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

2024-2025

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: wasit university

Faculty/Institute: college of computer science and information technology

Scientific Department: software department

Academic or Professional Program Name:

Final Certificate Name:

Academic System:

Description Preparation Date:

File Completion Date:

Signature: Ahmed Raad

Head of Department Name:

Date: 11/2/2025

Signature:

Scientific Associate Name: Abdul Hadi M. Abaidi

Date: 11/2/2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

12-2-2025

Asst. Prof. Dr

Sail Ali Abaidi

College of computer

scenic & Information Technology

Course Description Form

1. Course Name:
Artificial intelligence 2
2. Course Code:
3. Semester / Year:
Second / 2024-2025
4. Description Preparation Date:
10/2/2025
5. Available Attendance Forms:
Class attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60/4
7. Course administrator's name (mention all, if more than one name)
Diaa shaheed saber
8. Course Objectives
• Learn the basic concepts and principles of artificial intelligence and its various subfields. • Understand AI problem-solving techniques. • Explore real-world applications of AI in various fields and understand the challenges and opportunities associated with its implementation.
9. Teaching and Learning Strategies
• Collaborative concept planning teaching strategy. • Brainstorming teaching strategy. • Note series teaching strategy.
10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4		AI definition, history, concept, and applications, AI goals and AI environment	Lectures	Exams and Discussions
2	4		Data-Information Knowledge ,DIK Hierarchy	Lectures	Exams and Discussions

3	4		Knowledge base building	Lectures	exams Discussions
4	4		Heuristic Search	Lectures	Exams and Discussions
5	2		Exam 1		
6	4		Heuristic Search	Lectures	Exams and Discussions
7	4		Heuristic Search	Lectures	Exams and Discussions
8	4		Knowledge base building	Lectures	Exams and Discussions
9	4		Shortest path problem.	Lectures	Exams and Discussions
10	2		Exam 2		
11	4		Uninformed Search(Blind Search)	Lectures	Exams and Discussions
12	4		Uninformed Search(Blind Search)	Lectures	Exams and Discussions
13	4		Uninformed Search(Blind Search)	Lectures	Exams and Discussions
14	4		machine learning	Lectures	Exams and Discussions
15	2		Exam		

11-Course Evaluation

- Homework and participation in daily preparation.
- Awarding grades to students for certain cognitive questions posed in lectures.
- Monthly exams.

12-Teaching and learning resources

1-Rich, E., & Knight, K. (1991). Artificial Intelligence. McGraw-Hill.
2-Luger, G. F., & Stubblefield, W. A. (2004). Artificial Intelligence: Structures and Strategies for Complex Problem Solving. Addison Wesley.

Course Description Form

1. Course Name:
Computer Communications and Networks
2. Course Code:
3. Semester / Year:
Second / 2024-2025
4. Description Preparation Date:
10/2/2025
5. Available Attendance Forms:
Class attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60/4
7. Course administrator's name (mention all, if more than one name)
Ahmed raad abd_alhusain
8. Course Objectives
Provide students with the basic concepts of computer networks. • Study and understand the basic applications of computer networks. • Study methods for developing computer network systems. • Study the types of system connections used in computer networks. • Understand and provide students with the types of programming languages used in computer networks. • Study types and methods of scheduling computer networks.
9. Teaching and Learning Strategies
• Collaborative concept planning teaching strategy. • Brainstorming teaching strategy. • Note series teaching strategy.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Mobile computing	Android Basics	Lectures lab	Exams

2	4		Android Applications	Lectures lab	Exams
3	4		Java script	lectures lab	Exams
4	4		Android - Architecture	Lectures lab	Exams
5	2		Exam 1		Exams
6	4		Android Runtime	Lectures lab	Exams
7	4		Layout Attributes	Lectures lab	Exams
8	4		Android – Activities	Lectures lab	Exams
9	4		Android – Services	Lectures lab	Exams
10	2		Exam 2		Exams
11	4		Android - UI Layouts	Lectures lab	Exams
12	4		Android - Drag and Drop	Lectures lab	Exams
13	4		Android - Sending Email	Lectures lab	Exams
14	4		Android - Alert Dialog	Lectures lab	Exams
15	2		Exam		Exams

11-Course Evaluation

- Homework and participation in daily preparation.
- Awarding grades to students for certain cognitive questions posed in lectures.
- Monthly exams.

12-Teaching and learning resources

Network management confidentiality

Course Description Form

1. Course Name:

Operations Research

2. Course Code:

3. Semester / Year:

Second / 2024-2025

4. Description Preparation Date:

10/2/2025

5. Available Attendance Forms:

Class attendance

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

45

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

Okab Rashid

8. Course Objectives

- Learn how to solve linear equations.
- Gain theoretical knowledge in the applications of numerical modeling methods.
- Learn the methods used to find applications in the field of computing.
- Assist management in making decisions related to difficult and complex administrative problems.

9. Teaching and Learning Strategies

- The first step in operations research to solve a real-world problem is to define the problem.
- The next step is to identify the decision elements related to the problem, then define the objectives and constraints. After this stage, the system is monitored and data is collected. After data is collected, the collected data is formulated from a scientific perspective, and a model of the problem is created.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4		The concept of linear programming	Lectures	Exams and Discussions

2	4		Methods for solving linear programming models The graphical method	Lectures	Exams and Discussions
3	4		Algebraic method: The simplified method in the case of a maximization objective function.	Lectures	exams Discussions
4	4		Algebraic method: The simplified method in the case of a minimization objective function	Lectures	Exams and Discussions
5	2		Exam 1		
6	4		big-m method	Lectures	Exams and Discussions
7	4		Sensitivity Analysis 1- Changes in the right-hand side of the constraints	Lectures	Exams and Discussions
8	4		2- Changes in the objective function coefficients	Lectures	Exams and Discussions
9	4		Introduction and definition of the transport model 1- Vogel's method	Lectures	Exams and Discussions
10	2		Exam 2		
11	4		2- A less expensive method	Lectures	Exams and Discussions
12	4		Networks Rules for building and drawing business networks	Lectures	Exams and Discussions
13	4		Project Review and Evaluation Method (PERT)	Lectures	Exams and Discussions

14	4		Critical path method	Lectures	Exams and Discussions
15	2		Exam		

11-Course Evaluation

- Homework and participation in daily preparation.
- Awarding grades to students for certain cognitive questions posed in lectures.
- Monthly exams.

12-Teaching and learning resources

- Eiselt, H. A., & Sandblom, C. L. (2022). Operations research: A model-based approach. Springer Nature.
- Taha, H. A. (2013). Operations research: an introduction. Pearson Education India.

Course Description Form

1. Course Name:
parallel processing
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
25/2/2025
5. Available Attendance Forms:
My presence only
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours per semester. 3 hours per week
7. Course administrator's name (mention all, if more than one name)
Name: Msc. Ghaith Ali Hussain Alawady Email: galawady@uowasit.edu.iq
8. Course Objectives
1- Introducing students to the importance of Network security and working to mas its rules and basics in order to access comprehensive scientific material. 2- Urging students to know the methodology of scientific research and know how create reports on data and its security. 3- Introducing students to the vocabulary of the scientific subject of Network securit 4- Search for scientific sources related to the subject 5- Strengthening students' skills and building their academic personality 6-Working to consolidate the spirit of science and learning among students
9. Teaching and Learning Strategies

Strategy	1- Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series .

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
15	45	1- Knowledge of the basics of parallel processing and its types. 2-Knowledge and understanding of the key steps required to speed up data processing using various parallel methods. 3- Students will be familiar with and proficient in all the programs and programming languages required to create specific software systems based on the client's needs. 4-Understanding and applying information technology concepts in transmission and processing.	-General knowledge of parallel processing and its importance. - Using piplining as a model for parallel processing. - Using Vector Processing as a Parallel Processing Model - Understanding Array Processors as a Parallel Processing Model - What are multiprocesor systems and the different network models that connect these systems. - How data is transferred in multiproce sor systems, arbitration algorithms, and related problems and solutions.	Discussion, theoretical and scientific lecture, questioning and analysis Conclusion and brainstorming. Practical, electronic and theoretical lectures Reports and research Theoretical and practical lectures	Various achievement tests. Exams, tests and discussions Exams, tests, discussions and seminars

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
15	45	1- Knowledge of the basics of parallel processing and its types. 2-Knowledge and understanding of the key steps required to speed up data processing using various parallel methods. 3- Students will be familiar with and proficient in all the programs and programming languages required to create specific software systems based on the client's needs. 4-Understanding and applying information technology concepts in transmission and processing.	-General knowledge of parallel processing and its importance. - Using piplining as a model for parallel processing. - Using Vector Processing as a Parallel Processing Model - Understanding Array Processors as a Parallel Processing Model - What are multiprocesor systems and the different network models that connect these systems. - How data is transferred in multiproce sor systems, arbitration algorithms, and related problems and solutions.	Discussion, theoretical and scientific lecture, questioning and analysis Conclusion and brainstorming. Practical, electronic and theoretical lectures Reports and research Theoretical and practical lectures	Various achievement tests. Exams, tests and discussions Exams, tests, discussions and seminars

11. Course Evaluation	
Distribution as follows: 40 marks for the first and second monthly exams, 10 marks for the theoretical exam for the first and second months, and 10 marks for daily homework. Total 40 marks for the semester effort. 60 marks for the final exams. Total 100.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Computer System Architecture/ 3ed/ M. Morries Mano/: book**
Main references (sources)	**1- Lectures given by the subject teacher and the central library.** **2.-INTRODUCTION TO PARALLEL PROCESSI by P. RAVI PRAKASH, M. SASIKUMAR, DINESH SHIKHARE, PHI Learning, 2006.** **3- Introduction to Parallel Processing: Algorithms and Architectures by Behrooz Parhami, 1999.**
Recommended books and references (scientific journals, reports...)	- https://www.alarabimag.com/books/6196 -https://an-library.com/
Electronic References, Websites	1- Lectures notes at: https://www.ece.ucsb.edu/~parhami/text_par_proc.htm 2. Other lectures notes on the Internet networkhttps://www.iasj.net/iasj/pdf/51b569f8c8bd04b7

Course Description Form

1. Course Name:
Mobile computing
2. Course Code:
3. Semester / Year:
Second / 2024-2025
4. Description Preparation Date:
10/2/2025
5. Available Attendance Forms:
Class attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 /
7. Course administrator's name (mention all, if more than one name)
Huda lafta majeed
8. Course Objectives
9. Teaching and Learning Strategies

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Mobile computing	Android Basics	Lectures lab	Exams
2	4		Android Applications	Lectures lab	Exams
3	4		Java script	lectures lab	Exams
4	4		Android - Architecture	Lectures lab	Exams
5	2		Exam 1		Exams

6	4		Android Runtime	Lectures lab	Exams
7	4		Layout Attributes	Lectures lab	Exams
8	4		Android – Activities	Lectures lab	Exams
9	4		Android – Services	Lectures lab	Exams
10	2		Exam 2		Exams
11	4		Android - UI Layouts	Lectures lab	Exams
12	4		Android - Drag and Drop	Lectures lab	Exams
13	4		Android - Sending Email	Lectures lab	Exams
14	4		Android - Alert Dialog	Lectures lab	Exams
15	2		Exam		Exams

11-Course Evaluation

- Homework and participation in daily preparation.
- Awarding grades to students for certain cognitive questions posed in lectures.
- Monthly exams.

12-Teaching and learning resources

Learn Android programming pdf, Android programming step by step, Android programming in Arabic, Android programming for beginners, Android programming basics, Android application programming program.

Course Description Form

1. Course Name:
Operating systems 2
2. Course Code:
3. Semester / Year:
Second / 2024-2025
4. Description Preparation Date:
10/2/2025
5. Available Attendance Forms:
Class attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30/3
7. Course administrator's name (mention all, if more than one name)
Dr. Riyadh Rahif Nouay
8. Course Objectives
This course aims to introduce students to the basic principles of operating systems and their importance in providing a complete environment for how operating systems operate related to hardware (such as devices, networks, and memory) and software architecture (such as scheduling and synchronization) for Windows and Linux operating systems. This enables students to understand and apply the practical aspects of operating systems more broadly through simulation applications for software and operating systems.
9. Teaching and Learning Strategies

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Scheduling Algorithm (FCFS and SJF)	Lectures lab	Exams
2	3		Scheduling Algorithm (Priority and Round Robin)	Lectures/lab	Exams
3	3		Information Management (File System)	Lectures/lab	Exams
4	3		Access Methods (Sequential, Direct access, and other access Methods)	Lectures/lab	Exams
5	3		Directory structure (Single level, and Two level Directories)	Lectures/lab	Exams
6	3		Directory structure (Tree, and Acyclic Graph Directories)	Lectures/lab	Exams
7	3		Exam 1	Lectures/lab	Exams
8	3		Free-space list (Bit vector, and Linked List)	Lectures/lab	Exams
9	3		Free-space list (Grouping, and Counting)	Lectures/lab	Exams
10	3		Allocation methods (Contiguous, Linked, and Indexed)	Lectures/lab	Exams

11	3		Deadlocks definition and Deadlock Necessary conditions	Lectures/lab	Exams
12	3		Resources-Allocation Graph (RAG)	Lectures/lab	Exams
13	3		Methods for Handling Deadlocks (prevention and Avoidance)	Lectures/lab	Exams
14	3		Safe state, ARG Algorithm, and Banker's Algorithm	Lectures/lab	Exams
15	3		Exam	Lectures/lab	Exams

11-Course Evaluation

- Homework and participation in daily preparation.
- Grading students for certain cognitive questions posed in lecture.
- Monthly exams.

12-Teaching and learning resources

- Abraham Silberschatz, et al, "Operating System Concepts," 10th Copyright © 2018 John

Course Description Form

1. Course Name:
Network security
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
25/2/2025
5. Available Attendance Forms:
My presence only
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours per semester. 4 hours per week
7. Course administrator's name (mention all, if more than one name)
Name: Msc. Ghaith Ali Hussain Alawady Email: galawady@uowasit.edu.iq
8. Course Objectives
1- Introducing students to the importance of Network security and working to mas its rules and basics in order to access comprehensive scientific material. 2- Urging students to know the methodology of scientific research and know how create reports on data and its security. 3- Introducing students to the vocabulary of the scientific subject of Network securit 4- Search for scientific sources related to the subject 5- Strengthening students' skills and building their academic personality 6-Working to consolidate the spirit of science and learning among students
9. Teaching and Learning Strategies

Strategy	1- Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series .

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
15	60	. 1- Knowing the basics of data and computer security and its types. 2- Know and understand the main steps that must be taken to protect data from various hacks 3- Students' knowledge and familiarity with all programs and programming languages that must be used in creating specific software systems according to the customer's need. 4- Identify and apply information technology concepts.	-Performance of Network Security -Types of network security -Aspects of Network Security -Security Services (Goals) - -Authentication , how do work and type . -Kerberos -Firewalls -Principles -RSA -hash function - Modification Detection Code - Basic terminology -Cryptanalysis -type of attack -Brute-Force Attack -Cryptanalytic Attacks -Classical Ciphers	Discussion, theoretical and scientific lecture, questioning and analysis Conclusion and brainstorming. Practical, electronic and theoretical lectures Reports and research Theoretical and practical lectures	Various achievement tests. Exams, tests and discussions Exams, tests, discussions and seminars

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
15	60	. 1- Knowing the basics of data and computer security and its types. 2- Know and understand the main steps that must be taken to protect data from various hacks 3- Students' knowledge and familiarity with all programs and programming languages that must be used in creating specific software systems according to the customer's need. 4- Identify and apply information technology concepts.	-Performance of Network Security -Types of network security -Aspects of Network Security -Security Services (Goals) - -Authentication , how do work and type . -Kerberos -Firewalls -Principles -RSA -hash function - Modification Detection Code - Basic terminology -Cryptanalysis -type of attack -Brute-Force Attack -Cryptanalytic Attacks -Classical Ciphers	Discussion, theoretical and scientific lecture, questioning and analysis Conclusion and brainstorming. Practical, electronic and theoretical lectures Reports and research Theoretical and practical lectures	Various achievement tests. Exams, tests and discussions Exams, tests, discussions and seminars

11. Course Evaluation	
The distribution is as follows: 20 marks for the first and second monthly exams, 10 marks for the practical exam in the first and second months, 10 marks for daily assignments, and a total of 40 marks for the semester's pursuit. 40 marks for the theoretical exam and 20 marks for the practical exam for the final exams. The total is 60.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Network management confidentiality**
Main references (sources)	**1"Comp TIA Network.** **2.Security+Review gide** **3- Computer networking basics**
Recommended books and references (scientific journals, reports…)	**- Security Of Local Area** **- Networks protection and types**
Electronic References, Websites	**https://www.slideshare.net/ssuser6c0042/network-security-80309525** **https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG02.03.1-2017-PDF-A.pdf**

Course Description Form

1. Course Name:
Web design
2. Course Code:
3. Semester / Year:
Second / 2024-2025
4. Description Preparation Date:
10/2/2025
5. Available Attendance Forms:
Class attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 / 2
7. Course administrator's name (mention all, if more than one name)
Mustafa aziz
8. Course Objectives
Using design and programming tools: Students learn to use coding languages such as HTML, CSS, and JavaScript to build and develop the visual interface of the website.
9. Teaching and Learning Strategies
• Understanding the basics • Analyzing users and their needs • Designing engaging user interfaces

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		web based Application, Introduction, The world wide web, The internet and web, The history and growth of the web, internet service provider	Lectures	Exams
2	2		Http, The purpose of the web, web application, the web concepts,	Lectures	Exams

			Hypertext, web page, web site, web page address, web browsing		
3	2		The classifying the Web Sites, environment, the general approach, range of complexity, Client side,	Lectures	Exams
4	2		HTML HTML (image, link, image map)	Lectures	Exams
5	2		HTML (Table)	Lectures	Exams
6	2		HTML (Frame)	Lectures	Exams
7	2		HTML (Form)	Lectures	Exams
8	2		Exam	Lectures	Exams
9	2		CSS, External	Lectures	Exams
10	2		CSS, Internal	Lectures	Exams
11	2		Scripting language JavaScript	Lectures	Exams
12	2		JavaScript Arithmetic Logical Operators	Lectures	Exams
13	2		JavaScript Conditional Statements	Lectures	Exams
14	2		JavaScript Conditional Statements&EXAMPLE	Lectures	Exams
15	2		Exam	Lectures	Exams

11-Course Evaluation

- Exams
- HomeWorks
- Projects

12-Teaching and learning resources
Static Web programming/ Dr. Shatha Habeeb Dr. Athraa Jasim Mohammed