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

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.

Academic Program Description Form

University Name: university of wasit

Faculty/Institute:computer science and information technology

Scientific Department: software departement

Academic or Professional Program Name:

Final Certificate Name: Bachelor of Software Sciences

Academic System: course system

Description Preparation Date: 2024/5/22

File Completion Date: 2024/5/29

Signature: الدكتور احمد رعد عبد الحسين رئيس قسم البرامجيات

Head of Department Name:

Date: 30/5/2024

Signature:

Scientific Associate Name: أ.م.د احمد شاكر عبد الرضا

Date: ٢٠/٥/٢٠٢٤

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 24/3/2024

weam mahde farhan

Signature:

Approval of the Dean

Asst. Prof. Dr
Saif Ali Alsaidi
Dean college of computer
scenic & Information Technology
30-05-2024

Course Description

Course Name
Web design
Course Code
SFTW300
Semester / Year
Courses
The history of preparation of this description
8/2/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
30
The name of the course administrator (if more than one name is mentioned)
Name: Mustafa Azeez khalaf …..   **Email:** mkhalaf@uowasit.edu.iq …..
8. Course Objectives

Course Objectives	✓ **Design websites by using HTML and java script**

9. Teaching and Learning Strategies

Strategy	✓ Design-Based Learning (DBL): Integrate design thinking, emphasize practical application, and encourage creativity. ✓ Web-Based Resources: Use handouts, tutorials, and interactive websites. ✓ Teach Incrementally: Break down complex concepts into smaller chunks

10. **Course Structure**

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures/Lab	Web design	web based Application, Introduction, The world wide web, The internet and web, The history and growth of the web, internet service provider	2	1
Questions & Discussion		Web design	Http, The purpose of the web, web application, the web concepts, Hypertext, web page, web site, web page address, web browsing	2	
Questions & Discussion	Lectures/Lab	Web design	The classifying the Web Sites, environment, the general approach, range of complexity, Client side,	2	3
Questions & Discussion	Lectures/Lab	Web design	HTML HTML (image, link, image map)	2	4
Questions & Discussion	Lectures/Lab	Web design	HTML (Table)	2	5
Questions & Discussion	Lectures/Lab	Web design	HTML (Frame)	2	6
Questions & Discussion	Lectures/Lab	Web design	HTML (Form)	7	
Questions & Discussion	Lectures/Lab	Web design	HTML (Form)	2	8

Questions & Discussion	**Lectures/Lab**	**Web design**	**CSS, External**	**2**	**9**
Questions & Discussion	**Lectures/Lab**	**Web design**	**CSS, Internal**	**2**	**10**
Questions & Discussion	**Lectures/Lab**	**Web design**	**Scripting language JavaScript**	**2**	**11**
Questions & Discussion	**Lectures/Lab**	**Web design**	**JavaScript Arithmetic Logical Operators**	**2**	**12**
Questions & Discussion	**Lectures/Lab**	**Web design**	**JavaScript Conditional Statements**	**2**	**13**
Questions & Discussion	**Lectures/Lab**	**Web design**	**JavaScript Popup Boxes JavaScript Loops**	**2**	**14**
examination	**Material given**	**Web design**	**Exams**	**15**	

Course Description

Course Name
Computation Theory
Course Code
SFTW212
Semester / Year
Courses
The history of preparation of this description
2024/2/ 1
Available Attendance Forms
Classrooms
Number of credit hours (total) / number of units (total)
45
The name of the course administrator (if more than one name is mentioned)
Name: Maryam jawad kadhim alwan **Email:** mjawad@uowasit.edu.iq
8. Course Objectives

Course Objectives	**1- Clarifying the basic concepts in the theoryof imputation through a set of tools** **2- Acquiring skills in dealing with the problem** **3- Acquiring skills as an introduction to language construction** **4- Acquiring theoretical concepts to deal with (DFA, NFA, TURING MACHIN, GRAMMERS..)**

9. Teaching and Learning Strategies

Strategy	1. Ability to design FAs, NFAs, Grammars, language modeling, small files ,Compilers basics 2. The ability to think about solving the problem using certain rules 3. The ability to write a scientific report 4. Knowing the comparison between Natural and Formal Language

10. **Course Structure**

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions	Lectures	Introduction, languages	Set,string,alpha bets, language	3	1
Questions	Lectures	Regular expression	Introduction to Regular Expressions	3	2
Questions	Lectures	Finite automata	FA	3	3
Questions	Lectures	Deterministic finite automata	DFA	3	4
Questions	Lectures	Non- Deterministic finite automata	NDF	3	5
Questions	Lectures	Convert NFA to DFA	Convert NFA to DFA	3	6
examination	Material given	Exam	Exam	7	
Questions	Lectures	Equivalence of mealy and moor machine	Equivalence between Moore and Mealy Machine	3	8
Questions	Lectures	Pushdown automata	PDA	3	9
Questions	Lectures	Introduction to grammar, PSG,CSG ,CFG	Introduction to CFGs,…	3	10
Questions	Lectures	Regular grammar, Left linear grammar	Left linear grammar	3	11
Questions	Lectures	Right linear grammar	Right linear grammar	3	12
Questions	Lectures	Trees, left and right most derivation	Derivation Tree(LMD,RMD Simplification of CFGs	3	13
Questions	Lectures	Turing machine	TMS	3	14
Questions	Material given	Second month exam	examination	15	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the lecture.**
- **Monthly exams.**

12. Teaching and learning resources

1. Papadimitriou, Elements of the Theory of Computation, Prentice-Hall, 1998
2. John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, "Introduction to Automata Theory, Languages, and Computation", Second Edition, Prentice-Hall, 2001
3. Peter Dehning, Jack B. Dennis, "Machines, Languages and Computation", Second Edition, Prentice-Hall, 1978

Course Description

1. **Course Name:**
English Language
2. **Course Code:**
UWEN302
3. **Semester / Year:**
Second Semester \ 2024
4. **Description Preparation Date:**
22\3\2024
5. Available Attendance Forms:
Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
30 Hours 2 Units
7. Course administrator's name (mention all, if more than one name)
Sarah Hazim Mohammed **smohammed@uowasit.edu.iq**

8. Course Objectives

3. Developing the student's familiarity with the basics of the English language and the phrases used on a daily life. **3. Developing the conversation and discussion in various topics.** **5. Highlighting the terminology of computer science.**	**2. Developing abilities to acquire skills in language learning.** **4. Proving knowledge on English grammar basics.**

9. Teaching and Learning Strategies

Strategy	**1. The strategy of teaching general and computer-specific terms, and how to use them.** **2. Teach students to read through comprehensions within their field of specialization.** **3. Ask questions in English to see how well students master the language.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First_Second	**2**	**Cognitive skills**	**A World of Differences**	**Discussion and dialogue**	**Oral exam**
Third_ Fourth	**2**	**Cognitive and skill**	**The Working Week**		**Oral exam**
Fifth_ Sixth			**Reading passages**	**Discussion and dialogue**	
Seventh_ Eighth	**2**	**Cognitive and skill**	**Exam**		**Daily exam**
Nineth_ Tenth		**Cognitive and skill**		**Discussion and dialogue**	**Monthly exam**
Eleventh_ Twelvth	**2**		**Our Changing World**		
Thirteenth_ Fourteenth		**Cognitive and skill**	**Passions**	**Answer questions**	**Oral exam**
Fifteenth	**2**	**Cognitive and skill**	**Terminology of IT programming**	**Discussion and dialogue**	**Daily exam**
	2	**Cognitive and skill**	**All Things High Tech**	**Discussion and**	**Oral exam**

	2 2	Cognitive and skill		dialogue Discussion and dialogue Questions and Answers	Monthly exam

Cource Description

1. Course Name:
Object Oriented Programming
2. Course Code:
SFTW206
3. Semester / Year:
2024/1
4. Description Preparation Date:
2023/10/1
5. Available Attendance Forms:
Study hall and Lab
6. Number of Credit Hours (Total) / Number of Units (Total)
4/3 **60**
7. Course administrator's name (mention all, if more than one name)
Name:Iyas Khudhair Yalwi Email: ilyas @uowasit.edu.iq
8. Course Objectives

Course Objectives	**Design and write programs in object oriented programming style which depend on object oriented programming features and concepts and introduce C++ as an object-oriented programming language.**
9. Teaching and Learning Strategies	
Strategy	
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	C++ Program to write functions and inline function with parameter transmission	Overview for functions and parameter transmission, inline functions	Theoretical lecture and practical laboratory	Quiz
2	4	C++ Program to deal with function overloading and default arguments	function overloading and default arguments	Theoretical lecture and practical laboratory	Solve laboratory exercises
3	4		Introduction to OOP and its main features	Theoretical lecture and practical laboratory	Solve laboratory exercises
4	4	OO Program to define a Simple Class	Defining a Simple Class	Theoretical lecture and practical laboratory	Quize
5	4	Exam 1			
6	4	OO Program to define a Class with Inline Member Functions	Defining a Simple Class, with inline Member Functions	Theoretical lecture and practical laboratory	Solve laboratory exercises
7	4	OO Programs deal with Constructors and destructors functions	Constructors and destructors functions	Theoretical lecture and practical laboratory	Solve laboratory exercises
8	4	OO Program to write Friends functions	Friends concept	Theoretical lecture and practical laboratory	Solve laboratory exercises
9	4	OO Program to write Friend class	Friend class	Theoretical lecture and practical laboratory	Quiz
10	4	Exam 2			
11	4	OO Program deals with Constant Members and Scope Operator,	Constant Members and Scope Operator,	Theoretical lecture and practical laboratory	Solve laboratory exercises
12	4	OO Program deals with Member Initialization List, and Static members	Member Initialization List methods and Static members	Theoretical lecture and practical laboratory	Solve laboratory exercises
13	4	OO Program deals with pointers to objects and reference members	Pointers to objects and reference members	Theoretical lecture and practical laboratory	Quiz
14	4	OO Program to write Class object members	Class object members	Theoretical lecture and practical laboratory	presentation
15	4	Exam 3			

Course Description

1. Course Name:
Information Theory
2. Course Code:
SFTW204
3. Semester / Year:
2nd /2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
1/2/2024
6. Number of Credit Hours (Total) / Number of Units (Total)
4 **60**
7. Course administrator's name (mention all, if more than one name)
Name: Hussein Ali **Email:hmutar@uowasit.edu.iq**

8. Course Objectives	
Course Objectives	**1. 1Teaching students the basics of information systems** **2. Teaching students' information systems techniques** **3. Teaching students the mathematical foundations of various information systems.** **4. Teaching students the basics of digital systems analytics and supporting technologies** **5. Teaching students case studies and various applications of information theory**

9. Teaching and Learning Strategies	
Strategy	**Explaining the scientific material on the blackboard and on the projector** **Encouraging students to participate in solving problems and explaining on the board** **Allocating a percentage of the grade to group activities** **Assigning the student to some group tasks and activities** **Applying scientific material in the laboratory by implementing simulation programs.**

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Principles of probability theory	Principles of probability theory	On class	Discussions and dialogues
2nd	4	Introduction to information theory	Introduction to information theory	On class	Exam
3rd	4	Mode of the signal system	Mode of the signal system	On class	practical application
4th	4	Some code: ASCII CODE & MORSE CODE	Some code: ASCII CODE & MORSE CODE	On class	Discussions and dialogues
5th	4	The measure of information	The measure of information	On class	practical application
6th	4	Self-information	Self-information	On class	Daily Exam
7th	4	Mid Exam	Mid Exam	On class	Exam
8th	4	Average information (Entropy)	Average information (Entropy)	On class	Daily Exam
9th	4	Maximum Entropy for Discrete Source	Maximum Entropy for Discrete Source	On class	Quiz
10th	4	Binary source	Binary source	On class	Exam
11th	4	Ternary Source	Ternary Source	On class	Discussions and dialogues
12th	4	Information Rate	Information Rate	On class	Discussions and dialogues
13th	4	Mutual information	Mutual information	On class	Exam
14th	4	Normal noisy channel	Normal noisy channel	On class	Discussions and dialogues
15th	4		Review all topics	On class	Discussions and dialogues

Course description

1. Course Name:
Logic Design 2
2. Course Code:
CSIT102
3. Semester / Year:
2nd /2024

4. Description Preparation Date:

1/2/2024

5. Available Attendance Forms:

1/2/2024

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

60

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

Name: Hussein AliEmail:hmutar@uowasit.edu.iq

8. Course Objectives

Course Objectives	**1- The student should understand encoder, decoder and multiplexers** **2- The student should understand flip-flops and how to use them.** **3- The student should understand synchronization and counters** **4- The student should understand ROM and PLA.**

9. Teaching and Learning Strategies

Strategy	Explaining the scientific material on the blackboard and on the projector Encouraging students to participate in solving problems and explaining on the board Allocating a percentage of the grade to group activities Assigning the student to some group tasks and activities Applying scientific material in the laboratory by implementing simulation programs.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Synchronous logic gates	Synchronous logic gates	On class	Discussions and dialogues
2nd	4	Adder and subtractor circuits	Adder and subtractor circuits	On class	Exam
3rd	4	Comparator circuits	Comparator circuits	On class	practical application
4th	4	Encoders	Encoders	On class	Discussions and dialogues
5th	4	Multiplexers	Multiplexers	On class	practical application
6th	4	First exam	First exam	On class	Daily Exam
7th	4	Flip-flops	Flip-flops	On class	Exam
8th	4	SR flip flop and j k flip flop	SR flip flop and j k flip flop	On class	Daily Exam
9th	4	T flip flop and D flip flop	T flip flop and D flip flop	On class	Quiz
10th	4	Second month exam	Second month exam	On class	Exam
11th	4	Registers design	Registers design	On class	Discussions and dialogues

12th	4	Counters design	Counters design	On class	Discussions and dialogues
13th	4	ROM	ROM	On class	Exam
14th	4	PLA	PLA	On class	Discussions and dialogues
15th	4		Review all topics	On class	Discussions and dialogues

Course description

1. Course Name:
Architecture of computer protocol
2. Course Code:
3. Semester / Year:
2024/1
4. Description Preparation Date:
2023/10/1
5. Available Attendance Forms:
Study hall and Lab
6. Number of Credit Hours (Total) / Number of Units (Total)
4/3
7. Course administrator's name (mention all, if more than one name)
Name: Iyas Khudhair **Yalwi Email: ilyas** **@uowasit.edu.iq**
8. Course Objectives

Course Objectives	• **To impart basic concepts of computer architecture and organization,** • **To explain key skills of constructing cost-effective computer systems.** • **To familiarize the basic CPU organization.** • **To help students in understanding various memory devices.** • **To facilitate students in learning IO communication**

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure					
	Hours	**Required Learning**			**Evaluation**

Week		Outcomes	Unit or subject name	Learning method	method
1	4	INTRODUCTION TO COMPUTER ARCHITECTURE		Theoretical lecture and practical laboratory	Quiz
2	4	STRUCTURE OF COMPUTERS	Computer types, Functional units, Basic operational concepts, Architecture, Bus Structures, Software	Theoretical lecture and practical laboratory	Solve laboratory exercises
3	4	STRUCTURE OF COMPUTERS	Performance, Multiprocessors and Multicomputer, Data representation, Fixed and Floating point, Error detection and correction codes	Theoretical lecture and practical laboratory	Solve laboratory exercises
4	4	BASIC COMPUTER ORGANIZATION AND DESIGN:	Instruction codes, Computer Registers, Computer Instructions and Instruction cycle.	Theoretical lecture and practical laboratory	Quize
5	4	Exam 1			
6	4	BASIC COMPUTER ORGANIZATION AND DESIGN:	Timing and Control, Memory-Reference Instructions, Input-Output and interrupt. Central processing unit	Theoretical lecture and practical laboratory	Solve laboratory exercises
7	4	BASIC COMPUTER ORGANIZATION AND DESIGN:	Stack organization, Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Complex Instruction Set Computer (CISC) Reduced Instruction Set Computer (RISC), CISC vs RISC	Theoretical lecture and practical laboratory	Solve laboratory exercises
8	4	REGISTER TRANSFER AND MICRO-OPERATIONS	Register Transfer Language, Register Transfer, Bus and Memory Transfers,	Theoretical lecture and practical laboratory	Solve laboratory exercises
9	4	REGISTER TRANSFER AND MICRO-OPERATIONS	Arithmetic Micro-Operations, Logic Micro-Operations, Shift Micro-Operations, Arithmetic logic shift unit.	Theoretical lecture and practical laboratory	Quiz
10	4	Exam 2			
11	4	MICRO-PROGRAMMED CONTROL:	Control Memory, Address Sequencing	Theoretical lecture and practical laboratory	Solve laboratory exercises
12	4	MICRO-PROGRAMMED CONTROL:	Micro-Program example, simple design of Control Unit.	Theoretical lecture and practical laboratory	Solve laboratory exercises
13	4	MEMORY SYSTEM:	Memory Hierarchy, Semiconductor Memories, RAM(Random Access Memory),	Theoretical lecture and practical laboratory	Quiz

14	**4**	**MEMORY SYSTEM:**	**Read Only Memory (ROM), Types of ROM, Cache Memory, Performance considerations, Virtual memory, Paging, Secondary Storage, RAID.**	**Theoretical lecture and practical laboratory**	**presentation**
15	**4**	**Exam 3**			

Course Description

Course Name
Data structure
Course Code
CSIT202
Semester / Year
semester
The history of preparation of this description
30/3/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
30
The name of the course administrator (if more than one name is mentioned)
Name: Mustafa Azeez khalaf .....   **Email: mkhalaf@uowasit.edu.iq** ....
8. Course Objectives

Course Objectives	✓ **Efficient Data Organization: Data structures provide a systematic way to organize and store data. They ensure that data can be accessed, modified, and processed efficiently.** ✓ **Optimized Access and Manipulation: By choosing appropriate data structures, we can achieve faster access times for specific operations. For example, hash tables allow constant-time lookups, while trees enable efficient searching and sorting.**

9. Teaching and Learning Strategies

Strategy	✓ **Active Learning: Encourage students to actively apply their knowledge through exercises, laboratory work, and in-class problems. The more they engage with the material, the better they'll understand it1.** ✓ **Collaboration: Consider allowing students to collaborate, but set clear boundaries. Equal collaboration can enhance understanding and encourage discussion among peers1.** ✓ **✓ Models and Visualization: Use models to demonstrate data structures. For instance, visualize searching or sorting algorithms using a deck of cards.**

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures/Lab	Data Structures	Introduction of data structure	2	1
Questions & Discussion		Data Structures	Type of data structure	2	2
Questions & Discussion	Lectures/Lab	Data Structures	Memory representetionforD1 and D2	2	3
Questions & Discussion	Lectures/Lab	Data Structures	Linear list &types	2	4
Questions & Discussion	Lectures/Lab	Data Structures	Stack operations	2	5
Questions & Discussion	Lectures/Lab	Data Structures	Application of stack	2	6
examination	Material given	Data Structures	Applications of Queue	7	
exam	Lectures/Lab	Data Structures	exam	2	8
Questions & Discussion	Lectures/Lab	Data Structures	Circular Queue & Application	2	9
Questions & Discussion	Lectures/Lab	Data Structures	Linked list	2	10
Questions & Discussion	Lectures/Lab	Data Structures	Linked Stack Linked Queue	2	11
Questions & Discussion	Lectures/Lab	Data Structures	Circular linked list	2	12

Questions & Discussion	Lectures/Lab	Data Structures	Circular linked list	2	13
Questions & Discussion	Lectures/Lab	Data Structures	مراجعة	2	14
examination	Material given	Data Structures	examination	15	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the lecture and of a cognitive nature.**
- **Monthly exams.**

12. Teaching and learning resources

Static Web programming/ Dr. Shatha Habeeb/ Dr. Athraa Jasim Mohammed

Course Description

Course Name
Operations research
Course Code
Semester / Year
Courses
The history of preparation of this description
9/2/2024
Available Attendance Forms
Classrooms
Number of credit hours (total) / number of units (total)
45
The name of the course administrator (if more than one name is mentioned)
Name: elaf baha alwan .....   **Email: leccit2@uowasit.edu.iq** .....
8. Course Objectives

Course Objectives	✓ **How to solve linear equations.** ✓ **Obtaining theoretical knowledge in applications of numerical methods.** ✓ **Identify the methods used in finding applications in the field of computing.** ✓ **Assist in making decisions related to difficult and complex administrative problems.**
9. Teaching and Learning Strategies	

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

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions	Lectures	Operations research	Concept of Linear Programming L .P	3	1
Questions	Lectures	Operations research	Methods for solving linear programming models 1- The Graphical Method	3	2
Questions	Lectures	Operations research	2- The Algebraic Method	3	3
Questions	Lectures	Operations research	3- The Simplex Method with Maximization Objective Function.	3	4
Questions	Lectures	Operations research	4- The Simplex Method with Minimization Objective Function.	3	5
Questions	Lectures	Operations research	Analysis Sensitivity 1-Changes in the R.H.S	3	6
examination	Material given	First month exam	Exam	7	
Questions	Lectures	Operations research	2-Changes in coefficients of the Objective Function	3	8
Questions	Lectures	Operations research	3-variable anew of Addition	3	9
Questions	Lectures	Operations research	Networks Network Rules & Construction Path Critical Method	3	10
Questions	Lectures	Operations research	Program Evaluation and Review Technique	3	11
Questions	Lectures	Operations research	Introduction and Definition of Transportation Model	3	12
Questions	Lectures	Operations research	cost Lest Method	3	13

Questions	**Lectures**	**Operations research**	**Vogel s Approximation Method**	**3**	**14**
Questions	**Material given**	**Second month exam**	**examination**	**15**	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the lecture.**
- **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

Course Name
Computer organization
Course Code
CSIT105
Semester / Year
Semester
The history of preparation of this description
30/3/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
60
The name of the course administrator (if more than one name is mentioned)
Name:ahmed hafith .....   **Email: ahafidh@uowasit>edu>iq** .....

8. Course Objectives

Course Objectives	**1- Identify the components of the physical calculator** **2- Knowledge acquisition** **3- Learn about Microsoft applications**

9. Teaching and Learning Strategies

Strategy	**1- Theoretical lectures and practical application in the laboratory** **2- Allocating a percentage of the grade to group activities** **3- Assigning the student to duties and activities**

	4- Readings – Self-Learning – Panel Discussions **Exercises and activities in the laboratory**

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures/Lab	Computer organization	Explanation of application programming languages	4	1
Questions & Discussion		Computer organization	Viruses	4	2
Questions & Discussion	Lectures/Lab	Web design	Electronic penetration	4	3
Questions & Discussion	Lectures/Lab	Computer organization	Excel	4	4
Questions & Discussion	Lectures/Lab	Computer organization	Learn to make and process arithmetic numbers	4	5
Questions & Discussion	Lectures/Lab	Computer organization	Power point	4	6
examination	Material given	Computer organization	Exam	7	
Questions & Discussion	Lectures/Lab	Computer organization	Slide shows in the program	4	8
exam	Lectures/Lab	Computer organization	Components of the main window of the program	4	9
Questions & Discussion	Lectures/Lab	Computer organization	PowerPoint media	4	10
Questions & Discussion	Lectures/Lab	Computer organization	How to add and display articles and how to write	4	11
Questions & Discussion	Lectures/Lab	Computer organization	How to add drawings and shapes in the program	4	12
Questions & Discussion	Lectures/Lab	Computer organization	Website Creation	4	13
Questions & Discussion	Lectures/Lab	Computer organization	Website Protection Mechanism	4	14

	examination	Material given	Computer organization	Examination	15

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the lecture and of a cognitive nature.**
- **Monthly exams.**

12. Teaching and learning resources

Static Web programming/ Dr. Shatha Habeeb/ Dr. Athraa Jasim Mohammed

Course Description

Course Name
Artificial Intelligence
Course Code
SFTW309
Semester / Year
Courses
The history of preparation of this description
2024/2/ 1
Available Attendance Forms
Classrooms
Number of credit hours (total) / number of units (total)
60
The name of the course administrator (if more than one name is mentioned)
Name: Maryam jawad kadhim alwan .....   **Email: mjawad@uowasit.edu.iq** .....
8. Course Objectives

Course Objectives	✓ **Identify the basic concepts and principles of artificial intelligence and its various sub-fields** ✓ **Understanding problem-solving techniques with artificial intelligence** ✓ **Explore real-world applications of artificial intelligence in various fields and understand the challenges and opportunities associated with their implementation.**

9. Teaching and Learning Strategies

Strategy	**• Study the methods and languages used to represent and process knowledge in artificial intelligence systems** **• Study real-world applications of artificial intelligence in various fields, such as healthcare, finance, self-driving vehicles, robotics, and recommendation systems**

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions	Lectures	AI definition, history, concept, and applications, AI goals and AI environment	Understand the fundamental concepts	4	1
Questions	Lectures	Data-Information Knowledge ,DIK Hierarchy	principles of artificial intelligence and its various subfields	4	2
Questions	Lectures	Knowledge base building	Understand the AI problem-solving techniques	4	3
Questions	Lectures	Heuristic Search	A* algorithm	4	4
Questions	Lectures	Heuristic Search	Best-First Search	4	5
Questions	Lectures	Heuristic Search	Hill Climbing	4	6
examination	Material given	First month exam	Exam	7	
Questions	Lectures	Problem state space	Knowledge representation	4	8
Questions	Lectures	Knowledge base building	Knowledge representation	4	9
Questions	Lectures	Shortest path problem.	Problem solving approach	4	10
Questions	Lectures	Uninformed Search(Blind Search)	Breadth first search(BFS)	4	11
Questions	Lectures	Uninformed Search(Blind Search)	Cost Search (UCS)	4	12
Questions	Lectures	Uninformed Search(Blind Search)	Depth First Search (DFS)	4	13
Questions	Lectures	machine learning	Data-Information-Knowledge	4	14
Questions	Material given	Second month exam	examination	15	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the lecture.**
- **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

Course Name
Data structure
Course Code
CSIT202
Semester / Year
semester
The history of preparation of this description
30/3/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
30
The name of the course administrator (if more than one name is mentioned)
Name: Mustafa Azeez khalaf **Email:** mkhalaf@uowasit.edu.iq
8. Course Objectives

Course Objectives	✓ **Efficient Data Organization: Data structures provide a systematic way to organize and store data. They ensure that data can be accessed, modified, and processed efficiently.** ✓ **Optimized Access and Manipulation: By choosing appropriate data structures, we can achieve faster access times for specific operations. For example, hash tables allow constant-time lookups, while trees enable efficient searching and sorting.**

9. Teaching and Learning Strategies

Strategy	✓ **Active Learning: Encourage students to actively apply their knowledge through exercises, laboratory work, and in-class problems. The more they engage with the material, the better they'll understand it1.** ✓ **Collaboration: Consider allowing students to collaborate, but set clear boundaries. Equal collaboration can enhance understanding and encourage discussion among peers1.** ✓ **✓ Models and Visualization: Use models to demonstrate data structures. For instance, visualize searching or sorting algorithms using a deck of cards.**

10. **Course Structure**

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures/Lab	Data Structures	Introduction of data structure	2	1
Questions & Discussion		Data Structures	Type of data structure	2	2
Questions & Discussion	Lectures/Lab	Data Structures	Memory representetionforD1 and D2	2	3
Questions & Discussion	Lectures/Lab	Data Structures	Linear list &types	2	4
Questions & Discussion	Lectures/Lab	Data Structures	Stack operations	2	5
Questions & Discussion	Lectures/Lab	Data Structures	Application of stack	2	6
examination	Material given	Data Structures	Applications of Queue	7	
exam	Lectures/Lab	Data Structures	exam	2	8
Questions & Discussion	Lectures/Lab	Data Structures	Circular Queue & Application	2	9
Questions & Discussion	Lectures/Lab	Data Structures	Linked list	2	10
Questions & Discussion	Lectures/Lab	Data Structures	Linked Stack Linked Queue	2	11
Questions & Discussion	Lectures/Lab	Data Structures	Circular linked list	2	12

Questions & Discussion	Lectures/Lab	Data Structures	Circular linked list	2	13
Questions & Discussion	Lectures/Lab	Data Structures	مراجعة	2	14
examination	Material given	Data Structures	examination	15	

11. Course Evaluation

- Homework and participation in daily preparation.
- Granting the degree to students for some questions posed in the lecture and of a cognitive nature.
- Monthly exams.

12. Teaching and learning resources

Static Web programming/ Dr. Shatha Habeeb/ Dr. Athraa Jasim Mohammed

Course description

1. Course Name:
English -First Class
2. Course Code:
UWEN102
3. Semester / Year:
Spring Semester/2024
4. Description Preparation Date:
April 2, 2024
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
15 Weeks….. 2 hours each week …total of 30 hours
7. Course administrator's name (mention all, if more than one name)
Hayder Okab Alwan h.alwan@uowasit.edu.iq

8. Course Objectives

Course Objectives	This course will mainly focus on reading and writing articles and how to start writing and analysis any paragraphs into main idea and supporting details. Tens of new helpful vocabularies would be in the first page of every chapter and finally punch of grammars would also be covers in this course.

9. Teaching and Learning Strategies

Strategy	Develop the students' reading and writing and listening skills

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Attendance In class	Chapter 1: Tenses (Getting to know you)	Data show	Testes +quiz
2	2	Attendance In class	Social expression	=	=
3	2	Attendance In class	Listening and speaking	=	=
4	2	Attendance In class	Chapter 2: present tense ...	=	=
5	2	Attendance In class	Have /have got	=	=

6	**2**	**Attendance In class**	**Collocation**	=	=
7	**2**	**Attendance In class**	**Making conversation**	=	=
8	**2**	**Attendance In class**	**Chapter 3: Past tense**	=	=
9	**2**	**Attendance In class**	**Reading skills**	=	=
10	**2**	**Attendance In class**	**Vocabulary and Pronunciation**	=	=
11	**2**	**Attendance In class**	**Chapter 4: much/many, a few, a little**	=	=
12	**2**	**Attendance In class**	**Chapter 5: verb patterns**	=	=
13	**2**	**Attendance In class**	**Future forms, hot verb**	=	=
14	**2**	**Attendance In class**	**Chapter 6: Comparative and superlatives**	=	=
15	**2**	**Attendance In class**	**Synonyms and antonyms**	=	=

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)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course description

1. Course Name:
English
2. Course Code:
UWEN402
3. Semester / Year:
Second semester (spring semester) 2024
4. Description Preparation Date:
April 3, 2024
5. Available Attendance Forms:
In Class
6. Number of Credit Hours (Total) / Number of Units (Total)
15 Weeks….. 2 hours each week …total of 30 hours
7. Course administrator's name (mention all, if more than one name)
Hayder Okab h.alwan@uowasit.edu.iq
8. Course Objectives

Course Objectives	**This course will mainly focus on reading and writing articles and how to start writing and analysis any paragraphs into main idea and supporting details. Tens of new helpful vocabularies would be in the first page of every chapter and finally punch of grammars would also be covers in this course.**

9. Teaching and Learning Strategies

Strategy	**Develop the students' reading and writing and listening skills**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name		Evaluation method
1	2	Attendance In class	Chapter 1; It's a wonderful world	Tenses, shorts answers	Testes +quiz
2	2	=	Auxiliary Verbs	social expression	=
3	2	=	Wounders of the modern world	Reading Skills	=
4	2	=	Chapter Two: Getting	Present simple and present	=

			Happy	continues	
5	2	=	The Clown Doctor	Passive Voice	=
6	2	=	Sport and leisure	Vocabulary	=
7	2	=	Telling Tales	Past simple tense	=
8	2	=	Vocabulary on Arts and Literature	Art and Literature	=
9	2	=	The painter and the writer	Reading and speaking	=
10	2	=	Giving opinion	listening and Writing	=
11	2	=	chapter 4: doing the Right thing	Model verb	=
12	2	=	Should and must	Obligation and permission	=
13	2	=	How to behave abroad	Reading and speaking	=
14	2	=	Nationality words	Good manners	=
15	2	=	Request and offers	Listening and speaking	=

Course Description

Course Name
Mobile computation programming
Course Code
Semester / Year
Second
The history of preparation of this description
30/3/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
30
The name of the course administrator (if more than one name is mentioned)
Name: hasaneen.ali.dweeb **Email: h.dweab@uowasit.edu.iq**

8. Course Objectives	
Course Objectives	✓ **Teaching students the concepts of mobile computing** ✓ **Creating mobile applications**

9. Teaching and Learning Strategies	
Strategy	✓ **The student learning mobile programming** ✓ **Teaching students about mobile applications**

10. **Course Structure**

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures/Lab	Mobile app	Android Basics	2	1
Questions & Discussion		Mobile app	Android Applications	2	2
Questions & Discussion	Lectures/Lab	Mobile app	App layer	2	3
Questions & Discussion	Lectures/Lab	Mobile app	Android - Architecture	2	4
Questions & Discussion	Lectures/Lab	Mobile app	Android Runtime	2	5
Questions & Discussion	Lectures/Lab	Mobile app	Layout Attributes	2	6
examination	Material given	Mobile app	Exam	7	
Questions & Discussion	Lectures/Lab	Mobile app	Android – Activities	2	8
exam	Lectures/Lab	Mobile app	Android – Services	2	9
Questions & Discussion	Lectures/Lab	Mobile app	Android - UI Layouts	2	10
Questions & Discussion	Lectures/Lab	Mobile app	Android - Drag and Drop	2	11
Questions & Discussion	Lectures/Lab	Mobile app	Menu app	2	12
Questions & Discussion	Lectures/Lab	Mobile app	Android - Sending Email	2	13
Questions & Discussion	Lectures/Lab	Mobile app	Android - Alert Dialog Aap. review	2	14
examination	Material given	Mobile app	examination	15	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the**
- **lecture and of a cognitive nature.**
- **Monthly exams.**
- **12. Teaching and learning resources**
- **App mobile**

Course Description

Course Name
Concepts of parallel processing
Course Code
Semester / Year
The history of preparation of this description
30/3/2024
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
30
The name of the course administrator (if more than one name is mentioned)
Name: hasaneen.ali.dweeb **Email: h.dweab@uowasit.edu.iq**

8. Course Objectives

Course Objectives	✓ **Teaching students the concepts of parallel processors** ✓ **Types of processors**

9. Teaching and Learning Strategies

Strategy	✓ **Teaching students the concepts of parallel processors** ✓ **Types of processors**

10. **Course Structure**

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Questions & Discussion	Lectures	Parallel processors	UNDERSTANDING PARALLEL ENVIRONMENT	3	1
Questions & Discussion		Parallel processors	GPU DESIGN BELIEVES	3	2
Questions & Discussion	Lectures	Parallel processors	CUDA PLATFORM	3	3
Questions & Discussion	Lectures	Parallel processors	THREADS	3	4
Questions & Discussion	Lectures	Parallel processors	MAPPING	3	5
Questions & Discussion	Lectures	Parallel processors	OUTLINES	3	6
examination	Lectures	Parallel processors	Exam	3	
Questions & Discussion	Lectures	Parallel processors	COMPACT-LIKE	3	8
exam	Lectures	Parallel processors	SORTING	3	9
Questions & Discussion	Lectures	Parallel processors	FUNDAMENTAL GPU ALGORITHMS	3	10
Questions & Discussion	Lectures	Parallel processors	HISTOGRAM	3	11
Questions & Discussion	Lectures	Parallel processors	Menu app	3	12
Questions & Discussion	Lectures	Parallel processors	LEVELS OF OPTIMIZATION	3	13
Questions & Discussion	Lectures	Parallel processors	HISTOGRAM	3	14
examination	Lectures	Parallel processors	examination	15	

11. Course Evaluation

- **Homework and participation in daily preparation.**
- **Granting the degree to students for some questions posed in the**
- **lecture and of a cognitive nature.**
- **Monthly exams.**
- **12. Teaching and learning resources**
- **Parallel processor**

Course Description

Cource name
Concepts of database2
Cource code
SFTW280
Semester / Year
2023-2024
The history of preparation of this description
2024/5/28
Available Attendance Forms
Classrooms with laboratories
Number of credit hours (total) / number of units (total)
4 total hours(60)
The name of the course administrator (if more than one name is mentioned)
Name :dr-ahmed shaker abd al-redha
Cource objective
Teaching and Learning Strategies
A- Knowledge Objectives **A1- Introducing the principles and basics of databases, their systems and types** **A2- Application of database concepts** **A3- Recognizing the importance of database systems** **A4- Determine the difference between traditional files and database systems** **A5- Determine the difference between database systems and distributed database systems** **A6- Ability to describe database systems** **B - Course skills objectives** **B1 – The ability to give lectures related to database systems** **B2 – The ability to design a database system** **B3 – Ability to learn and** **• Provide the student with the main vocabulary and assistance of database systems** **• Asking the student to design database systems** **Evaluation methods** **• Homework** **Daily surprise exams •** **• Monthly exams** **• Monthly reports** **• Semester exams** **C- Emotional and value goals** **C1- Attention to the lecture** **C2- Participation in the lecture** **C3- Accept the lecture** **C4- The desire to continue the lecture**

Course Structure .10

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	hours	week
exams	Lectures	**Introduction to Database Systems**	Introduction to traditional	8	1 - 4

			systems and database systems and how to manage database systems		
exams	Lectures	**Data Models**	Understand and learn how to model data, how to access data and what storage structures are available	8	5 - 8
exams	lectures	**Entity Relational Model & Normalization**	Understand relational models and how to design them and what are network and hierarchical models and know the differences between these multiple models	14	9 - 15
exams	lectures	**Parallel Databases**	Understanding parallel databases	4	16 - 17
exams	lectures	**Distributed Databases**	Understanding distributed databases	4	18 -19
exams	lectures	**Data Warehouses and Data Mining**	Understand how to save and extract data	12	20 - 25
exams	lectures	**Database Design Project**	Understand how to create a project using databases	10	26 - 30

Course Evaluation

• Homework and participation in daily preparation.
• Granting the degree to students for some questions posed in the lecture.
Monthly exams

Recource

- Introduction to database Management system by Dr. Satinder Bal Gupta
- Fundamentals of Database Systems, 7th Edition. Ramez Elmasri,