Python for everybody: Exploring Data using python 3. Charles Severance, 2016.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	https://www.py4e.com/

1. Course Structure

week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1 2 3 4 5	2 2 2 2 2		● Introduction to programming ● Compilers and Interpreters ● Input, Processing, and output Using Python. ● Variables ● print function ● Numeric Data Types and Literals Input function. ● Performing Calculations / math operators ● Floating-Point and Integer Division ● Operator Precedence The Augmented Assignment Operators ● Breaking Long Statements into Multiple Lines ● Suppressing the print Function's Ending Newline	Lecture and lab Daily	Exams, mid-term exam and final exam

6 7-8 9 10	2 4 2 2		● Escape Characters Formatting Numbers •Decision Structure •The if Statement •Boolean Expressions and Relational Operators •The if-else Statement •Nested Decision Structures •The if-elif-else Statement •Logical Operators •Boolean Variables •Introduction to Repetition Structures •The while Loop: A Condition-Controlled Loop •The for Loop: A Count-Controlled Loop •Using the range Function with the for Loop . -Introduction to Functions -Void Functions and Value-Returning Functions		

11	2		•Defining and Calling a Void Function •Indentation in Python		
12	2		• Local Variables • Passing Arguments to Functions • Passing Multiple Arguments • Global Variables and Global Constants		
13	2		•Introduction to Value-Returning Functions •Standard Library Functions and the import Statement •Generating Random Numbers.		
14	2		•Writing Your Own Value-Returning Functions •Returning Strings and Boolean Values •Returning Multiple Values •The math Module		
15	2		•Sequences •Introduction to Lists		

			•The Repetition Operator and len Function •Indexing •Changing Lists and Concatenating Lists •List Slicing •Finding Items in Lists with the in Operator • List Methods and Useful Built-in Functions •The insert Method •The index Method •Tuples •Converting Between Lists and Tuples		

2. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

3. Learning and Teaching Resources

Required textbooks (curricular books, if ar	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

4. Course Name:
Digital Design
5. Course Code:
6. Semester / Year:
First / The First Class – first Semester
7. Description Preparation Date:
15/6/ 2026
8. Available Attendance Forms:
In person
9. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / 4 hours a week - 8 units
10. Course administrator's name (mention all, if more than one name)
Assist. Lacher **:Naglaa Kazem Abdulhassan**
11. Course Objectives
Introducing the student to the types of computers, numerical systems, and conversion between them, then addre representation of numbers in a digital calculator, Boolean algebra, the physical components of an electronic cor machine languages, and data representation.
12. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

13. Course Structure

	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1- The student gets to know numerical systems and conversion between these systems. 2- Identify logical gates. 3- Study the physical components of the computer.	Essential information technical. Introduction, computer and software system, computer types. Numeric methods, Gates: Boolean algebra Formula rules and karnuf map. Characters and functions of box and power supply Study characters, functions and parts of the motherboard. Study functions and types memory: ROM AND ROM Study technical of secondary storage units: H.D ,F.D,C.D ,DVD Study characters and functions of slots cards(net, sound, video)	Lectures and lab	Daily Exams, mid term exam and final exam

14. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

15. Learning and Teaching Resources

Required textbooks (curricular books, if an	

Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Mathematics and numerical analysis
2. Course Code:
3. Semester / Year:
One / year one
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
3 hours a week, 45 hour per class
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Lacher -sarah fawzi ghafel Email: sara4math1996@gmail.com

8. Course Objectives

The objective of the general and specific Subject is to develop the student's ability to Use mathemati practical applications andBenefit from it in engineering lessons

9. Teaching and Learning Strategies

Strategy	Discussion strategy Teamwork strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Objectives of the Course: to Introduce the Student to the Mathematical Methods used to Solve Mathematical Methods used to Solve Mathematical Questions in a Logical manner, Including defning Functions Derivatives, Calculus, finding The root, Differentiation, and Numerical metho In solving Questions Mathematics Compared to	The concept of matrices their types and how to find their ranks The equality of matrices and the operations on them(addition , subtraction, and multiplication) The determinant of matrix and its relation with their rank, sarus method to find the value of determinant The inverse matrix and its relation with rank, cofactors method to find the inverse matrix, solving the system of linear equations simul taneously	Explain the Scientific material first then give examples to the students and discuss them with the students find the results of solving these examples using math equations	Daily Exams, mid-term exam and final exam

		Mathematical Methods, using Computer Applications , Including MATLA	using the inverse matrix of the coefficients Differentiation rules of the algebraic , trigonometric , exponential and logarithmic function, derivative of a composite function chain rule implicit differential and partial derivatives The approximate real root of non-linear equation in some interval applying the iteration and newton-raphson methods Integration rules of algebraic, trigonometric, exponential and logarithmic functions Integration by parts and integration by partial fractions the concept of sequence and infinite series and their, ratio and root tests of their convergence and divergence		

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparati daily oral, monthly, or written exams, reports	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	1-CALCUKUS , George B, Thomas 2- TRIGONOMETRY, P .ABBOTT,B.A 3-كتاب الرياضيات التطبيقية تاليف يعقوب صباغة
Electronic References, Websites	

Course Description Form

1. Course Name:
Statistics الاحصاء
2. Course Code:
3. Semester / Year:
Two / year 1
4. Description Preparation Date:

15/6/2026

5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total)

3 hours a week, 45 hour per class

7. Course administrator's name (mention all, if more than one name)

Name: Assist. Lacher - sarah fawzi ghafel
Email: sara4math1996@gmail.com

8. Course Objectives

Course Objectives	**The objective of the general and specific Subject is to develop the student s ability to Use mathematics in practical applications and Benefit from it in engineering lessons**

9. Teaching and Learning Strategies

Strategy	Discussion strategy Teamwork strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7	2 2 2 2 2 2 2	The objective of the course is to introduce the student to the use of statistical measures, data processing	Definition of statistics - the importance of statistics and its relationship with other sciences.	Learning method Explain the Scientific material first then give	Daily Exams, mid-term exam and final exam

8 9 10 11 12 13 14 15	2 2 2 2 2 2 2 2	methods, and the application of operations research methods in studying phenomena. As well as introducing the student to statistical methods and methods in presenting and explaining the uses of measures of central tendency, dispersion, correlation, regression, and future forecasting, as well as applications of linear programming in formulating linear models and analyzing them according to scientific and practical methods using their applications in the electronic calculator through SPSS applications	the second Data collection, classification and tabulation the third Ascending and descending clustered repetition the fourth Measures of central tendency for ungrouped data (arithmetic mean, mode median Fifth-sixth standards Central tendency for classified data, and the relationship between means. Measures of dispersion (range, variance, standard deviation for unclassified data) Seventh Eighth - ninth The tenth Measures of dispersion (range, variance, standard	examples to the students and discuss them with the students to find the results of solving these examples using math equations	

			deviation for classified data Coefficient of variation and standard score for classified and unclassified data Simple correlation (Pearson method for unclassified data Spearman, Kendall rank correlation coefficient Correlation coefficient of traits, pairing, compatibility) Simple regression Time series, measuring the general trend, finding the equation of the general trend line		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	كتاب الرياضيات التطبيقية تاليف يعقوب صباغة

Recommended books and references (scientific journals, reports...)	- TRIGONOMETRY, P .ABBOTT,B.A كتاب الرياضيات التطبيقية تأليف يعقوب صباغة
Electronic References, Websites	websites related to the subject

Course Description Form

1. Course Name:
Computer fundamentals / 1
2. Course Code:
3. Semester / Year:
First , year one
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / 2 hours per week / 30 units
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Muna Alwan Jaber
8. Course Objectives
The student acquires the skills of dealing with basic office applications and creating office files and documents. The use of the operating system as well as the basics of working within the digital environment. Specific objective: To provide the student with knowledge in managing and using various computer applications
9. Teaching and Learning Strategies

Strategy	10. Lecture or diction strategy. 11. Problem solving strategy. 12. Project-based learning strategy.

13. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1- The student learns about computer generations and operating systems 2- The student learns about the Windows operating system and how to deal with it 3- The student becomes familiar with the Microsoft	Introduction to the Windows operating system and learning about its advantages. Windows operating system functionality comparison between version types - Identifying the basic screen components, including the desktop icons (Folder, shortcut, files) and their types, the Task bar and its contents, its menu, and how to turn off the calculator Shut down. - The concept of the window, its components, and performing the operations of maximizing, minimizing, closing, etc.	Lecture and lab	Daily Exams, mid-term exam and final exam

		Word system 4- The student becomes familiar with Microsoft PowerPoint and prepares a presentation	- Dealing with the main desktop icons such as My computer, documents, recycle bin and the importance of each of them. - Perform copy, cut, and paste operations for components of folder icons, files, etc. - Use the Control panel properties -Mouse-Add printer-Regional Setting- -Display and change the wallpaper. Screen saver, display, setting, appearance. -Add and delete programs to the Programs list. - Working with the Paint program to draw, display and store drawings and images. - Word printing program: its features, benefits and operation. - The toolbar and its contents, document creation, how to deal with it, store it, and modify it.		

			- Search and replace, page preparation, formatting and numbering, use of the dictionary The spell checker prepares tables, deals with them, and performs pre-preview printing. -Power Point slide preparation program: its importance, advantages and operation Home screen and toolbar components and how to set up the slide Making and saving presentations and dealing with various multimedia (images, sounds, movies).		

14. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

15. Learning and Teaching Resources

Required textbooks (curricular books, if any)	اساسيات الحاسوب وتطبيقاته المكتبية 1
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
شبكات الحاسوب متقدمة **Switching and Routing in the Network**
2. Course Code:
3. Semester / Year:
Second , year one
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / 2 hours per week / 30 units
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Muna Alwan Jabir
8. Course Objectives
9. Teaching and Learning Strategies

Strategy	

	هداف العامة لهذه المادة هي توفير المعرفة النظرية والعملية لتقنيات المهام المرتبطة بالتخطيط و, التصميم وضبط **الاعدادات شبكات الحاسوب بمختلف انواعه السلكية و اللاسلكية و الكشف عن الأخطاء و الأعطال.** و تقديم الحلول العلمية

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Course overview, Introduction	Lecture and lab	Daily Exams, mid-term exam and final exam
3-6	6		Switching operation and techniques (VLAN,STP, Port fast and port forwarding, MAC address sticky, Ether channel)		
6-10	10		Routing operation and protocols (RIP, OSPF, EIGRP, BGP)		
11-12	4		DHCP, Access list, HSRP and VRRP, QoS parameters		
13-15	6		Firewall operation, protocols and types.		

11. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	

Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

13. Course Name:
Fundamentals in web design
14. Course Code:
15. Semester / Year:
Second , year one
16. Description Preparation Date:
15/6/2026
17. Available Attendance Forms:
In person
18. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / 4 hours per week / 60 units
19. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Muna Alwan Jaber
20. Course Objectives

The goal is to introduce the student to the characteristics of the Internet, the types of applications used, the basics of website design, and to become familiar with the basic design languages (html, css,).

21. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	-The student learns about the languages used on Internet sites 2-The student learns how to create a website	Study the characteristics of the Internet and the types of applications used on it Study the protocol for transferring electronic pages, files and e-mail on Internet Study the basics of HTM -Delete a web page Programming using PHP and CSS Publish a page on the Internet - Website management	Lecture and lab	Daily Exams, mid-term exam and final exam

5. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

6. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Network Management إدارة الشبكات
2. Course Code:
3. Semester / Year:
Second, year 2
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)

60 hours. 4 hours per week / 60 units

7. Course administrator's name (mention all, if more than one name)

Assist. Lacher :Najla Kadhim Abd Alhasen

8. Course Objectives

تعريف الطالب بأنواع الحاسبات والأنظمة العددية والتحويل فيما بيـــنها ثم التطرق إلى تمثيل الأعداد في الحاسبة الرقمية والجبر البوليني والمكونات المادية للحاسوب الالكتروني ولغات الماكنة وتمثيل البيانات.

9. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1-2	4		Course overview, Introduction	Lecture and lab	Daily Exams, mid-term exam and final exam
3-6	8		Network Management Functions and Architecture		
7-10	8		SNMP & MIB and Data Model & Netconf and YANG.		
10-12	6		Network Flow Analysis and Performance Management & Fault Management and Syslog		
13-15	6		Network Task Automation & Autonomous Network Management.		

5. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores
6. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

7. Course Name:
Advanced in web design
8. Course Code:
9. Semester / Year:
First, year 2
10. Description Preparation Date:

15/6/2026
11. Available Attendance Forms:
In person
12. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / 4 hours per week / 60 units
13. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Muna Alwan Jabir
14. Course Objectives
The goal is to familiarize the student with dealing with websites on the Internet and how to manage them, and to enable the student to design websites, download, and deal with the different servers and languages used on the Internet.
15. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Introduction to the PHP Hypertext Preprocessor language - Historical introduction to the PHP development language - Comparison of the PHP language with other languages in website design - The most important types of PHP servers	Lecture and lab	Daily Exams, mid-term exam and final exam

			- How to install the Apache Webserver - PHP language components - Arithmetic operations in PHP - Integrating PHP with HTML - Explaining the basic requirements for programming a website using PHP Introduction to JavaScrip The general form of the JavaScript language How to declare variables Arithmetic transactions Logical operators Control statements Switch statement Repetition phrases Dealing with functions Working with arrays - Creating effective models Introduction to MySQL Mysql operating requirements - The most important instructions of MySql		

			- How to connect MySql with Php - Explaining the operations of adding, deleting, and modifying MySQL databases - RWED explained on MySql by		

5. Course Evaluation
The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

6. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

7. Course Name:
Fundamentals of database in SQL
8. Course Code:

9. Semester / Year:
First, year 2
10. Description Preparation Date:
15/6/2026
11. Available Attendance Forms:
In person
12. Number of Credit Hours (Total) / Number of Units (Total)
60 hours annually. 4 hours per week / 60 units
13. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Fatimah Jasim Mohmmed
14. Course Objectives
Introducing the student to the importance of SQL databases, what are their basic principles, how to install SQL, how to normalize a lot of data, creating a rule and naming it, and through it creating its own tables, and how to modify, add, delete, and index.
15. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Teaching students how to deal with SQL databases and how to add, modify, delete, and index	Introduction and installation of sql , Data normalization Using wizards, and HELP types Data definition types, Create data tables, saving and editing. Input various data type using commands and keys More on Alter table, Brows , Edit data Data Manipulation language, Replace, Delete , Pack, Recall, Zap data Indexing & Sorting data	Lecture and lab	Daily Exams, mid-term exam and final exam

5. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

6. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

7. Course Name:	
Database in SQL	
8. Course Code:	
9. Semester / Year:	
Second, year 2	
10. Description Preparation Date:	
15/6/2026	
11. Available Attendance Forms:	
In person	
12. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours annually. 4 hours per week / 60 units	
13. Course administrator's name (mention all, if more than one name)	
Assist. Lacher :Fatimah Jasim Mohmmed	
14. Course Objectives	
Introducing the student to SQL databases and how to manage them through commands, after they learned in the first chapter about creating the database and its tables through the wizard, managing data, how to enter and call it in ascending or descending order, and also deleting, modifying, and adding to the database or tables.	
15. Teaching and Learning Strategies	
Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Providing students with the skill of preparing databases and how to add and delete using SQL commands	Introduction Database Management System (DBMS) Data Integrity Database Normalization Create, Drop, Insert, Select table Understand (WHERE) statement (Condition Ststement) Understand (Order by) statement Comparison Operators (Between, In, Like, Is Null) Logic Operations (And, Or, Not) Arithmetic Operators Boolean Expression Numeric Expressions Date Expressions Create Database Drop Database Select Database Understand JOINS Inner join	Lecture and lab	Daily Exams, mid-term exam and final exam

			Left join Right join Full join Self join Sub-Quary (One and More Tables) Sub-Quary with (Select, Insert, Update, Delete) statements SQL Injection		

5. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

6. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

7. Course Name:
Information Security امن وتشفير المعلومات
8. Course Code:
9. Semester / Year:
Second, year 2
10. Description Preparation Date:
15/6/2026
11. Available Attendance Forms:
In person
12. Number of Credit Hours (Total) / Number of Units (Total)
13. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Najla Kadhim Abd Alhassan
14. Course Objectives
15. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

4. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	The stude understands the importan of informati security earn Skills encrypt important information and devel decent software protect devic from malicio attacks	Introduction of Information Security - Defining Security, Information Security Protection tools - History of Information Security - Models for Discussing Security Issues Information Security Attacks - Defining Security Attack - Hackers and Hacking - The Risks of the Security Attacks (Government, nongovernment) - Types of Information Security Attacks and Breaches (Types of Malware, Types of Cyber Attack) Identification and Authentication - Defining Identification and Authentication - Approaches to Authentication - Common Identification and Authentication Methods	Lecture and lab	Daily Exams, mid-term exam and final exam

			Authorization and Access Controls - Access Controls Actions - Access Control Lists - Access Control in Network - Weaknesses of Access Control Systems - Physical Access Controls Auditing and Accountability - Accountability - Security Benefits of Accountability - Auditing Social Engineering (Human Element Security) - What is a Social Engineering? - Gathering Information for Social Engineering Attacks - Types of Social Engineering Attacks		

			- Building Security Awareness with Security Training Programs Information Security Tools - Antivirus software - Wireshark) Network Security (Cryptography - The History of Cryptography - Modern Cryptographic Tools - Protecting Data at Rest, in Motion, and in Use Operations Security - The Operations Security Process - Laws of Operations Security - Operations Security in Our Personal Lives Physical Security - Identifying Physical Threats - Protecting People, Data, Equipment Mobile, Embedded, And Internet Of Things Security		

			- Mobile Security - Embedded Security - Internet of Things Security Kali Linux - What is Kali Linux?		

5. Course Evaluation

The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

6. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
الشبكات اللاسلكية Wireless Networks
2. Course Code:
3. Semester / Year:
First – Year one
4. Description Preparation Date:
15/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
120 hours annually. 4 hours per week / 120 units
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Fatimah Jasim Mohammed
8. Course Objectives

Introducing the student to advanced technologies and integrated programs in the VB language through database programming and delving into the details of some spreadsheet tools and creating reports.

9. Teaching and Learning Strategies

Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2			Introduction to Wireless communication.	Lecture and lab	Daily Exams, mid-term exam and final exam
3-6			TECHNICAL BACKGROUND Transmission Fundamentals Communication Networks Protocols and the TCP/IP Suite		
7-10			WIRELESS COMMUNICATION TECHNOLOGY Antennas and Propagation Signal Encoding Techniques		

			Spread Spectrum Coding and Error Control		
10-12			WIRELESS NETWORKIN G Satellite Communicati ons Cellular Wireless Networks Mobile IP and Wireless Access Protocol		
13-15			WIRELESS LANS Wireless Lan Technology Wi-Fi and the IEEE 802.11 Wireless Lan Standard Bluetooth and IEEE 802.15		

11. Course Evaluation
The distribution is as follows: 50 points for daily exams and mid-term. 50 Semester Exam Scores

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Baath regime crimes
2. Course Code:
3. Semester / Year:
Chapter One/ year2
4. Description Preparation Date:
12/6/2026
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)

60 hours / 2 hours per week / 60 units

7. Course administrator's name (mention all, if more than one name)

Asst. Lecturer Elaf Abdulrasool Sabri

8. Course Objectives

1. Introducing students to the concept of crime, both linguistically and terminologically.
2. Preparing students of the department to be well-versed in both the theoretical and practical aspects of crimes committed by the Ba'ath regime.
3. Working to shape a distinguished student personality by developing human, cultural, and social awareness, enabling them after graduation to actively contribute to serving their society, while upholding human rights and citizenship, and rejecting crime and the dictatorial Ba'ath government.
4. Introducing students to the Ba'athist violations through its breaches of international laws and conventions concerning human rights—an area that requires further in-depth academic research.
5. Highlighting the developmental projects and economic progress that were damaged or hindered during the Ba'ath regime's rule.

9. Teaching and Learning Strategies

Strategy	Lecture strategy or lecture-based approach Problem-solving strategy Report-based learning strategy or learning strategy based on preparing reports

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Providi student with historic informa on abou the emerge e of the Ba'ath regime Iraq, as well as informa on abou the Iraq constitu ons, the stages o dictator ip and i collapse leading up to th current constitu on of th Republi of Iraq.	Definition of crime .and its types Crimes of the - Ba'ath regime as documented by the Iraqi High Criminal Court Law of 2005, and types of .international crimes Decisions issued by - the High Criminal .Court Psychological and - social crimes and .their effects Prominent - violations of the Ba'ath regime in .Iraq The Ba'ath regime's - .position on religion Violations of Iraqi - .laws Examples of human - rights violations and crimes of power - Some decisions on political and military	Lecture	Daily Exams, mid-term exam and final exam

		Let me know if you'd li it rephrase more formally or simplifi further	violations by the Ba'ath regime. - Prisons and detention facilities of the Ba'ath regime. - Environmental crimes of the Ba'ath regime in Iraq. -Draining the marshes. -Mass grave crimes. -Genocide graves incidents committed by the Ba'ath regime in Iraq. -Chronological classification of genocide graves in Iraq for the period 1963-2003		

11. Course Evaluation
The distribution is as follows: 60points for daily exams and mid-term. 40Semester Exam Scores

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Methodological material on the crimes of the Ba'ath regime in Iraq
Main references (sources)	1- Iraqi Constitutions

	2- International Conventions 3- The Universal Declaration of Human Rights.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	https://euaa.europa.eu/country-guidance-iraq-2021/crimes-committed-during-regime-saddam-hussein

Course Description Form

1. Course Name:

Arabic
2. Course Code:
3. Semester / Year:
Cecond semester/ first grade
4. Description Preparation Date:
12/6/2026
5. Available Attendance Forms:
In person only
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours annually , 2 hours weekly
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Zahraa Saad Hussein
8. Course Objectives
1. Develop oral and written expression skills in standard Arabic. 2. Develop the ability to write research papers, reports, and academic articles. Enhance the ability to use Arabic in modern contexts (digital media, technical writing, formal communication).
9. Teaching and Learning Strategies

Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	1-Presentation Oral	Hamza Writing Rules	A lecture	Daily, monthly and final exams
2	2	Academic	Nominative and		
3	2	Proficient	Accusative Cases of		
4	2	Arabic.	Nouns		
5	2	2 - Participatic Active Discussions	Solar and Lunar Letters		
6	2	andUniversity	Declension and		
7	2	Seminars	Syntax of Nouns, Verbs, and Letters		
8	2	3- Writing reports, article and research	About the Styles of Exclamation and		
9	2	Proficient academic	Comparatives Repeating Nouns		
10	2		Conjunctions		
11	2		Interrogative Words		
12	2		Punctuation Marks and Their Uses		
13	2		Exceptional Words		
14	2		Number and Counted		
15	2		Of the Five Objects (Maf'ul al-Mutlaq)		

11. Course Evaluation

The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Data Communication	
2. Course Code:	
3. Semester / Year:	
Second Semester / first grade الفصل الثاني الصف الأول	
4. Description Preparation Date:	
12/06/2026	
5. Available Attendance Forms:	
In person	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 yearly / 2 hours a week - 30 units	
7. Course administrator's name (mention all, if more than one name)	
Assist. Lacher :Haider Jabbar Swadi	
8. Course Objectives	
The purpose of Data Communication is to provide students with the knowledge and practical understanding of how data is transferred and exchanged between computers across different networks.	
9. Teaching and Learning Strategies	
Strategy	1. Lecture or diction strategy. 2. Problem solving strategy. 3. Project-based learning strategy.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		A. 1. Basic Concepts of Data Communication 2. Components of Data Communicat. 3. Data Representation 4. Data Stream 5. Types of Connections 6. Protocols 7. Standards 8. Networks B. 1. Data and Signals 2. Analog and Digital Data 3. Analog and Digital Signals 4. Analog Periodic Signals 5. Signals in the Time and Frequency Domains 6. Composite Signals 7. Signal Bandwidth. C. 1. Digital Signals and Transfer Rate 2. Digital Signal 3. Definition of Transfer Rate 4. Transmission of Digital Signals 5. Transmission Disadvantages 6. Maximum Transfer Rate D. 1. Digital Transmission 2. Definitions and Basic Concepts 3. Digital Signal Properties 4. Line Coding 5. Performance Improvement Techniques 6. Analog Switching 7. Transmission Modes	Lecture and lab	Daily Exams, mid-term exan and final exam

11. Course Evaluation	
The distribution is as follows: 40 points for daily exams and mid-term. 60 Semester Exam Scores	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Human rights and democracy
2. Course Code:
3. Semester / Year:
First / Year first
4. Description Preparation Date:
2026/6/16
5. Available Attendance Forms:
In person only
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours annually , 2 hours weekly
7. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Zahraa Saad Hussein
8. Course Objectives

1. Introduce the student to human rights and democracy, their implications, and the classification of public freedoms.
2. Enabling the student to understand the concept of human rights and their guarantees at the national, regional, and international levels.
3. Explain the most important modern ideas in the field of human rights legislation.

9. Teaching and Learning Strategies

Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9	2 2 2 2 2 2 2 2 2	1- Providing students wi sufficient knowledge of the stages and eras throu which the concept of human rights has passed from ancient times to the modern era. 2- Informing students of the most important rights and freedoms stipulated the current Constitution	1 - The Concept of Human Rights 2 - The Eras of Human Rights 3 - International and Regional Human Rights Conventions	A lecture	Daily, monthly and final exams

10 11 12 13 14 15	2 2 2 2 2 2	the Republic of Iraq (2005) 3- Explaining the most important international conventions	4 - Human Rights in the 2005 Constitution of the Republic of Iraq		

11. Course Evaluation

The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Dr. Hamid Hanoun, Human Rights, Al-Sanhouri Library, Iraq, 2015
Recommended books and references (scientific journals, reports...)	Borzik Kheira, Mechanisms for the Protection Human Rights In the International and Regional System, published research, Dr. Moulay Taher Universi Algeria, 2017 Hussein Omar, Haji, The Role of International Organizations in Promoting Human Rights, Master's Thesis, University of Mosul, Iraq, 200

Electronic References, Websites	https://www.ohchr.org/ar/what-are-human-rights https://www.un.org/ar/global-issues/human-rights

Course Description Form

13. Course Name:
Artificial Intelligence الذكاء الاصطناعي
14. Course Code:
15. Semester / Year:
Second / second Year
16. Description Preparation Date:
2026/6/16
17. Available Attendance Forms:
In person only
18. Number of Credit Hours (Total) / Number of Units (Total)

30 hours annually , 2 hours weekly

19. Course administrator's name (mention all, if more than one name)

Assist. Lacher :Muna lauan Jaber

20. Course Objectives

1. Introduce the student to human rights and democracy, their implications, and the classification of public freedoms.
2. Enabling the student to understand the concept of human rights and their guarantees at the national, regional, and international levels.
3. Explain the most important modern ideas in the field of human rights legislation.

21. Teaching and Learning Strategies

Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to Artificial Intelligence: • Definition of Artificial Intelligence • History and Development o Artificial Intelligence • Applications of Artificial Intelligence in Daily Life		A lecture	Daily, monthly and final exams

		• Programming Languages Used in Artificial Intelligenc			
2	2	importance of Data Structures in Artificial Intelligence			
3	2	Artificial Intelligence Algorithms			
4-6	6	Machine Learning: • Types of Learning (Supervised Learning, Unsupervised Learning, Reinforcement Learning) • Learning Algorithms (such Linear Regression, Decision Trees, Neural Networks) • Model Evaluation and Performance Analysis			
7-8		Artificial Neural Networks: • Structure of Neural Networ • Training Algorithms (such the Backpropagation Algorithm) • Advanced Neural Networks (such as Convolutional Neur Networks and Recurrent Neu Networks)			
9-10	4	Natural Language Processing (NLP):			

11-12	4	• Text Analysis • Language Understanding • Language Generation Computer Vision: • Detection and Recognition Techniques • Image and Video Processin • Applications of Computer Vision			
13-14	4	Reinforcement Learning: • Basic Concepts of Reinforcement Learning • Decision-Making Policies • Learning and Evaluation Strategies			
15	2	Ethics and Social Considerations: • Privacy and Security Issues • The Impact of Artificial Intelligence on the Labor Market • Ethical Issues Related to Artificial Intelligence			

23. Course Evaluation

The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

25. Course Name:
Cloud computing الحوسبة السحابية
26. Course Code:
27. Semester / Year:

Second semester/ second grade
28. Description Preparation Date:
2026/6/16
29. Available Attendance Forms:
In person only
30. Number of Credit Hours (Total) / Number of Units (Total)
30 hours annually , 2 hours weekly
31. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Muna lauan Jaber
32. Course Objectives
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33. Teaching and Learning Strategies	
Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	:	Introduction to Cloud Computing:	A lecture	Daily, monthly and final exams

2 3-4 5	2 4 2		-Definition and characteristics of cloud computing -History and evolution of cloud computing -Benefits and challenges of cloud computing Cloud Service Models • Infrastructure as a Service (IaaS) - Virtualized computing resources over the internet. • Platform as a Service (PaaS) - Platforms for application development and deployment Software as a Service (SaaS) - Software applications delivered over the internet. Cloud Deployment Models • Public Cloud - Cloud services offered to the general public. • Private Cloud - Cloud infrastructure used exclusively by one organization. • Hybrid Cloud - Combining public and private cloud environments Cloud Architecture: -Key components of cloud architecture - Virtualization - Creating virtual versions of physical resources		

6 7 8 9 10 11 12	2 2 2 2 2 2 2		Cloud Providers and Services:* - Overview of major cloud providers (AWS, Google Cloud, Microsoft Azure) - Comparison of services offered by different providers - Understanding cloud service pricing models Cloud Security:* - Security challenges in cloud computing - Data protection and privacy in the cloud - Best practices for cloud security Cloud Storage:* - Types of cloud storage: block, file, and object storage - Cloud storage providers and services - Data backup and disaster recovery in the cloud Cloud Networking:* - Networking fundamentals for cloud computing - Virtual Private Networks (VPN) in the cloud - Load balancing and auto-scaling Cloud Application Development:* - Developing applications for the cloud		

13	2		- Microservices architecture - Serverless computing Cloud Management and Monitoring: - Tools for managing and monitoring cloud resources - Performance optimization in the cloud - Cost management and optimization. Cloud Migration: - Strategies for migrating to the cloud - Challenges and best practices for cloud migration - Case studies of successful cloud migrations. Emerging Trends in Cloud Computing:* - Edge computing - Internet of Things (IoT) and cloud integration - Future directions and advancements in cloud computing.		
14-15	4		Hands-on Projects and Applications:* - Practical exercises and labs using cloud platforms - Developing and deploying cloud-based applications		

			- Real-world case studies and projects		

35. Course Evaluation
The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

36. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

37. Course Name:
Ethical hacking Fundamentals اساسيات القرصنة الاخلاقية
38. Course Code:
39. Semester / Year:
Second semester/ second grade
40. Description Preparation Date:
2026/6/16
41. Available Attendance Forms:
In person only
42. Number of Credit Hours (Total) / Number of Units (Total)
30 hours annually , 2 hours weekly
43. Course administrator's name (mention all, if more than one name)
Hamza Abd al-Ardha Rashid
44. Course Objectives
This course is designed to assess your skills in identifying vulnerabilities and weaknesses in computer systems using the same knowledge and tools as malicious hackers. It covers topics like network security, cryptography, system hacking, and more

45. Teaching and Learning Strategies	
Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	:	Introduction to Ethical Hacking	A lecture	Daily, monthly and final exams
3-5	6		Footprinting and Reconnaissance & Scanning Network.		
6-9	8		Enumeration &Vulnerability Analysis		
10-11	4		System Hacking & Malware Threats & Sniffing		
12-13	4		Social Engineering, Denial-of-Service (DoS), Session Hijacking, Evading IDS, Firewalls, and Honeypots		
14-15	4		Hacking Web Servers and Applications, Hacking Wireless Networks, IoT Hacking, Cloud Computing, Cryptography.		

47. Course Evaluation
The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

48. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

49. Course Name:	
الامن السيبراني Cybersecurity	
50. Course Code:	
51. Semester / Year:	
Second semester/ second grade	
52. Description Preparation Date:	
2026/6/16	
53. Available Attendance Forms:	
In person only	
54. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours annually , 2 hours weekly	
55. Course administrator's name (mention all, if more than one name)	
Assist. Lacher :Najla Kadhim Abd Alhasen	
56. Course Objectives	
Introducing the student to the meaning and importance of cybersecurity and how to utilize the available capabilities to achieve the highest level of security for data, computer networks, and information systems in various locations and environments where such data and information are used and stored.	
57. Teaching and Learning Strategies	
Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3 4	6 2	:	• Introduction including: * The Emergence of Cybersecurity * What is Cybersecurity and What is Cyberspace? * The Reason for the Naming * How Cybersecurity Works • Importance of Cybersecurity • Disadvantages of Cybersecurity • Objectives of Cybersecurity • The Difference Between Information Security, Cybersecurity, and Network Security . • Elements of Cybersecurity: * Application Security	A lecture	Daily, monthly and final exams

5	2		* Network Security * Operational Security * Disaster Recovery Security * Information Security • Main Components of Cybersecurity • Types of Cyber Attacks • Skills Required to Learn Cybersecurity: * Networking * Programming * Operating Systems * Computer Science		
6	2		• Cyber Crimes: Their Types and Causes • Dimensions of Cybersecurity: * Military * Political * Economic * Legal		
7	2		• Mechanisms for Achieving Cybersecurity		
8-10	6		• Cloud Computing Security: * What is Cloud Computing? * What is Cloud Security? * How Cloud Security Works		

11-13 14-15	6 4		* Risks Associated with Cloud Security * Cloud Computing Security Practices * Types of Cloud Security Tools * Challenges Facing Cloud Security • Viruses: * Their Characteristics * Methods of Protection Against Them * Main Types of Viruses: * Macro * Hoax * Worms * Trojan * Ransomware * Rootkits • Malware: * Symptoms of Malware * Methods of Malware Infection and Prevention Techniques • Spyware: * Symptoms of Spyware * Methods of Spyware Infection and Prevention Techniques		

			• Antivirus Software • Firewall		

59. Course Evaluation
The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

60. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

61. Course Name:
شبكات الحاسوب Computer networks
62. Course Code:
63. Semester / Year:
first semester/ Year one
64. Description Preparation Date:
2026/6/16
65. Available Attendance Forms:
In person only
66. Number of Credit Hours (Total) / Number of Units (Total)
30 hours annually , 2 hours weekly
67. Course administrator's name (mention all, if more than one name)
Assist. Lacher :Najla Kadhim Abd Alhasen
68. Course Objectives
Introducing the student to the meaning and importance of cybersecurity and how to utilize the available capabilities to achieve the highest level of security for data, computer networks, and information systems in various locations and environments where such data and information are used and stored.

69. Teaching and Learning Strategies	
Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

70. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	:	**Introduction of Computer Networks**	A lecture	Daily, monthly and final exams
2	2		**Computer Network types**		
3	2		**Physical Network Topologies**		
4-5	4		**Physical Media**		
6-7	4		**Open Systems Interconnection OSI & Protocols**		
8	2		**Network Devices**		
9-10	4		**IP Address IPV4 and IPv6**		
11-12	4		**IP Address subnetting**		

13	2		**Ethernet LANs and Switches and Spanning tree protocol**		
14	2		**Virtual Local Area Network (VLAN)**		
15	2		**Wireless Local Area Network (WLAN)**		

71. Course Evaluation
The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

72. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

73. Course Name:
اللغة الإنجليزية English language
74. Course Code:
75. Semester / Year:
first semester/ Year one
76. Description Preparation Date:
2026/6/16
77. Available Attendance Forms:
In person only
78. Number of Credit Hours (Total) / Number of Units (Total)
60 hours annually , 2 hours weekly
79. Course administrator's name (mention all, if more than one name)
Husen Zahed Husen
80. Course Objectives

81. Teaching and Learning Strategies	
Strategy	1. Lecture or presentation strategy. 2. Problem-solving strategy. 3. Report-based learning strategy.

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	:		A lecture	Daily, monthly and final exams
2	2				
3	2				
4-5	4				
6-7	4				
8	2				
9-10	4				
11-12	4				

13 14 15	2 2 2				

83. Course Evaluation
The distribution is as follows: 40 marks for daily and monthly exams. 60 marks for final exams.

84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	