

**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**

## Academic Program Description Form

University Name: Al-Iraqia University

Faculty/Institute: College of Education

Scientific Department: Computer Scientific Department

Academic or Professional Program Name: Computer for preliminary studies

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 2023-2024

File Completion Date: 26/2/2024

Signature: 

Head of Department Name:

Asst. Prof. Dr. Mahmood S. Fiadh

Date:

Signature: 

Scientific Associate Name:

Prof. Dr. Zubaida A. Latteflsmaeel


Date: 17/3/2024

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

## **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.

### **1. Program Vision**

Achieving high quality for the department in the fields of education and scientific research, which contributes to excellence and advancement in achieving graduate and advanced studies in the department.

### **2. Program Mission**

Achieving the goals of higher education and scientific research in providing the necessary university education to the department's students and developing their skills, and working to ensure that the faculty member is a distinguished scientific researcher and educator capable of delivering scientific material to the department's students in an excellent manner.

### **3. Program Objectives**

1. Supporting the preparatory and secondary education sector with solid scientific competencies from the department's students.
2. Developing behavioral trends among the department's students, in line with the specificity of our Arab and Islamic civilization.
3. Focus on the practical aspect through training programs in the laboratory in a way that develops students' practical capabilities.
4. Encouraging useful applied trends in work to contribute to the development of society through quality and high quality.
5. Benefiting from international experiences and developments in the field of scientific and technical knowledge and employing them to serve the early knowledge accumulation of students.
6. Responding to the requirements of general national development plans and the state's strategic plans.

#### 4. Program Accreditation

Local (national accreditation standards for classification)

#### 5. Other external influences

E-learning via the use of the Edmodo platform, the scientific library electronic, international information network (the Internet).

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	6	9	–	
College Requirements	11	23	–	
Department Requirements	24	78	–	
Summer Training	–	–	–	
Other	–	–	–	

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

#### 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The First	nothing			
		Logical design	2	2
		Structured programming	2	2
		mathematics	3	
		Computer technology and installation	2	2
		Discontinuous structures	3	
		Educational psychology	3	
		Arabic	2	
		The foundations of education	2	
		Islamic culture	1	

		Human rights and democracy	2	
		English	1	
		<b>Total</b>	<b>23</b>	<b>6</b>

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The Second	nothing			
		Data structures	2	2
		Entity programming	2	2
		Microprocessors	2	2
		Numerical Analysis	2	2
		Analysis of systems and databases	2	2
		Computational theory	3	
		Research method	2	
		Developmental Psychology	2	
		Secondary education and educational management	2	
		English	1	
		Scientific miracle	1	
		Baath Party Crimes in Iraq	2	
		Islamic Culture	1	
		<b>Total</b>	<b>24</b>	<b>10</b>

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The Third	nothing			
		Artificial intelligence	2	2
		Compiler	2	2
		Computer graphic	2	2
		Visual Programming	2	2
		Computer architecture	3	
		Software Engineering	2	
		Counseling and mental health	2	
		Curricula and teaching methods	2	
		Database design	2	2
		<b>Total</b>	<b>19</b>	<b>10</b>

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The Fourth	nothing			
		Operating Systems	2	2
		Computer and data security	2	2
		Communication and computer networks	2	2
		Data mining ( optional )	2	2
		E-Learning ( optional )	2	2
		Measurement and calendar	2	
		Research project	2	
		View and calendar	4	
		<b>Total</b>	<b>18</b>	<b>10</b>

## 1. Expected learning outcomes of the program

### Knowledge

#### A- Cognitive goals

- A1-** Understanding computer basics and its components.
- A2-** Understanding computer architecture and what are the ways to transfer data and information between different devices.
- A3-** Understanding the types of memory and what are the functions of the processor's work
- A 4-** Understand how to compare computer parts and choose the correct parts for work.
- A5-** Enabling students to acquire and understand ways to use database management systems.
- A6-** Enabling students to obtain and understand information, knowledge and theoretical concepts related to computer networks and communications systems.
- A7-** Enabling students to acquire and understand modern programming languages and database systems.
- A8-** Enabling students to collect and understand educational, psychological and cultural information, facts and concepts.
- A9-** Enabling students to acquire and understand computer teaching strategies, methods and techniques.
- A10-** Introducing students to the most important references and sources in computer science.

### Skills



<b>B- The skills</b>	<p><b>B1</b> - To be able to know the computer architecture and what are the most important components in the computer system.</p> <p><b>B2</b>- Enabling students to acquire the skills of identifying problems resulting from computer misuse and working to solve them.</p>
	<p><b>B3</b> - To be able to compare computer parts and understand the mechanism of choosing the best when updating the computer</p> <p><b>B4</b>- Enabling students to acquire classroom management skills, classroom interaction, and the art of dealing with classroom problems in an educational manner.</p> <p><b>B5</b>- Providing students with the necessary skills to develop software of various types.</p> <p><b>B6</b>- Enabling students to acquire skills for testing the suitability of programs for work.</p>
<b>Ethics</b>	
<b>C- The Ethics</b>	<p><b>C1</b>- Work with quality and efficiency within the team.</p> <p><b>C2</b>- He faces professional pressures positively.</p> <p><b>C3</b>- He is able to manage time and invest it in achieving the best goals.</p> <p><b>C4</b>- Possessing the skills to express problems in appropriate ways.</p> <p><b>C5</b>- Developing independent learning skills independently of the lecture.</p> <p><b>C6</b>- Possessing the ability to use various materials, whether the library or specialized electronic databases, to support learning processes.</p> <p><b>C7</b>- Communicate with others in a positive way.</p> <p><b>C8</b>- Understanding scientific and professional literature: Reading and using literature from approved references in fields of knowledge to support educational activities.</p> <p><b>C9</b>- Possessing self-management skills and the ability to manage one's time and work within specified deadlines.</p>

## 2. Teaching and Learning Strategies

### First: Teaching and learning methods for cognitive goals and skill goals:

- 1- The introductory method.
- 2- Using PowerPoint lectures.
- 3- Method of dialogue and discussion.
- 4- Using screens and smart boards to present scientific material.

- 5– Reports and projects.
- 6– Student groups.
- 7– Workshops.
- 8– Scientific trips.
- 9– Oral discussions.

**Second: Teaching and learning methods for emotional goals:**

- 1– Cooperative education method.
- 2– The circular discussion method.
- 3– The educational story method.
- 4– Seminars and workshops.
- 5– Defining ideals.
- 6– Forming discussion groups during lectures.
- 7– Dialogue and discussion to acquire emotional behavior.
- 8– Assigning students assignments that require self–explanation.

**Third: Methods of teaching and learning transferable general and qualifying skills:**

- 1– Holding discussion circles.
- 2– Cooperative education.
- 3– Problem–centered learning strategy.

### **3. Evaluation methods**

**First: Evaluation methods for the levels of cognitive and skill teaching and learning processes:**

- 1– Written or objective tests, quarterly or monthly.
- 2– Grades awarded for daily contributions.
- 3– Oral exam.
- 4– Grades for research and reports related to the lecture topic.

- 5– Grades for attendance and regularity in lectures.
- 6– Daily exams, agreed upon or not agreed upon.
- 7– Class and extracurricular duties.

**Second: Evaluation methods for the levels of emotional and value-based teaching and learning processes:**

- 1– Trend metrics.
- 2– Questionnaires.
- 3– Case study.
- 4– Projective methods.
- 5– Note.
- 6– Self-reports.
- 7– The interview

**Third: Evaluation methods for the levels of teaching and learning processes for general and qualifying skills transferred:**

- 1– Workshops for students.
- 2– The interview.
- 3– Classroom and extracurricular tests.

## 4. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst.Prof.dr. Mahmood Salim Fiadh	Mathematics	algebra			Staff	
Asst.Prof.dr. Mohammed Ibrahim Ahmed	Computer Science	Information Technology			Staff	
Asst.Prof.dr. Saad Abbas Abid	Mathematics	Applied Mathematics			Staff	
Asst.Prof.dr. Saba Abdulbaqi Salman	Computer Science	Artificial Intelligent			Staff	
Asst.Prof. Omar Abdulwahabe Mohamad	Computer Engineering	Computer Engineering and information Technology			Staff	
Asst.Prof Omar Ibrahim Obaid	Computer Science	Artificial Intelligent			Staff	
Lect.dr.Rasha Talal Hameed	Information Engineering	Computer Engineering and information Technology			Staff	
Asst.Lect.Ahmed Hussein Ali	Computer Science	Big Data			Staff	
Asst.Lect.Mohammad Al janabi	Computer Science	Cyber Security			Staff	
Asst.Lect. Mohanad Ghazi Yaseen	Computer Science	Information Technology			Staff	
Asst.Lect.Hind Salman Hassan	Computer Science	Network Security			Staff	
Asst.Lect.Muna Ghassan Younis	Mathematics	Applied Mathematics			Staff	
Asst.Lect.Shaemaa Qaes Latif	Mathematics	Functional analysis			staff	
Asst.Lect. Jinan Mohamad Hasan	History	Recent History /ottoman thought			staff	
Asst.Lect. Nada Youssef Hashim	Computer Science	Artificial intelligent			staff	

## **Professional Development**

### **Professional development of faculty members**

1. Availability of some language skills, whether in Arabic or English.
2. Availability of some mathematical skills.
3. Availability of some computer skills.

## **5. Acceptance Criterion**

1. Central admission to the Ministry of Higher Education and Scientific Research.
2. The student must be a graduate of preparatory school, exclusively in the scientific branch.
3. Academically certified teachers.
4. Admission is for both genders (males and females).

## **6. The most important sources of information about the program**

1. The website of the college and university.
2. University guide.
3. Books and scientific sources for the department.
4. Internet sources.

## **7. Program Development Plan**

The Computer Department seeks to localize and develop human and social knowledge in society and advance it by preparing specialized human cadres capable of serving society and providing students with knowledge in the fields of computer science in all fields. Preparing a generation of programmers and designers with experience in programming languages at a high level, or participating in building good information systems or modifying those systems in accordance with our needs and public service.

## 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
<b>First</b>	-	Logical design	Basic	*	*	*	*	*	*	*		*	*		
	-	Mathematics	Basic	*	*	*	*	*	*	*		*	*	*	
	-	Structured programming	Basic	*	*	*		*	*			*	*	*	
	-	Computer technology and installation	Basic	*	*	*	*	*	*			*	*	*	
	-	Discontinuous structures	Basic	*	*	*	*	*	*	*		*	*		
	-	Educational psychology	Basic												
	-	Arabic	Basic												
	-	The foundations of education	Basic												
	-	Human rights	Basic												
	-	English	Basic												

<b>Second</b>	-	Data structures	Basic	*	*	*	*	*	*			*	*	*	
	-	Entity programming	Basic	*	*	*	*	*	*			*	*		*
	-	Microprocessors	Basic	*	*	*	*	*	*			*	*	*	
	-	Numerical Analysis	Basic	*	*	*	*	*	*	*		*	*	*	
	-	Systems analysis and database	Basic	*	*	*		*	*	*		*	*		*
	-	Computation I theory	Basic	*	*	*		*	*			*	*		*
	-	Research method	Basic												
	-	Development al Psychology	Basic												
	-	Secondary education and educational management	Basic												
	-	English language	Basic												
-	Baath Party Crimes in Iraq	Basic													
<b>Third</b>	-	Artificial intelligence	Basic	*	*	*	*	*	*	*	*	*	*		*
	-	Translators	Basic	*	*	*	*	*	*	*		*	*		*
	-	Computer graphic	Basic	*	*	*	*	*	*			*	*		*
	-	Visual Programming	Basic	*	*	*	*	*	*			*	*		*
	-	Computer architecture	Basic	*	*	*		*	*			*	*		*

	-	Software Engineering	Basic	*	*	*	*	*	*			*	*		*
	-	Counseling and mental health	Basic												
	-	Curricula and teaching methods	Basic												
	-	Database design	Basic												
<b>Fourth</b>	-	Operating Systems	Basic	*	*	*		*	*			*	*		
	-	Computer and data security	Basic	*	*	*		*	*			*	*		
	-	Communication and computer networks	Basic	*	*	*		*	*			*	*		
	-	Data mining ( optional )	My choice	*	*	*		*	*			*	*		
	-	E-Learning ( optional )	My choice	*	*	*		*	*			*	*		
	-	Measurement and calendar	Basic												
	-	Research project	Basic												

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



# First Stage

## Course Description Form

### ( Logic Design )

1. Course Name: <b>Logic Design</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Lect. Mohanad Ghazi. Yassen Email: Mohanad.Yaseen@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"><li>1. Enabling the student to obtain detailed knowledge about the different types of Logic Design.</li><li>2. The aim of the module is to introduce to the students the topics that include combinational and sequential circuit analysis and design, digital circuit design optimization methods using random logic gates, multiplexers, decoders, registers, counters and programmable logic arrays.</li></ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"><li>1- Theoretical presentation of the course vocabulary.</li><li>2- Classroom group discussions for practical examples.</li><li>3- Practical application in the laboratory using packet tracer software.</li></ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Mathematical logic	theoretical + practical	Discussion
3-4	4	The student must understand the topic	Proposition and quantifier	theoretical + practical	Quiz
5-6	4	The student must understand the topic	Set theory	theoretical + practical	Discussion
7-8	4	The student must understand the topic	Properties of set	theoretical + practical	Quiz
9-10	4	The student must understand the topic	Relations	theoretical + practical	Discussion
11-12	4	The student must understand the topic	Function	theoretical + practical	Quiz
13-14	4	The student must understand the topic	Characteristic function	theoretical + practical	Discussion
15-16	4	The student must understand the topic	Counting sequence	theoretical + practical	Quiz
17-18	4	The student must understand the topic	Exam	theoretical + practical	Discussion
19-20	4	The student must understand the topic	Matrix and properties	theoretical + practical	Quiz
21-22	4	The student must understand the topic	Operation of matrix	theoretical + practical	Discussion
23-24	4	The student must understand the topic	Determinate	theoretical + practical	Quiz
25-26	4	The student must understand the topic	Inverse of matrix	theoretical + practical	Discussion
27-28	4	The student must understand the topic	Using inverse to solve linear system	theoretical + practical	Quiz
29	2	The student must understand the topic	Exam	theoretical + practical	Discussion
30	2	The student must understand the topic	Review	theoretical + practical	Quiz

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Digital Design , 5th_Edition, M. MORRIS MANO, Michael D. Ciletti, 2012
Main references (sources)	Introduction to Logic Design, 4th_Edition , Florida Atlantic University ,Alan B. Marcovitz,2010
Recommended books and references (scientific journals, reports...)	Introduction to Logic Design, 4th_Edition, Sajjan G. Shiva, Alabama in Huntsville University, 2010
Electronic References, Websites	Websites deal with logic design

## Course Description Form ( Structured programming )

1. Course Name: <b>Structured programming</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass.Prof.Dr. Mohammed I. Ahmed Email: mohamed672005@yahoo.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Enabling the student to obtain detailed knowledge about the programming.</li> <li>2. The aim of the module is to introduce to the students the topics that include Structured programming and arrays with different functions.</li> </ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> <li>3- Practical application in the laboratory using packet tracer software.</li> </ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student must understand the topic	Introduction	Lecture	Discussion
2-4	8	The student must understand the topic	Algorithms	Lecture	Quiz
5-9	8	The student must understand the topic	Flowcharts	Lecture	Discussion
10-11	3	The student must understand the topic	Modular programming & Structured programming techniques	Lecture	Quiz
12-13	3	The student must understand the topic	Structure and characteristics of C-language	Lecture	Discussion
14-16	4	The student must understand the topic	Data types	Lecture	Quiz
17-20	4	The student must understand the topic	Input/output statements	Lecture	Discussion
21-22	5	The student must understand the topic	Conditions	Lecture	Quiz
23-24	6	The student must understand the topic	Compound statement	Lecture	Discussion
25-26	10	The student must understand the topic	Arrays	Lecture	Quiz
27	6	The student must understand the topic	The C preprocessor	Lecture	Discussion
28	4	The student must understand the topic	Functions	Lecture	Quiz
29	6	The student must understand the topic	Pointers	Lecture	Discussion
30	10	The student must understand the topic	Structure	Lecture	Quiz

### 11. Course Evaluation

- 1-Evaluating students by conducting daily surprise and non-surprise exams
- 2 - Evaluating students by conducting quarterly exams
- 3- Evaluating students by conducting practical exams
- 4- Evaluating students by giving assignments.

### 12. Learning and Teaching Resources

Required textbo (curricular books, if any)	<ol style="list-style-type: none"> <li>1.Eugene Veklerow &amp; Olga Pekelny (1989), Computer Language C, HBJ and Herbert Brace Jovano.</li> <li>2.Herbert Schildt (1992), The Complete Reference, Mc-Graw Hill.</li> </ol>
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Main references (sources)	Computer Programming C++
Recommended books and references (scientific journals, reports...)	Teach yourself C++ IEEE Thinking in C++ Practical C++ programming
Electronic Referenc Websites	Website that deals with programming languages.

## Course Description Form

### ( Mathematics )

1. Course Name: <b>Mathematics</b>					
2. Course Code: -					
3. Semester / Year: Annual/ 2023 - 2024					
4. Description Preparation Date: 5/11/2023					
5. Available Attendance Forms: weekly					
6. Number of Credit Hours (Total) / Number of Units (Total): 90					
7. Course administrator's name (mention all, if more than one name)					
Name: Lect. Muna K. Yousif					
Email: mona.younis@gmail.com					
8. Course Objectives					
Course Objectives		1. <b>Study mathematics concepts.</b> 2. <b>The relation with the subjects of computer science.</b>			
9. Teaching and Learning Strategies					
Strategy		1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Functions	Lectures	Discussion
3-4	4	The student must understand the topic	Domain	Lectures	Quiz
5-6	4	The student must understand the topic	Range	Lectures	Discussion



7-8	4	The student must understand the topic	Graph sketch	Lectures	Quiz
8-9	4	The student must understand the topic	Exam 2	Lectures	Discussion
10-11	4	The student must understand the topic	Continuity	Lectures	Quiz
12-13	4	The student must understand the topic	Differentiation	Lectures	Discussion
14-16	6	The student must understand the topic	Differentiation	Lectures	Quiz
17-19	6	The student must understand the topic	Integrals	Lectures	Discussion
20-22	6	The student must understand the topic	Integrals	Lectures	Quiz
23-24	4	The student must understand the topic	Integrals	Lectures	Discussion
25-26	2	The student must understand the topic	Exam 1	Lectures	Quiz
27-28	2	The student must understand the topic	Limits	Lectures	Discussion
29	2	The student must understand the topic	Exam 3	Lectures	Quiz
30	2	The student must understand the topic	Review	Lectures	

### 11. Course Evaluation

1. Daily and monthly tests
2. Semester exams
3. Student participation in the discussion lecture

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Mathematic for 1 st stage collage
Main references (sources)	Calculus THOMAS 11th edition
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	-

## Course Description Form

### ( Computer technology and installation )

1. Course Name: Computer technology and installation	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr.Rasha T.Hameed Email: rasha2015@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>• Understanding number systems and how to convert between them.</li> <li>• Providing the student with scientific knowledge and concepts in the field of computers.</li> <li>• Familiarizing the student with computer components (internal and external)</li> <li>• Introducing the student to computer software (system software and application software).</li> </ul>
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples. 3- Practical application in the laboratory using packet tracer software.

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student must understand the topic	Introduction to computer	Theoretical presentation of the subject + practical observation in the laboratory	Discussion and question
3	2 theoretical + 2 Practical	The student must understand the topic	Computer generation	Theoretical presentation of the subject + practical applications	Discussion
4-8	10 theoretical + 10 Practical	The student should be able to understand the physical components of the computer	Hardware component input ,output devices ,hard disk ,RAM ,ROM .cache memory, keyboard ,touch screen	Theoretical presentation of the subject + practical applications	Quiz
9-10	4 theoretical + 4 Practical	The student must understand the topic	Types of ports ,system buses	Theoretical presentation of the subject + practical applications	Direct evaluation and laboratory reports
11-12	2 theoretical + 2 Practical	The student must understand the topic	Data transmission	Theoretical presentation of the subject + practical applications	Discussion
13	2 theoretical + 2 Practical	The student must understand the topic	BIOS and CMOS	Theoretical presentation of the subject + practical applications	Quiz
14-15	4 theoretical + 4 Practical	The student must understand the topic	Model for processor 8086-8088	Theoretical presentation of the subject + practical applications	Direct evaluation and laboratory reports
16-17	4 theoretical + 4 Practical	The student must understand the topic	8086/8088, general - purpose registers, records indexing and Mark, media records	Theoretical presentation of the subject + practical applications	Discussion
18-19	4 theoretical + 4 Practical	The student must understand the topic	Programming languages	Theoretical presentation of the subject + practical applications	Quiz
20-21	4 theoretical + 4 Practical	The student must understand the topic	Compilers, Assembly	Theoretical presentation of the subject + practical applications	Discussion
22-23	4 theoretical + 4 Practical	The student must understand the topic	Interpreter, translator	Theoretical presentation of the subject + practical applications	Quiz

24-25	4 theoretical + 4 Practical	The student must understand the topic	data organization memory address, memory segmentation	Theoretical presentation of the subject + practical applications	Discussion and Quiz
26-27	4 theoretical + 4 Practical	The student must understand the topic	generation a memory address space(logical and physical address),set assembly instruction	Theoretical presentation of the subject + practical applications	Quiz
28-29	4 theoretical + 4 Practical	The student must understand the topic	Transfer instruction, arithmetic instruction	Theoretical presentation of the subject + practical applications	Discussion
30	2 theoretical + 2 Practical	The student must understand the topic	Input programming method	Theoretical presentation of the subject + practical applications	Quiz and direct evaluation

## 11. Course Evaluation

Achievement test with the concepts below:

- A- The paragraphs with the selected answer.
- B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
- C- Multiple choice paragraphs.
- D- Homework and class assignments.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to computers for Peter Norton's 2003
Main references (sources)	Fundamentals of computer organization and architecture" By John wiley & Sons, 2005.
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	-

## Course Description Form

### ( Discontinuous structures )

1. Course Name: <b>Discontinuous structures</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 90	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Muna K. Youns	
Email:	
8. Course Objectives	
<b>Course Objectives</b>	1.The number of students who have the ability to conduct scientific research through interest in the research aspect based on the use of computers for the purpose of providing graduates with applied skills in the field of computers. 2.Qualifying students and empowering them with knowledge on the practical and applied levels in the field of specialization. 3.Paying attention to scientific outputs to prepare a generation of qualified computer teachers. 4.Seeking to prepare graduates who have the ability to be creative and innovative and keep pace with scientific development.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Direct lectures and conducting effective and direct discussions with students. 2- Asking questions and opening dialogue with students.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	12	The student must understand the topic	Mathematical Logic	Theoretical presentation of the subject	Discussion and Quiz
5-10	18	The student must understand the topic	Sets Theory	Theoretical presentation of the subject	Quiz
11-16	18	The student must understand the topic	Relations	Theoretical presentation of the subject	Discussion
17-21	15		Mappings	Theoretical presentation of the subject	Discussion and Quiz
22-26	15	The student must understand the topic	Elementary Number Theory	Theoretical presentation of the subject	Quiz
27-30	12	The student must understand the topic	Matrices	Theoretical presentation of the subject	Discussion

### 11. Course Evaluation

- 1- Daily and monthly tests.
- 2- Semester exams.
- 3- Student participation in the discussion lecture.
- 4- Short exams (CUSE) and daily assignments (home work).

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Calculus THOMAS 11th edition
Main references (sources)	Mathematic for 1 st stage collage
Recommended books and references (scientific journals, reports...)	-Discrete Mathematics Structure with Application To Computer Sciences, Trem Baly Manohar,1975 -Discrete Mathematics, Richard Johnsonabaugh, Pearson , 2009
Electronic References, Websites	

## Course Description Form ( Educational psychology )

<b>1. Course Name: Educational psychology</b>	
<b>2. Course Code: –</b>	
<b>3. Semester / Year: Annual/ 2023 – 2024</b>	
<b>4. Description Preparation Date: 5/11/2023</b>	
<b>5. Available Attendance Forms: weekly</b>	
<b>6. Number of Credit Hours (Total) / Number of Units (Total): 90</b>	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Lect. Dhuha Mubder Email: Dhuhaalmubder@gmail.com	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Educating the new generation about the importance of educational psychology in our lives. It concerns our future and the future of our country in terms of its concept and fields.</li> <li>2. The new generation can learn about the importance of educational psychology and its relationship with society, culture, heritage, environment, and others.</li> <li>3. Introducing the student to the concepts of educational psychology and its great importance</li> </ol>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- The method of eloquence</li> <li>2- Preparing study plans</li> <li>3- Oral discussion</li> </ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	The origins and development of educational	Lectures	Discussion
3-4	4	The student must understand the topic	psychology Its definition and objectives	Lectures	Quiz
5-6	4	The student must understand the topic	Teaching and educational psychology	Lectures	Discussion
7-8	4	The student must understand the topic	Research methods in educational psychology	Lectures	Discussion
8-9	4	The student must understand the topic	Educational goals Educational goals	Lectures	Quiz
10-11	4	The student must understand the topic	Teaching objectives Motivation, its definition and functions Its types	Lectures	Discussion
12-13	4	The student must understand the topic	Explaining theories of motivation	Lectures	Quiz
14-16	6	The student must understand the topic	Motivation and teaching Learning, its definition, and its data	Lectures	Discussion
17-19	6	The student must understand the topic	Factors affecting learning	Lectures	Discussion
20-22	6	The student must understand the topic	Learning theories	Lectures	Quiz
23-24	4	The student must understand the topic	Pavlov's theory Thorndike's theory Skinner's theory	Lectures	Discussion
25-26	2	The student must understand the topic	Social learning theory Information processing theory Feedback, its definition and	Lectures	Quiz
27-28	2	The student must understand the topic	Teaching models Brunner, Kanet, Osbel memory	Lectures	Discussion
29	2	The student must understand the topic	Memory models Concepts	Lectures	Discussion
30	2	The student must understand the topic	Mechanism of acquisition	Lectures	Quiz



## 11. Course Evaluation

- 1-Observation
- 2- Written and oral tests.
- 3- Daily participation.
- 4- Attendance and regularity in lectures.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Educational psychology book for the first Stage.
Main references (sources)	Educational psychology by Zaghloul
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	Websites deal with Educational psychology

## Course Description Form

### ( The foundations of education )

1. Course Name: <b>The foundations of education</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: Weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Ali Sattar Email: alisattar9292@gmail.com	
8. Course Objectives	
<b>Course Objective</b>	<p>1–Enabling the student to know information about the foundations of education and its various and diverse topics.</p> <p>2–Enabling the student to use and apply everything he has learned correctly in reality.</p> <p>3–The student’s ability to synthesize partial information with relationships between them into wholes, from partial information to comprehensive information.</p>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<p>1-Oratory method.</p> <p>2- Preparing study plans.</p> <p>3- Oral discussion.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	The meaning and goals of education	Lectures	Discussion
3-4	4	The student must understand the topic	Historical basis of education	Lectures	Quiz
5-6	4	The student must understand the topic	Historical basis of education (ancient and Chinese)	Lectures	Discussion
7-8	4	The student must understand the topic	Historical basis (Arab education before Islam)	Lectures	Discussion
8-9	4	The student must understand the topic	The historical basis of Arab-Islamic education after Islam	Lectures	Quiz
10-11	4	The student must understand the topic	Arab Islamic educational thought	Lectures	Discussion
12-13	4	The student must understand the topic	Media of Western educational thought	Lectures	Discussion
14-16	6	The student must understand the topic	Modern education and its most prominent manifestations	Lectures	Quiz
17-19	6	The student must understand the topic	The relationship of education with society	Lectures	Discussion
20-22	6	The student must understand the topic	Social control theories	Lectures	Discussion
23-24	4	The student must understand the topic	Education and community culture	Lectures	Quiz
25-26	2	The student must understand the topic	The relationship between education and the environment	Lectures	Discussion
27-28	2	The student must understand the topic	Moral education in Arab Islamic thought	Lectures	Discussion
29	2	The student must understand the topic	Economic basis (definition and concept)	Lectures	Quiz
30	2	The student must understand the topic	The relationship between education and development	Lectures	Discussion
11. Course Evaluation					
1-Note 2- Written and oral tests. 3- Daily participation. 4- Attendance and regularity in lectures.					

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The foundations of education Book
Main references (sources)	-
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	Websites deals with foundations of education

## Course Description Form

### ( Human rights and democracy )

1. Course Name: <b>Human rights and democracy</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: Weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof.dr. Star Muhammad Allawi	
Email:	
8. Course Objectives	
Course Objectives	In order to educate the new generation about human rights and democracy, because of the great importance of these concepts, which is clearly evident in Iraq, because one of the most important reasons for the collapse of the security situation in Iraq is the lack of complete awareness of the importance of these concepts.
9. Teaching and Learning Strategies	
Strategy	1- The introductory method. 2- Oral discussions. 3-Reports and projects

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	8	The student must understand the topic	Freedom: its concept and controls, freedom among Arabs and Muslims, and controls of freedom in Islam.	Lectures	Discussion
5-8	8	The student must understand the topic	The concept of freedom in ancient freedoms, and the stages of their development in the Middle Ages and modern times	Lectures	Quiz
9-12	8	The student must understand the topic	Freedom in America, the theory of the social contract, and the separation of powers	Lectures	Discussion
13-16	8	The student must understand the topic	The dialectical relationship between freedom, rights recognition, and democracy	Lectures	Discussion
17-20	8	The student must understand the topic	Human rights and their characteristics, and human rights in ancient civilizations	Lectures	Discussion
21-24	8	The student must understand the topic	The concept of human rights in Islam, and its position on them	Lectures	Quiz
25-28	8	The student must understand the topic	Terms and concepts of international human rights law, the universality of human rights and their manifestations	Lectures	Discussion
29-30	4	The student must understand the topic	Democracy, its concept and forms, Islam's position on it, the concept of democracy of learning and socialization, and models of modern democracies.	Lectures	Discussion

## 11. Course Evaluation

- 1- Written or objective tests, quarterly or monthly.
- 2- Grades for research and reports related to the lecture.
- 3- Degrees of attendance and regularity in lectures.
- 4- Grades are awarded for daily participation.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Human rights, democracy and children's rights Human rights and democracy Book
Main references (sources)	Freedom Book: Prepared and translated Mahmoud Al-Hilali and Aziz Lazraq
Recommended books and references (scientific journals, reports...)	Human Rights Issues Magazine issued by the Arab Organization for Human Rights
Electronic References, Websites	Websites deal with Human rights

# Second Stage



## Course Description Form

( Data structures )

1. Course Name: <b>Data structures</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Rasha T. Hameed Email: rasha2015@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"><li>1. Enable the student to obtain detailed knowledge of data structures and to identify them and how to represent them</li><li>2. Enable the student to identify the types of data structures and how to represent them</li><li>3. Identify the types of algorithms used to represent a particular graphic structure</li><li>4. Enable the student to identify the sorting and research methods that are applied to the data.</li></ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"><li>1- Theoretical presentation of the course vocabulary.</li><li>2- Classroom group discussions for practical examples.</li><li>3- Practical application in the laboratory using packet tracer software.</li></ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	understand the definition of data structure	Introduction to data structures - their definition - types of structures and how to choose the appropriate graphic structure	Theoretical + practical application	Discussion
3-4	4 theoretical + 4 Practical	understand arrays	Arrays and how to represent it	Theoretical + practical application	Quiz
5	2 theoretical + 2 Practical	understand the structure	Structure and how to represent it	Theoretical + practical application	Discussion
6-7	4 theoretical + 4 Practical	understand stack	Introduction to the stack and how to represent it using arrays	Theoretical + practical application	Discussion and direct evaluation
8-9	4 theoretical + 4 Practical	understand the converting infix to postfix	Converting infix to postfix using stack.	Theoretical + practical application	Discussion
10-11	4 theoretical + 4 Practical	understand queue	the queue and the method of representation it	Theoretical + practical application	Quiz
12-13	4 theoretical + 4 Practical	understand circular queue	Introduction to the circular queue and how to represent it	Theoretical + practical application	Discussion
14-15	4 theoretical + 4 Practical	Understanding of sequential and dynamic storage	Define sequential and dynamic storage, indicate the advantages and disadvantages of each type, compare them, and how to use pointers	Theoretical + practical application	Quiz
16-17	4 theoretical + 4 Practical	understand the linked list	Introduction to linked lists and methods of adding and deleting nodes	Theoretical + practical application	Discussion

18-19	4 theoretical + 4 Practical	The student must understand the topic	Introduction to circular linked lists and ways to represent them	Theoretical + practical application	Quiz
20-21	4 theoretical + 4 Practical	The student must understand the topic	Define the linked stack and the operations that can be performed on it and its algorithm	Theoretical + practical application	Discussion
22-23	4 theoretical + 4 Practical	The student must understand the topic	Define the linked queue and the operations that can be performed on it and its algorithms	Theoretical + practical application	Quiz
24-25	4 theoretical + 4 Practical	understand the tree	Defining the tree and clarifying its concepts and types	Theoretical + practical application	Discussion
26-27	4 theoretical + 4 Practical	The student must understand the topic	Explanation of search algorithm	Theoretical + practical application	Quiz
28-30	6 theoretical + 6 Practical	understand the sorting algorithm	Explanation of sorting algorithm	Theoretical + practical application	Discussion

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1-Data Structure and Algorithm Analysis in C++, by: Mark Allen -2 Weiss, 2006
Main references (sources)	Data structures and other objects using C++,by Michael Main and -3 Walter Savitch, 2011

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	<a href="https://www.geeksforgeeks.org/data-structures">https://www.geeksforgeeks.org/data-structures</a>

## Course Description Form

( Entity programming )

1. Course Name: <b>Entity programming</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Lect. Mohammed Al-Janabi Email: mohammed.aljanabi@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"><li>1. Enable the student to learn about object-oriented programming</li><li>2. Enable the student to know the basic concepts of object-oriented programming. Object, class, data abstraction, inheritance, encapsulation, polymorphism</li><li>3. Enable the student to identify the methods of using object-oriented programming</li><li>4. Enable the student to use the C++ programming language and know instructions and functions.</li></ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"><li>1- Theoretical presentation of the course vocabulary.</li><li>2- Classroom group discussions for practical examples.</li><li>3- Practical application in the laboratory using packet tracer software.</li></ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	C++ Review (Program structure, namespace, identifiers, variables, constants, operators, typecasting, control structures and functions)	theoretical offer With help with charts Explanatory + practical lectures	Achievement test + Discussion and question
3	2 theoretical + 2 Practical	The student must understand the topic	Introduction to Object-Oriented Programming in C++.	theoretical offer With help with charts Explanatory+ practical lectures	Quiz
4-8	10 theoretical + 10 Practical	The student should be able to analyze, design and implement software	Objects and Classes (Basics of objects and class in C++, private and public members, static data and function members, constructors and their types, destructors and operator overloading).	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
9-14	12 theoretical + 12 Practical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Inheritance (Concepts of Inheritance, types of inheritance: single, multiple, multilevel, hierarchical, hybrid, protected members, overriding, virtual base class).	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
15-19	10 theoretical + 10 Practical	The student should be able to understand, design and apply programming	Polymorphism (Pointers in C++, Pointes and Objects, this pointer, virtual and pure virtual functions, Implementing polymorphism).	theoretical offer With help with charts Explanatory+ practical lectures	Discussion
20-24	10 theoretical + 10 Practical	The student should be able to deal with files in their various forms to store and retrieve data	(Concepts of streams, cin and cout objects, C++ stream classes, Unformatted and formatted I/O, manipulators, File stream, C++ File stream classes, File management functions, File modes, Binary and random files).	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
25-30	12 theoretical + 12 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Templates, Exceptions and STL (What is template? function templates and class templates, Introduction to exception, try-catch-throw, multiple catch, catch all, rethrowing user defined exceptions, Overview and use of Standard Template Library).	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	"Object-Oriented Programming in C++", 4th Edition, Robert Lafore, Sams Publishing, 2002.
Main references (sources)	Programming Essentials in C++", C++ INSTITUTE, 2016.
Recommended books and references (scientific journals, reports...)	"C++ Tutorial", tutorialspoint.
Electronic References, Websites	<a href="https://www.tutorialspoint.com/cplusplus/index.htm">https://www.tutorialspoint.com/cplusplus/index.htm</a>

## Course Description Form

### ( Microprocessors )

1. Course Name: <b>Microprocessors</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name) Name: Dr. Rasha T. Hameed Email: rasha2015@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"><li>1. Teaching students basic computer components.</li><li>2. Teaching the student the microprocessor and its types, and as a case study, he takes the microprocessor 8086 and explains its components from the view of the software.</li><li>3. Explanation of the basic components of the 8086 with the internal structure Registers , flags, ALU ( with size, function and addressing modes.</li><li>4. Learn the instructions set and convert it from assembly language to hex code.</li><li>5. Learn how to write programs in assembly language.</li><li>6. Teaching students the hardware components , interfacing , and how connect the 8086 processor with memory and the necessary ICs connectivity.</li></ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"><li>1- Theoretical presentation of the course vocabulary.</li><li>2- Classroom group discussions for practical examples.</li><li>3- Practical application in the laboratory using packet tracer software.</li></ol>



## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4h	The student must understand the topic	Identify the components of the computer hardware and software and each part of the basic components Learn the hardware parts of the bus CPU, I/O, memory, Identify the parts of the microprocessor and take the 8086, 8088 as a case study The main parts of the 8086 ( BIU , EU ( and components of each ) segment register, instruction queue, flags, registers	Lectures	Discussion
3-6	12h	The student must understand the topic	how they are calculated and their function ) segment offset, start, physical ( Learn the assembly statement and its parts (label: instruction: comment) Learn the components of the directive ) opcode, operands ( Learn the location of operands and addressing modes ) immediate register, memory ( Learn the types of memory address modes	In addition to programming in the kit and simulation program	Quiz
7-10	12h	The student must understand the topic	Learn to transcode MOV, XCHG, XLAT, LEA, LES, LDS and directives that deal with string	In addition to programming in the kit and simulation program	Discussion
11-15	16h	The student must understand the topic	Learn addition and subtraction commands and their effect on the flag register DEC, SBB, SUB, INC, ADC, ADD Learn multiplication and division instructions MUL, IMUL, DIV, IDIV Learn logical instructions and their impact on the flag register AND, OR, XOR, NEG Rotate, Shift	In addition to programming in the kit and simulation program	Quiz
16-18	8h	The student must understand the topic	Learn the directives that affect the way the program works and its applications, such as implementing conditions or repetition Learn jump signals and their types Learn to instruct CALL and RET to execute the subroutine Loop instructions and types	In addition to programming in the kit and simulation program	Discussion
19-20	6h	The student must understand the topic	Learn the hardware of the 8088/8086 , the pin configuration of the 8086 and the function of each pin Learn the minimum, maximum modes of the 8086 Learn the clock cycle and the speed	In addition to programming in the kit and simulation program	Quiz
21-22	6h	The student must understand the topic	Learn how to connect the 8086 with the memory and the ICs used to separate data from address lines and the ICs used for the	In addition to programming in the kit and simulation program	Discussion

23-25	9h	The student must understand the topic	The service locations address for each interrupt	In addition to programming in the kit and simulation program	Quiz
26-28	9h	The student must understand the topic	Direct Memory Access and do HOLD and HLDA And the work of the DMA Controller	In addition to programming in the kit and simulation program	Discussion
29-30	8 h	The student must understand the topic	the ICs used to separate data from address lines and the ICs used for the	In addition to programming in the kit and simulation program	Quiz

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The 8086 and 8086 microprocessors; programming interfacing, HW, application by Walter A. Tricbel
Main references (sources)	The intel Microprocessors 8086 / 8088 ... by Barry B. Brey
Recommended books and references (scientific journals, reports...)	Scientific journals in the specialty
Electronic References, Websites	Websites specialized in studying the article 8086 hardware interfacing, 8086 programming tutorial

## Course Description Form ( Numerical Analysis )

1. Course Name: <b>Numerical Analysis</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Shaemaa Qaes Latif Email: shaemaaqaes93@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	1 Introducing students to numerical methods in advanced mathematics. 2. Enabling students to solve advanced equations.
1. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary.  2- Classroom group discussions for practical examples.  3- Practical application in the laboratory using packet tracer software.

2. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	The student must understand the topic	Types of errors	Theoretical + practical	Discussion
2	4	The student must understand the topic	Sol. of deferential equations	Theoretical + practical	Quiz
3	4	The student must understand the topic	False position, Secant method	Theoretical + practical	Discussion
4	4	The student must understand the topic	Newton Raphson method	Theoretical + practical	Quiz
5	4	The student must understand the topic	Fixed point interactive method	Theoretical + practical	Discussion
6	4	The student must understand the topic	Numerical solution of set of equation	Theoretical + practical	Quiz
7	4	The student must understand the topic	Gaussian elimination method	Theoretical + practical	Discussion
8	4	The student must understand the topic	Gauss Jordan method	Theoretical + practical	Quiz
9	4	The student must understand the topic	Jacobi method	Theoretical + practical	Discussion
10	4	The student must understand the topic	Gauss Seidel method	Theoretical + practical	Quiz
11	4	The student must understand the topic	Lagrange interpolation method	Theoretical + practical	Discussion
12	4	The student must understand the topic	Calculus of finite differences	Theoretical + practical	Quiz
13	4	The student must understand the topic	Forward and Backward differences	Theoretical + practical	Discussion
14	4	The student must understand the topic	Divided differences	Theoretical + practical	Quiz
15	4	The student must understand the topic	Half year break	Theoretical + practical	Discussion
16	4	The student must understand the topic	Numerical integration	Theoretical + practical	Quiz
17	4	The student must understand the topic	Trapezoidal method	Theoretical + practical	Discussion
18	4	The student must	Simpsons method 1/3	Theoretical	Quiz

		understand the topic		+ practical	
19	4	The student must understand the topic	Simpsons method 3/8	Theoretical + practical	Discussion
20	4	The student must understand the topic	Boots method	Theoretical + practical	Quiz
21	4	The student must understand the topic	Weddles method	Theoretical + practical	Discussion
22	4	The student must understand the topic	Taylor method	Theoretical + practical	Quiz
23	4	The student must understand the topic	Euler method	Theoretical + practical	Discussion
24	4	The student must understand the topic	Rung Kutta method	Theoretical + practical	Quiz
25	4	The student must understand the topic	Rung Kutta method	Theoretical + practical	Discussion
26	4	The student must understand the topic	High order differential method	Theoretical + practical	Quiz
27	4	The student must understand the topic	High order differential method	Theoretical + practical	Discussion

### 3. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

### 4. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to numerical analysis (Dr. Ahmed Saleh Al-Alusi, Dr. Adel Ranil Al-Bayati) 1989
Main references (sources)	Numerical Methods, (P. Kandasamy, K. Thilagavathy, and K. Gunavathy) 2009
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites deal with Numerical

## Course Description Form

### ( Analysis of systems and databases )

1. Course Name: <b>Analysis of systems and databases</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Mohanad Ghazi Yaseen	
Email: Mohanad.Yaseen@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	The main purpose of the course is to understand the principles of analysis and design of information systems, stages of studying the system, types systems, system design, implementation and evaluation.
9. Teaching and Learning Strategies	
<b>Strategy</b>	<p>1- Theoretical presentation of the course vocabulary.</p> <p>2- Classroom group discussions for practical examples.</p> <p>3- Practical application in the laboratory using packet tracer software.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	8	The student must understand the topic	Introduction to Information systems	Lectures	Discussion
5-8	8	The student must understand the topic	Information system concepts	Lectures	Quiz
9-15	14	The student must understand the topic	Types and components of Inf. systems	Lectures	Discussion
16-17	4	The student must understand the topic	output design	Lectures	Quiz
18-19	4	The student must understand the topic	Input design	Lectures	Discussion
20-25	12	The student must understand the topic	File design & processing design	Lectures	Quiz
26-30	10	The student must understand the topic	Implementation & Evaluation	Lectures	Discussion

### 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	David Bemyon,(2000),”Informatition and data modeling”
Main references (sources)	Capron, H,L, (1996),”System Analysis and Design
Recommended books and references (scientific journals, reports...)	Parkin Andrew,(1990),”System Analysis”
Electronic References, Websites	Websites deal with Analysis of systems

## Course Description Form ( Computational theory )

1. Course Name: <b>Computational theory</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 90	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. dr.Mohammed I. Ahmed	
Email: mohamed672005@yahoo.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. The students able to understand the general concepts in building Programming languages.</li> <li>2. It also enables the student to know the various operations that take place in languages. It is also possible</li> <li>3. The student is able to know the basics of FA, as well as the rules used in building programming languages and how to derive them.</li> </ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> </ol>



10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	The student must understand the topic	Set, Strings, alphabets and languages	Lectures	Discussion
3-4	2	The student must understand the topic	The Chomsky hierarchy languages.	Lectures	Quiz
4-6	2	The student must understand the topic	The regular grammars and regular languages. Pumping lemma on regular languages	Lectures	Discussion
7-8	2	The student must understand the topic	Closure properties of regular sets(union, catenation and Kleene closure	Lectures	Quiz
9-10	2	The student must understand the topic	regular expression, closure properties of regular languages(intersection, complementation and substitution)	Lectures	Discussion
11-12	2	The student must understand the topic	Decision procedures for regular sets( emptiness, finiteness, containment and equivalence	Lectures	Quiz
13-14	2	The student must understand the topic	Finite state automata, Definition	Lectures	Discussion
15-16	2	The student must understand the topic	deterministic and nondeterministic finite state automata	Lectures	Quiz
17-18	2	The student must understand the topic	equivalence between deterministic and nondeterministic finite state automata	Lectures	Discussion
19-20	2	The student must understand the topic	Finite state automata with empty move	Lectures	Quiz
21-22	2	The student must understand the topic	Finite state automata with output( The Moore and Mealy Machine)	Lectures	Discussion
23-24	2	The student must understand the topic	The equivalence between Moore and Mealy machine.	Lectures	Quiz
25-26	2	The student must understand the topic	Exam	Lectures	
27-28	2	The student must understand the topic	Context-free grammars and languages	Lectures	Quiz
29-30	2	The student must understand the topic	context free grammar with empty string production	Lectures	Discussion

### 11. Course Evaluation

1- Achievement test with the concepts below:

A- The paragraphs with the selected answer.

B- Synthetic questions (answering is done by understanding the information

available in the question form and in illustrative forms).

C- Multiple choice paragraphs.

D- Homework and class assignments.

- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Elementary Computability, Formal Languages and Automata
Main references (sources)	Introduction to the Theory of Computation, by Michael Sipser, 2006.
Recommended books and references (scientific journals, reports...)	Introduction to Computer Theory. By Daniel A.Cohen. Prentice-Hall, Second Edition, 1997
Electronic References, Websites	Applied Numerical Analysis using Matlab

## Course Description Form

### ( Research method )

1. Course Name: <b>Research method</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Jinan Mohamad Hasan Email: Jinan.M.hasan@iraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Get to know the concept of scientific research and understand its characteristics, components, and role in the progress and development of countries.</li> <li>2. Identify the concept of the scientific method, the types of scientific research methods, understand their objectives, and the steps followed in Each method, as well as the advantages and disadvantages of each method.</li> <li>3. Know the concept of scientific thinking and its characteristics, and realize the most prominent obstacles that prevent its adoption as a way of life. and prevailing culture in societies.</li> <li>4. This course description provides a succinct summary of the most important course characteristics and the learning outcomes the student is expected to achieve Demonstrating whether they have made the most of the learning opportunities available.</li> </ol>
1. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> </ol>

2. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	The student must understand the topic	Science and its goals	Lectures	Discussion
3-4	2	The student must understand the topic	Characteristics of scientific research A good scientific researcher	Lectures	Quiz
5-6	2	The student must understand the topic	Blind thinking and thinking steps	Lectures	Discussion
7-8	2	The student must understand the topic	Components of scientific research: introduction, title, and sources	Lectures	Quiz
9-10	2	The student must understand the topic	Good problem specifications and definition	Lectures	Discussion
11-12	2	The student must understand the topic	Exam	Lectures	Quiz
13-14	2	The student must understand the topic	Determine the importance of scientific research	Lectures	Discussion
15-16	2	The student must understand the topic	Literature review of the study	Lectures	Quiz
17-18	2	The student must understand the topic	Scientific research procedures	Lectures	Discussion
19-20	2	The student must understand the topic	Types of blind research methods	Lectures	Quiz
21	2	The student must understand the topic	Blind search steps	Lectures	Discussion
22	2	The student must understand the topic	Practical example	Lectures	Quiz
23	2	The student must understand the topic	Scientific research variables	Lectures	Discussion
24	2	The student must understand the topic	Data collection methods	Lectures	Quiz
25	2	The student must understand the topic	The concept of questionnaire and its types	Lectures	Discussion
26	2	The student must understand the topic	Application of the questionnaire	Lectures	Quiz
27	2	The student must understand the topic	Note design steps Testing and types of testing	Lectures	Discussion
28	2	The student must understand the topic	Classification and tabulation of data	Lectures	Quiz
29	2	The student must understand the topic	The importance of scientific statistics and its methods	Lectures	Discussion
30	2	The student must understand the topic	Writing scientific research	Lectures	Quiz

<b>3. Course Evaluation</b>	
1- Observation 2- Written and oral tests. 3- Daily participation. 4- Attendance and regularity in lectures.	
<b>4. Learning and Teaching Resources</b>	
Required textbooks (curricular books, if any)	1.Daoud, Aziz Hanna and Abdul Rahman, Anwar Hussein (1991): Methods Educational research, Ministry of Higher Education and Scientific Research, University Baghdad, Baghdad
Main references (sources)	2.Abu Huwajj, Marwan, and others, (1111): Educational curricula, Contemporary Concepts, Elements, Foundations and Operations, 0th ed Dar Al-Am and Al-Thaqafa for publishing and distribution.
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	Websites : Atwan, Asaad Hussein and Yousef Khamil Matar (2012) Curricula Scientific research.

## Course Description Form ( Developmental Psychology )

<b>1. Course Name: Developmental Psychology</b>	
<b>2. Course Code: -</b>	
<b>3. Semester / Year: Annual/ 2023 - 2024</b>	
<b>4. Description Preparation Date: 5/11/2023</b>	
<b>5. Available Attendance Forms: weekly</b>	
<b>6. Number of Credit Hours (Total) / Number of Units (Total): 60</b>	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Lect. Duha Jabbar Email: DhuhaALmubder@gmail.com	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>1- Arriving at the specific concepts of the academic subject.</li> <li>2- Forming scientific concepts about the academic subject.</li> <li>3- The student must have attitudes and values about the subject.</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<ul style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> </ul>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Developmental psychology, its definition, its relationship to other sciences, its	Lectures	Discussion
3-4	4	The student must understand the topic	General characteristics growth or general	Lectures	Quiz
5-6	4	The student must understand the topic	Factors affecting growth: genetics and environmental factors Physical growth	Lectures	Discussion
7-8	4	The student must understand the topic	development Mental development	Lectures	Quiz
9-10	4	The student must understand the topic	Emotional growth Social growth Physical growth Congenital growth	Lectures	Discussion
11-12	4	The student must understand the topic	Mental development Emotional and social development	Lectures	Quiz
13-14	4	The student must understand the topic	The difference between growth, survival and development	Lectures	Discussion
15-16	4	The student must understand the topic	Factors affecting growth	Lectures	Quiz
17-18	4	The student must understand the topic	Psychological tests Evolutionary studies	Lectures	Discussion
19-20	4	The student must understand the topic	The concept of the problem: normal behavior and abnormal behavior	Lectures	Quiz
21-22	4	The student must understand the topic	Problems related to the stages of childhood,	Lectures	Discussion
23-24	4	The student must understand the topic	The concept of the problem: normal behavior and abnormal behavior	Lectures	Quiz
25-26	4	The student must understand the topic	The concept of the problem: normal behavior and abnormal behavior	Lectures	Discussion
27-28	4	The student must understand the topic	Problems related to childhood stages, a general introduction (aggression, fear,	Lectures	Quiz
29	2	The student must understand the topic	a general introduction (aggression, fear, abused children)	Lectures	Discussion
30	2	The student must understand the topic	Types of research Socialization Adolescent family school	Lectures	Quiz

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	-
Main references (sources)	1.Fundamentals of evolutionary psychology, written by Hassan Shafiq Falah 1989 2.Developmental Psychology for Non-specialized Departments (Professor Dr. Walid Qahtan Mahmoud and Dr. Ahmed Nasr Mubarak) 2021
Recommended books and references (scientific journals, reports...)	Developmental Psychology, Imad Hussein Murshedy
Electronic References, Websites	Websites deal with Developmental Psychology



## Course Description Form

( Secondary education and educational management )

1. Course Name: <b>Secondary education and educational management</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name) Name: Ass. Lect. Miami Ali Dawood Email: myamy1453@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	1- Acquiring knowledge and experiences in an organized and planned manner. 2- Linking the education process with society. 3- Equal opportunities for all students.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Definition of secondary education	Lectures	Discussion
3-4	4	The student must understand the topic	Objectives of the secondary stage Organizing education at the secondary level	Lectures	Quiz
5-6	4	The student must understand the topic	Educational incentives in secondary education Educational innovations in Iraq	Lectures	Discussion
7-8	4	The student must understand the topic	Characteristics of secondary teacher	Lectures	Quiz
9-10	4	The student must understand the topic	Some experiences of countries around the world in secondary education (America, Britain, France)	Lectures	Discussion
11-12	4	The student must understand the topic	Management concept and its development Elements of educational administration	Lectures	Quiz
13-14	4	The student must understand the topic	Centralization and decentralization in educational administration	Lectures	Discussion
15-16	4	The student must understand the topic	Advantages and advantages of the centralized educational system	Lectures	Quiz
17-18	4	The student must understand the topic	Disadvantages of the centralized educational system	Lectures	Discussion
19-20	4	The student must understand the topic	Factors affecting educational administration in terms of centralization and decentralization	Lectures	Quiz
21-22	4	The student must understand the topic	The concept of educational supervision and its importance	Lectures	Discussion
23-24	4	The student must understand the topic	Objectives of educational supervision	Lectures	Quiz
25-26	4	The student must understand the topic	Functions of educational supervision	Lectures	Discussion

			Foundations of educational supervision		
27-28	4	The student must understand the topic	Advantages of modern educational supervision	Lectures	Quiz
29	2	The student must understand the topic	Questions about educational supervision	Lectures	Discussion
30	2	The student must understand the topic	Specifications for selecting educational supervisor	Lectures	Quiz

### 11. Course Evaluation

- 1- Observation
- 2- Written and oral tests.
- 3- Daily participation.
- 4- Attendance and regularity in lectures.

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	-
Main references (sources)	Books in supervision in secondary education
Recommended books and references (scientific journals, reports...)	Books on educational administration and supervision in secondary education
Electronic References, Websites	Websites deal with secondary education

# Course Description Form

( English )

1. Course Name: <b>English</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 30	
7. Course administrator's name (mention all, if more than one name)	
Name: Lect. Dr. Omar Raad	
Email:	
8. Course Objectives	
<b>Course Objectives</b>	<p>1. The aim of this course is to take learners smoothly from one topic to another, to enable them to communicate with other speakers of English in real life situations.</p> <p>2- Another aim of this course is to demonstrate how English is used in real life situations, thus, enabling learners' to use it in meaningful contexts.</p> <p>3- The other aim is to build the learners' ability to communicate their ideas fluently, accurately and confidently.</p> <p>4- The topics have been carefully selected to motivate learners and stimulate Learning</p>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<p>1- Theoretical presentation of the course vocabulary.</p> <p>2- Classroom group discussions for practical examples.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	The tenses & compound words	Lectures	Discussion
3-4	4	The student must understand the topic	The Tenses & Hot verbs – make, do	Lectures	Quiz
5-6	4	The student must understand the topic	The Tenses (Past Simple, Past Continuous and Past Perfect)	Lectures	Discussion
7-8	4	The student must understand the topic	Narrative tenses	Lectures	Quiz
9-10	4	The student must understand the topic	The tenses (future tense)	Lectures	Discussion
11-12	4	The student must understand the topic	Expressions of Quantity	Lectures	Quiz
13-14	4	The student must understand the topic	Everyday English	Lectures	Discussion
15-16	4	The student must understand the topic	Object and Subject Questions In English	Lectures	Quiz
17-18	4	The student must understand the topic	Writing a formal letter email	Lectures	Discussion
19-20	4	The student must understand the topic	Being polite and over the phone	Lectures	Quiz
21-22	4	The student must understand the topic	Describing places	Lectures	Discussion
23-24	4	The student must understand the topic	Report writing	Lectures	Quiz
25-26	4	The student must understand the topic	Hot verbs-put	Lectures	Discussion
27-28	4	The student must understand the topic	Hot verbs-Take	Lectures	Quiz
29	2	The student must understand the topic	Expression habit	Lectures	Discussion
30	2	The student must understand the topic	Everyday English	Lectures	Quiz
11. Course Evaluation					
<p>1- Achievement test with the concepts below:</p> <ul style="list-style-type: none"> <li>A- The paragraphs with the selected answer.</li> <li>B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).</li> <li>C- Multiple choice paragraphs.</li> <li>D- Homework and class assignments.</li> </ul> <p>2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.</p>					

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	New Headway Upper Intermediate (4th ed) Student's Book by Liz and John
Main references (sources)	1- Brion,A. and Ingrid,F( 1999).Developing Strategies:An Integrated Language Course For Intermediate Students (Twenty third impression).Longman Group U.K. Limited. 2- Ian Gordon.(2003). English Reading and Comprehension: Macmillan Education LTD. London and Oxford.
Recommended books and references (scientific journals, reports...)	Lane, A. and Lange, E. (1999). Writing Clearly: An Editing Guide (2nd ed.). Boston: Heinle and Heinle Publishers.
Electronic References, Websites	<a href="http://www.agendaweb.org/verb.htm">http://www.agendaweb.org/verb.htm</a>

## Course Description Form

### ( Baath Party Crimes in Iraq )

1. Course Name: <b>Baath Party Crimes in Iraq</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 32	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Jinan Mohamad Hasan	
Email: jinan.M.hasan@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	Giving the student a complete idea of the history of the Baath regime Iraq over its four decades and the conditions that the Iraqi people experienced under its rule.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student must understand the topic	The concept of crimes and their types	Lectures	Discussion
2-3	4	The student must understand the topic	Crimes of the Baath regime according to the Iraqi Criminal Court Law 2005 + Types of crimes	Lectures	Quiz
4-5	4	The student must understand the topic	Decisions issued by the Supreme Criminal Court The crime of executing Iraqi merchants	Lectures	Discussion
6-7	4	The student must understand the topic	The crime of suppressing the Shaabani uprising Liquidation of religious parties	Lectures	Quiz
8-9	4	The student must understand the topic	The crime of displacing the Faili Kurds	Lectures	Discussion
10-11	4	The student must understand the topic	Psychological and social crimes and their effects	Lectures	Quiz
12-13	4	The student must understand the topic	Mechanisms of psychological crimes and their effects	Lectures	Discussion
14-15	4	The student must understand the topic	The Baathist regime's position religion	Lectures	Quiz
16-17	4	The student must understand the topic	Exam	Lectures	Discussion
18-19	4	The student must understand the topic	Violating laws	Lectures	Quiz
20-21	4	The student must understand the topic	Pictures of human rights violations crimes of power	Lectures	Discussion
22-23	4	The student must understand the topic	Prison and detention places of Baath regime	Lectures	Quiz
24-25	4	The student must understand the topic	Chronological classification genocide graves	Lectures	Discussion
26-27	4	The student must understand the topic	The events of genocide graves committed by the Baathist regime in Iraq	Lectures	Quiz
28-29	4	The student must understand the topic	Exam	Lectures	Discussion
30	4	The student must understand the topic	Environmental crimes of the Baath regime Military and radioactive	Lectures	Quiz
11. Course Evaluation					
<p>1- Achievement test with the concepts below:</p> <p>A- The paragraphs with the selected answer.</p> <p>B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).</p> <p>C- Multiple choice paragraphs.</p> <p>D- Homework and class assignments.</p>					



2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Ihsan Hindi, Laws of Military Occupation, Archives of the Martyrs Foundation, Salim Matar, Encyclopedia of the Iraqi Environment, Ali Hanoush, Iraq's Present Problems and Future Options
Main references (sources)	Recommended books and references: scientific journals, periodicals, and research in the specialty
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Electronic references

# Third Stage

## Course Description Form

( Artificial intelligence )

1. Course Name: <b>Artificial intelligence</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Hind Salman Hassan	
Email: hind.hasan@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	Learn how to automate of intelligent behavior towards machine translation, AI is a part of Computer Science and it applies the principles of CS such as data structures used in knowledge representation, the algorithms needed to apply that knowledge and the languages and programming techniques used in their implementation.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples. 3- Practical application in the laboratory using packet tracer software.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student must understand the topic	AI Introduction, Definition, scientific Goals of AI, Intelligent Agent.	Theoretical + practical	Discussion
2	2	The student must understand the topic	AI Applications, Programming, Generic Techniques Development,	Theoretical + practical	Quiz
3	2	The student must understand the topic	Logic, Syntax and Semantics, Predicates, Connectives, Constants,	Theoretical + practical	Discussion
4	2	The student must understand the topic	Functions, Variables and Quantifiers.	Theoretical + practical	Quiz
5	2	The student must understand the topic	Translating From English to First Order Logic (FOL).	Theoretical + practical	Discussion
6	2	The student must understand the topic	Exam 1	Exam	Quiz
7	2	The student must understand the topic	Translating From FOL to English, Logic Representation: Horn Clauses, Atomic Sentence, Literal, Clause.	Theoretical + practical	Discussion
8	2	The student must understand the topic	Production Rule representations.	Theoretical + practical	Quiz
9	2	The student must understand the topic	Knowledge Representation in Natural Language.	Theoretical + practical	Discussion
10	2	The student must understand the topic	Equivalences and Rewrite Rules: Commutativity, Associativity	Theoretical + practical	Quiz
11	2	The student must understand the topic	Negation, De Morgan's Laws, Contraposition and Other equivalences,	Theoretical + practical	Discussion
12	2	The student must understand the topic	Common Identities.	Theoretical + practical	Quiz
13	2	The student must understand the topic	Exam 2	Exam	Discussion
14	2	The student must understand the topic	Unary Predicate: Converting Unary Predicates to Binary Predicates, Skolemization, Unification.	Theoretical + practical	Quiz
15	2	The student must understand the topic	Conjunctive Normal Form (CNF).	Theoretical +	Discussion

				practical	
16	2	The student must understand the topic	AI Introduction, Definition, scientific Goals of AI, Intelligent Agent.	Theoretical + practical	Quiz
17	2	The student must understand the topic	Conceptual Graph: Propositional Nodes, Negation Conceptual Graph, Universally Quantifier Representation.	Theoretical + practical	Discussion
18	2	The student must understand the topic	Conversion of Conceptual Graph into FOL (WFF).	Theoretical + practical	Quiz
19	2	The student must understand the topic	Conversion of Conceptual Graph into FOL (WFF).	Theoretical + practical	Discussion
20	2	The student must understand the topic	Generalization and Specification of Conceptual Graph.	Theoretical + practical	Quiz
21	2	The student must understand the topic	Semantic Networks,	Theoretical + practical	Discussion
22	2	The student must understand the topic	Frames, Search Techniques: Depth First Search	Theoretical + practical	Quiz
23	2	The student must understand the topic	Breadth First Search.	Theoretical + practical	Discussion
24	2	The student must understand the topic	Exam2	Exam	Quiz
25	2	The student must understand the topic	Expert system (ES): Introduction, Architecture, ES's	Theoretical + practical	Discussion
26	2	The student must understand the topic	Applications, Machine Learning.	Theoretical + practical	Quiz
27	2	The student must understand the topic	Control Strategy: Backward and Forward	Theoretical + practical	Discussion
28	2	The student must understand the topic	Heuristic Search: Hill Climbing, Best First Search, A* Algorithm.	Theoretical + practical	Quiz
29	2	The student must understand the topic	Review	Theoretical + practical	Discussion
30	2	The student must understand the topic	Solving Problem	Theoretical + practical	Quiz

## 11. Course Evaluation

1- Achievement test with the concepts below:

A- The paragraphs with the selected answer.

B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).

C- Multiple choice paragraphs.

D- Homework and class assignments.

- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Artificial Intelligence, by Melanie Mitchell (2019)
Main references (sources)	Artificial Intelligence: A Guide for Thinking Humans, Melanie Mitchell, 2019
Recommended books and references (scientific journals, reports...)	Artificial Intelligence and Product Management (eBook)
Electronic References, Websites	Websites deal with Artificial Intelligence

## Course Description Form ( Compiler )

1. Course Name: <b>Compiler</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Hind Salman Hassan	
Email: <a href="mailto:hind.hasan@aliraqia.edu.iq">hind.hasan@aliraqia.edu.iq</a>	
8. Course Objectives	
<b>Course Objectives</b>	Introducing the student to the six basic stages of the compiler and how each stage works in order to reach an understanding of how to convert source code into an understandable program for the computer.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples. 3- Practical application in the laboratory using packet tracer software.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	The student must understand the topic	Introduction to compiler	Theoretical and practical	Discussion
2	4	The student must understand the topic	Compiler and interpreter	Theoretical and practical	Quiz
3	4	The student must understand the topic	Compiler stage	Theoretical and practical	Discussion
4	4	The student must understand the topic	Programming language	Theoretical and practical	Quiz
5	4	The student must understand the topic	Context free grammar	Theoretical and practical	Discussion
6	4	The student must understand the topic	Regular expression	Theoretical and practical	Quiz
7	4	The student must understand the topic	Lexical analyzer	Theoretical and practical	Discussion
8	4	The student must understand the topic	Design of lexical	Theoretical and practical	Quiz
9	4	The student must understand the topic	Parser	Theoretical and practical	Discussion
10	4	The student must understand the topic	Exam	Theoretical and practical	Quiz
11	4	The student must understand the topic	Intermediate code	Theoretical and practical	Discussion
12	4	The student must understand the topic	Code optimization	Theoretical and practical	Quiz
13	4	The student must understand the topic	Code generation table management	Theoretical and practical	Discussion
14	4	The student must understand the topic	Examples	Theoretical and practical	Quiz
15	4	The student must understand the topic	Left most derivation	Theoretical and practical	Discussion
16	4	The student must understand the topic	Right most derivation	Theoretical and practical	Quiz
17	4	The student must understand the topic	Ambiguous	Theoretical and practical	Discussion
18	4	The student must understand the topic	Parsing techniques	Theoretical and practical	Quiz
19	4	The student must understand the topic	Bottom-up parsing	Theoretical and practical	Discussion
20	4	The student must understand the topic	Shift reduce	Theoretical and practical	Quiz
21	4	The student must understand the topic	Operator precedence	Theoretical and practical	Discussion
22	4	The student must understand the topic	Examples	Theoretical and practical	Quiz
23	4	The student must understand the topic	Top-down parsing	Theoretical and practical	Discussion



24	4	The student must understand the topic	Problems with top-down parsing	Theoretical and practical	Quiz
25	4	The student must understand the topic	Left recursion	Theoretical and practical	Discussion
26	4	The student must understand the topic	Left factoring	Theoretical and practical	Quiz
27	4	The student must understand the topic	Back tracking	Theoretical and practical	Discussion
28	4	The student must understand the topic	Recursive descent	Theoretical practical	Quiz
29	4	The student must understand the topic	Predicative LL(1)	Theoretical and practical	Discussion
30	4		Exam		Exam

### 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computers and Translation, A translator's guide,
Main references (sources)	Best Practices in Teaching Translator Part 2
Recommended books and references (scientific journals, reports...)	In Other Words: A Coursebook on Translator, 2022
Electronic References, Websites	Websites deal with Computers and Translation

## Course Description Form

( Computer graphic )

1. Course Name: <b>Computer graphic</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Saad A. Abd Email: saadaaa2013@gmai.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"><li>1. Enabling the student to obtain detailed knowledge about the computer Graphic</li><li>2. The course aims to introduce students to the methods used in Computer Graphic and to describe their needs in order to automate and establish computer systems for them. The course also aims to process function, explore complex types of graphics, and understand the relationships between inputs to make a specific decision.</li></ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"><li>1- Theoretical presentation of the course vocabulary.</li><li>2- Classroom group discussions for practical examples.</li><li>3- Practical application in the laboratory using packet tracer software.</li></ol>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Introduction to Computer Graphics+	Theoretical and practical	Discussion
3-4	4	The student must understand the topic	Types of Computer Graphics+ Graphics Display System+ Scan Conversion + Coordinates of Computer System +	Theoretical and practical	Quiz
5-6	4	The student must understand the topic	Line+ Equation of a line+ Slope and Its Types + Sampling	Theoretical and practical	Discussion
7-8	4	The student must understand the topic	Line Generation Algorithms (DDA Algorithm+ Advantages+ Disadvantages)	Theoretical and practical	Quiz
9-10	4	The student must understand the topic	Line Generation Algorithms (Integer Bresenham's line drawing Algorithm Advantages+ Disadvantages)	Theoretical and practical	Discussion
11-12	4	The student must understand the topic	Line Generation Algorithms (General Bresenham's line drawing Algorithm Advantages+ Disadvantages)	Theoretical and practical	Quiz
13-14	4	The student must understand the topic	Circle Drawings+ Circle Generation Algorithm +	Theoretical and practical	Discussion
15-16	4	The student must understand the topic	Bresenham's Circle Drawing Algorithm	Theoretical and practical	Quiz
17-18	4	The student must understand the topic	Exam	Theoretical and practical	Discussion
19-20	4	The student must understand the topic	Bresenham's Circle Drawing Algorithm+ 8-Way Symmetry+ Advantages+ Disadvantages+	Theoretical and practical	Quiz
21-22	4	The student must understand the topic	Operation of matrix	Theoretical and practical	Discussion
23-24	4	The student must understand the topic	Ellipse Drawings + Determining the slope of a curve at the point of the tangency	Theoretical and practical	Quiz
25-26	4	The student must understand the topic	Inverse of matrix	Theoretical and practical	Discussion
27-28	4	The student must understand the topic	Mid-Point Ellipse Drawing Algorithm+ 4-Way Symmetry+	Theoretical and practical	Quiz
29	2	The student must understand the topic	Exam	Theoretical and practical	Discussion
30	2	The student must understand the topic	2D Geometric Transformations ( 2D Shear using Matrix Representation)+	Theoretical and practical	Quiz

## 11. Course Evaluation

1- Achievement test with the concepts below:

A- The paragraphs with the selected answer.

B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).

C- Multiple choice paragraphs.

D- Homework and class assignments.

- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer graphic, 2010 , J.D Foley & A.Dametal , "Introduction to Computer Graphic", Addison-Wesly,1993.
Main references (sources)	Introduction to Computer graphic, 2010
Recommended books and references (scientific journals, reports...)	Introduction to Computer graphic, , 2011 D.Hearn & M.P.Baker," Computer Graphics ",2nd Ed.,Prentice-Hall,1994.
Electronic References, Websites	Websites deal with Computer graphic

## Course Description Form ( Visual Programming )

<b>1. Course Name: Visual Programming</b>	
<b>2. Course Code: –</b>	
<b>3. Semester / Year: Annual/ 2023 – 2024</b>	
<b>4. Description Preparation Date: 5/11/2023</b>	
<b>5. Available Attendance Forms: weekly</b>	
<b>6. Number of Credit Hours (Total) / Number of Units (Total): 120</b>	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Prof. dr. Saba A. Salman Email: sabasalman2015@gmail.com	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Enabling the student to obtain detailed knowledge about the different types of Visual Programming.</li> <li>2. The aim of the module is to introduce to the students the topics that include Visual Programming and design, testing.</li> </ol>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> <li>3- Practical application in the laboratory using packet tracer software.</li> </ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	The student must understand the topic	Introduction to Visual basic	Theoretical and practical	Discussion
3-4	2	The student must understand the topic	Visual basic functions	Theoretical and practical	Quiz
5-6	2	The student must understand the topic	Getting to Know your application forms	Theoretical and practical	Discussion
7-8	2	The student must understand the topic	Button, label , text	Theoretical and practical	Quiz
9-10	2	The student must understand the topic	Function	Theoretical and practical	Discussion
11-12	2	The student must understand the topic	Characteristic function	Theoretical and practical	Quiz
13-14	2	The student must understand the topic	Properties table	Theoretical and practical	Discussion
15-16	2	The student must understand the topic	Exam	Theoretical and practical	Quiz
17-18	2	The student must understand the topic	Matrix and properties	Theoretical and practical	Discussion
19-20	2	The student must understand the topic	Operation of matrix	Theoretical and practical	Quiz
21-22	2	The student must understand the topic	Determinate	Theoretical and practical	Discussion
23-24	2	The student must understand the topic	Timer and its application	Theoretical and practical	Quiz
25-26	2	The student must understand the topic	VB and SQL	Theoretical and practical	Discussion
27-28	2	The student must understand the topic	Exam	Theoretical and practical	Quiz
29	2	The student must understand the topic	Evaluating what's been learned	Theoretical and practical	Discussion
30	2	The student must understand the topic		Theoretical and practical	Quiz
11. Course Evaluation					
<p>1- Achievement test with the concepts below:</p> <p>A- The paragraphs with the selected answer.</p> <p>B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).</p> <p>C- Multiple choice paragraphs.</p> <p>D- Homework and class assignments.</p> <p>2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.</p>					
12. Learning and Teaching Resources					

Required textbooks (curricular books, if any)	Introduction to programming, 2th_Edition
Main references (sources)	Introduction to programming, 2th_Edition
Recommended books and references (scientific journals, reports...)	Introduction to Visual Programming,2020
Electronic References, Websites	Websites deal with Visual Programming

## Course Description Form ( Computer architecture )

1. Course Name: <b>Computer architecture</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Omar A. Mohamad Email: engit2020@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<p>1.Enable the student to obtain detailed knowledge about the basics of the computer, its physical components, what are the levels of the computer, and how the computer architecture has developed.</p> <p>2.Enable the student to understand the ways of representing data within computer systems and for all integers and decimals, and what are the most important languages used in that.</p> <p>3.Enabling the student to acquire scientific and applied skill in knowing the types of processors, what are the types of memories, and how to compare them in terms of speed, efficiency, and cost.</p> <p>4.Giving the graduate student the necessary knowledge to carry out modernization and development on personal and private computers, and how to choose the required specifications based on the computer’s parts such as processor, memory and other</p>
9. Teaching and Learning Strategies	



<b>Strategy</b>	<p>1- Theoretical presentation of the course vocabulary.</p> <p>2- Classroom group discussions for practical examples.</p>
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### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical	The student must understand the topic	Instruction Set Architecture	theoretical offer	Quiz
3	2 theoretical	The student must understand the topic	Instruction Format and types	theoretical offer	Discussion
4	2 theoretical	The student must understand the topic	Basic organization computer	theoretical offer	Quiz
5	2 theoretical	The student must understand the topic	Historical development computers	theoretical offer	Discussion
6-8	6 theoretical	The student must understand the topic	Data Representation Computer Systems.	theoretical offer	Quiz
9-11	6 theoretical	The student must understand the topic	Signed Integer Representation	theoretical offer	Discussion
12-13	4 theoretical	The student must understand the topic	Floating Point Representation	theoretical offer	Quiz
14-16	6 theoretical	The student must understand the topic	Memory system, Introduction	theoretical offer	Discussion
17-19	6 theoretical	The student must understand the topic	The memory Hierarchy	theoretical offer	Quiz
20-21	4 theoretical	The student must understand the topic	Cache Memory Cache Organization	theoretical offer	Discussion
22-23	4 theoretical	The student must understand the topic	Replacements Algorithms	theoretical offer	Quiz
24-25	4 theoretical	The student must understand the topic	Write Strategies	theoretical offer	Discussion
26-27	4 theoretical	The student must understand the topic	Virtual Memory	theoretical offer	Quiz
28-29	4 theoretical	The student must understand the topic	CPU Functions	theoretical offer	Discussion

30	2 theoretical	The student must understand the topic	Intel core family	theoretical offer	Quiz

### 11. Course Evaluation

- 3- Achievement test with the concepts below:
- A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 4- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer Architecture, William Stalling
Main references (sources)	Mano, M. Morris, Computer System Architecture, 3rd Edition, Prentice-Hall, Inc
Recommended books and references (scientific journals, reports...)	Mostafa Abd-El-Barr, Hesham El-Rewini, "Fundamentals of Computer Organization and Architecture", A John Wiley & Sons, Inc Publication, 2005.
Electronic References, Websites	Mano, M. Morris, Computer System Architecture, 3rd Edition, Prentice-Hall, Inc., 1993

## Course Description Form ( Software Engineering )

1. Course Name: <b>Software Engineering</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Omar A. Mohamad	
Email: engit2020@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Enable the student to obtain detailed knowledge about the basics of software engineering and how to build and design software.</li> <li>2. Enable the student to understand the ways of using structures, algorithms and models that follow organized steps to build programs.</li> <li>3. Enabling the student to acquire scientific and applied skill in knowing types of models used in software engineering, what are the advantages and disadvantages of each model, and how to choose the best model.</li> <li>4. Giving the graduate student the necessary knowledge to build software within certain criteria and how to choose the required specifications for the program based on the models that have been studied.</li> </ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> </ol>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical	The student must understand the topic	Introduction to Software Engineering	theoretical offer	Quiz
3	2 theoretical	The student must understand the topic	The Software Process	theoretical offer	Discussion
4	2 theoretical	The student must understand the topic	Software Development Life Cycles	theoretical offer	Quiz
5	2 theoretical	The student must understand the topic	software life cycle and process models(waterfall, increment, spiral,....etc)	theoretical offer	Discussion
6-8	6 theoretical	The student must understand the topic	software life cycle and process models(waterfall, increment, spiral,....etc)	theoretical offer	Quiz
9-11	6 theoretical	The student must understand the topic	process models (increment)	theoretical offer	Discussion
12-13	4 theoretical	The student must understand the topic	prototyping	theoretical offer	Quiz
14-16	6 theoretical	The student must understand the topic	software requirements elicitation	theoretical offer	Discussion
17-19	6 theoretical	The student must understand the topic	design structure	theoretical offer	Quiz
20-21	4 theoretical	The student must understand the topic	Requirements analysis modeling techniques	theoretical offer	Discussion
22-23	4 theoretical	The student must understand the topic	Design of reuse, design patterns	theoretical offer	Quiz
24-25	4 theoretical	The student must understand the topic	Functional and nonfunctional requirements	theoretical offer	Discussion
26-27	4 theoretical	The student must understand the topic	fundamental design concepts and principles software architecture	theoretical offer	Quiz
28-29	4 theoretical	The student must understand the topic	Unified Modeling Language (UML)	theoretical offer	Discussion
30	2 theoretical	The student must understand the topic	Software implementation	theoretical offer	Quiz

## 11. Course Evaluation

5- Achievement test with the concepts below:

- A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 6- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Software Engineering By Ian Sommerville, Ian Sommerville, 9th.
Main references (sources)	Fundamentals of Software Engineering, Fourth Edition, Rajib Mall, 2015.
Recommended books and references (scientific journals, reports...)	Software Engineering (3rd ed.), By K.K Aggarwal & Yogesh Singh, 2009.
Electronic References, Websites	Websites deal with Software Engineering -Rajib-Mall, 2012.

## Course Description Form

### ( Counseling and mental health )

1. Course Name: <b>Counseling and mental health</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass.Lect. Duha Mubar	
Email: DhuhaALmubder@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. Enabling the student to obtain detailed knowledge about the Counseling and mental health</li>   <li>2. Identify psychological counseling and educational guidance, foundations on which guidance is based.</li> </ol>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1- Theoretical presentation of the course vocabulary.</li> <li>2- Classroom group discussions for practical examples.</li> </ol>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	General orientation lecture	Lecture	Discussion
3-4	4	The student must understand the topic	The emergence of educational guidance	Lecture	Quiz
5-6	4	The student must understand the topic	Educational guidance Stages of educational guidance	Lecture	Discussion
7-8	4	The student must understand the topic	The foundations on which guidance is based	Lecture	Quiz
9-10	4	The student must understand the topic	General and philosophical foundations	Lecture	Discussion
11-12	4	The student must understand the topic	Psychological and ethical foundations	Lecture	Quiz
13-14	4	The student must understand the topic	Counseling methods Educational and vocational guidance Methods of psychological counseling Information	Lecture	Discussion
15-16	4	The student must understand the topic	psychological counseling process Information sources Case study skill	Lecture	Quiz
17-18	4	The student must understand the topic	Counseling interview Types of interview Educational	Lecture	Discussion
19-20	4	The student must understand the topic	counseling theories, trait theory	Lecture	Quiz
21-22	4	The student must understand the topic	Educational problems addressed by guidance	Lecture	Discussion
23-24	4	The student must understand the topic	Guidance application Second semester	Lecture	Quiz
25-26	4	The student must understand the topic	The nature of professional guidance and the need for it, concept of guidance and counseling	Lecture	Discussion
27-28	4	The student must understand the topic	Educational guidance in school	Lecture	Quiz
29	2	The student must understand the topic	Definition of guidance and its objectives Guidance and psychological	Lecture	Discussion
30	2	The student must understand the topic	counseling curricula Those in charge of extension operations	Lecture	Quiz

### 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.

B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).

C- Multiple choice paragraphs.

D- Homework and class assignments.

2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Psychological counseling and educational guidance Psychological counseling, Dr. Saleh Abdullah.
Main references (sources)	-
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	Websites deal with Psychological counseling educational.



## Course Description Form

### ( Curricula and teaching methods )

1. Course Name: <b>Curricula and teaching methods</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 60	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass.Lect. Ali Staar Email: alisattar9292@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<p><b>1.Introducing students to the importance of curricula and teaching methods, and making students able to understand educational terminology And basic teaching.</b></p> <p><b>2.The concept of science and technology, basic concepts in the curriculum, foundations for building the curriculum, types of curricula Study, elements of the academic curriculum/curriculum as a four–part system, textbook, planning in teaching.</b></p>
9. Teaching and Learning Strategies	
<b>Strategy</b>	<p>1- Theoretical presentation of the course vocabulary.</p> <p>2- Classroom group discussions for practical examples.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	The student must understand the topic	Basic concepts in the curriculum	Lectures	Discussion
3	2	The student must understand the topic	Foundations of building the curriculum (philosophical, psychological)	Lectures	Quiz
4	2	The student must understand the topic	Foundations for building the curriculum (social, cultural)	Lectures	Discussion
5	2	The student must understand the topic	Foundations for building the curriculum (social, cultural)	Lectures	Quiz
6-8	4	The student must understand the topic	Types of curricula (separate subjects)	Lectures	Discussion
9-11	4	The student must understand the topic	Types of curricula (broad areas)	Lectures	Quiz
12-13	4	The student must understand the topic	Types of curricula (core curriculum subjects)	Lectures	Discussion
14-16	4	The student must understand the topic	Types of curricula (broad areas)	Lectures	Quiz
17-19	4	The student must understand the topic	Types of curricula (core curriculum subjects)	Lectures	Discussion
20-21	4	The student must understand the topic	Types of curricula (activity curriculum + unit curriculum)	Lectures	Quiz
22-23	4	The student must understand the topic	The school book (its importance and preparation)	Lectures	Discussion
24-25	4	The student must understand the topic	School book (its characteristics).	Lectures	Quiz
26-27	4	The student must understand the topic	Learning content and experiences (concept, selection rules)	Lectures	Discussion
28-29	4	The student must understand the topic	Practical applications (behavioral objectives).	Lectures	Quiz
30	2	The student must understand the topic	Practical applications (teaching methods)	Lectures	Discussion

### 11. Course Evaluation

1- Achievement test with the concepts below:

- A- The paragraphs with the selected answer.
- B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
- C- Multiple choice paragraphs.
- D- Homework and class assignments.

2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1.Hashem Al-Samarrai and others, curriculum., 2. Raouf Al-Ani, Modern Trends in Teaching Science.
Main references (sources)	1.Michel Kamel Atallah, Methods and Methods of Teaching Science, 2010 AD. 2. Rushdi Ahmed Toaimah, The Contemporary School Curriculum, 2009 AD. 3. Abdullah bin Khamis Ambu Saidi, Methods of Teaching Science,
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	Websites deal with Curricula and teaching methods

# Fourth Stage

## Course Description Form ( Operating Systems )

1. Course Name: <b>Operating Systems</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Ahmed Hussein Ali Email: ahmed.ali@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	1. Enabling the student to obtain detailed knowledge about the different types of Operating System. 2. Enabling the graduate to be familiar with all analog programs that have the ability to design and program all types of os and how to connect them with the calculator. 3. Enabling the student to acquire a scientific and practical skill that enables him to diagnose the malfunctions resulting in the os system and to perform maintenance for it. 4. Granting the graduate, the necessary knowledge to carry out modernization and development on personal and private os.
9. Teaching and Learning Strategies	
<b>Strategy</b>	

- 1- Theoretical presentation of the course vocabulary.
- 2- Classroom group discussions for practical examples.
- 3- Practical application in the laboratory using packet tracer software.

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	process concept	theoretical offer With help with charts Explanatory + practical lectures	Achievement test + Discussion and question
3	2 theoretical + 2 Practical	The student must understand the topic	process scheduling	theoretical offer With help with charts Explanatory+ practical lectures	Quiz
4-8	10 theoretical + 10 Practical	The student should be able to analyze, design and implement software	Deadlocks	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
9-14	12 theoretical + 12 Practical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Memory management strategies	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
15-19	10 theoretical + 10 Practical	The student should be able to understand, design and apply programming	Virtual memory management	theoretical offer With help with charts Explanatory+ practical lectures	Discussion
20-24	10 theoretical + 10 Practical	The student should be able to deal with files in their various forms to store and retrieve data	Concepts of Operating System.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
25-30	12 theoretical	The student should be able to		theoretical offer With help	Achievement test

	+ 12 Practical	develop general programs that do not depend on a specific type of data,	<b>Functions Operating System.</b>	with charts Explanatory+ practical lectures	+ Discussion and question
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### 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Operating system concepts ABRAHAM SILBERSCHATZ, 2011 John Wiley & Sons, Inc.
Main references (sources)	Introduction to Operating System Design and Implementation
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	<a href="http://www.tutorialspoint.com">www.tutorialspoint.com</a>

**Course Description Form**  
**( Computer and data security )**

1. Course Name: <b>Computer and data security</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Hind Salman Hasan Email: hind.hasan@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	Introducing the student to the six basic stages of the compiler and how each stage works in order to reach an understanding of how to convert the source code into an understandable program Security and Mechanisms for the computer.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples.



3- Practical application in the laboratory using packet tracer software.

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	Introduction. Attacks, Security and Mechanisms	theoretical offer With help with charts Explanatory + practical lectures	Achievement test + Discussion and question
3-4	4 theoretical + 4 Practical	The student must understand the topic	A model for network Security. Network Access Security Model	theoretical offer With help with charts Explanatory+ practical lectures	Quiz
5-6	4 theoretical + 4 Practical	The student should be able to analyze, design and implement software	Cryptography Classification Classical Encryption techniques (Symmetric Cipher Model)	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
7-8	4 theoretical + 4 Practical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Substitution Techniques	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
9-10	4 theoretical + 4 Practical	The student should be able to understand, design and apply programming	Caesar Cipher. 2- Monoalphabetic	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
11-12	4 theoretical + 4 Practical	The student should be able to deal with files in their various forms to store and retrieve data	Playfair Cipher. 4- Hill Cipher. 5- Polyalphabet Cipher	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
13-14	4 theoretical + 4 Practical	The student should be able to develop general programs that do	Transposition Techniques. 1- Rail fence Cipher	theoretical offer With help with charts Explanatory+	Achievement test + Discussion and question

	Practical	not depend on a specific type of data,		practical lectures	
15			exam		
16-17	4 theoretical + 4 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Simplified Data Encryption Standard (DES)	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
18	4 theoretical + 4 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Block Cipher Principle	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
19	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Public key Cryptography Introduction	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
20	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Application of Public-Key Encryption.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
21	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	RSA Algorithm. Simple	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
22	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	RSA Implementation examples.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
23	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Application of Public-Key Encryption.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question

24	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	RSA Algorithm. Simple RS Implementation examples.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
25	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Security of RSA.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
26-27	4 theoretical + 4 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Message Authentication.	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
28	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	EXAM		
29	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	Information hiding	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
30	2 theoretical + 2 Practical	The student should be able to develop general programs that do not depend on a specific type of data,	watermarking	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject

matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	“Object-Oriented Programming in C++”, 4th Edition, Robert Lafore, Sams Publishing, 2002.
Main references (sources)	Programming Essentials in C++”, C++ INSTITUTE, 2016.
Recommended books and references (scientific journals, reports...)	“C++ Tutorial”, tutorialspoint.
Electronic References, Websites	<a href="https://www.tutorialspoint.com/cplusplus/introduction.html">https://www.tutorialspoint.com/cplusplus/introduction.html</a>

**Course Description Form**  
**( Communication and computer networks )**

<b>1. Course Name: Communication and computer networks</b>	
<b>2. Course Code: –</b>	
<b>3. Semester / Year: Annual/ 2023 – 2024</b>	
<b>4. Description Preparation Date: 5/11/2023</b>	
<b>5. Available Attendance Forms: weekly</b>	
<b>6. Number of Credit Hours (Total) / Number of Units (Total): 120</b>	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Prof. Saba A. Salman Email: sabasalman@gmail.com	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<b>1. Teaching the student theoretical skills in data communications and networks</b> <b>2. Providing the student with some practical skills in data communications and networks</b> <b>3. Teaching the student theoretical skills in data communications and networks</b>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples. 3- Practical application in the laboratory using packet tracer software.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	Introduction to networks and communications	theoretical offer With help with charts Explanatory + practical lectures	Achievement test + Discussion and question
3	2 theoretical + 2 Practical	The student must understand the topic	Types of Networks	theoretical offer With help with charts Explanatory+ practical lectures	Quiz
4-8	10 theoretical + 10 Practical	The student should be able to analyze, design and implement software	Networks Protocols	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
9-14	12 theoretical + 12 Practical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Networks Component	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
15-19	10 theoretical + 10 Practical	The student should be able to understand, design and apply programming	Transmission Media	theoretical offer With help with charts Explanatory+ practical lectures	Discussion
20-24	10 theoretical + 10 Practical	The student should be able to deal with files in their various forms to store and retrieve data	OSI Model	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
25-30	12 theoretical + 12 Practical	The student should be able to develop general programs that do not depend on a specific type of	TCP/IP Protocol	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question

		data,			
<b>11. Course Evaluation</b>					
<p>3- Achievement test with the concepts below:</p> <p>A- The paragraphs with the selected answer.</p> <p>B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).</p> <p>C- Multiple choice paragraphs.</p> <p>D- Homework and class assignments.</p> <p>4- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.</p>					
<b>12. Learning and Teaching Resources</b>					
Required textbooks (curricular books, if any)					
Main references (sources)			"Data Communication And Networking", Behrouz a. Forouzan, 4th edition, 2009.		
Recommended books and references (scientific journals, reports...)			"TCP/ IP Protocol Suites", Behrouz Forouzan, McGraw-Hill, 4th edition, 20		
Electronic References, Websites			<a href="http://www.youtube.com/playlist?list=PL828D58CF32F123B6">http://www.youtube.com/playlist?list=PL828D58CF32F123B6</a>		

## Course Description Form

### ( Data mining ( optional) )

1. Course Name: <b>Data mining</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Lect. Mohammed Al-Janabi	
Email: mohammed.aljanabi@aliraqia.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	1. Enable the student to learn about Data mining programming 2. Enable the student to know the basic concepts of Data mining programming. Object, class, data abstraction, inheritance, encapsulation, polymorphism 3. Enable the student to identify the methods of using Data mining programming 4. Enable the student to use the Data mining programming language and know its instructions and functions.
9. Teaching and Learning Strategies	
<b>Strategy</b>	1- Theoretical presentation of the course vocabulary.



- 2- Classroom group discussions for practical examples.
- 3-Practical application in the laboratory using packet tracer software.

### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 Practical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	Introduction to Data Mining	theoretical offer With help with charts Explanatory + practical lectures	Achievement test + Discussion and question
3	2 theoretical + 2 Practical	The student must understand the topic	related technologies - Machine Learning, DBMS, OLAP, Statistics Data Mining Goals Stages of the Data Mining Process	theoretical offer With help with charts Explanatory+ practical lectures	Quiz
4-8	10 theoretical + 10 Practical	The student should be able to analyze, design and implement software	Data Warehouse and OLAP Data Warehouse and DBMS	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
9-14	12 theoretical + 12 Practical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Data preprocessing Data cleaning Data transformation Data reduction	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
15-19	10 theoretical + 10 Practical	The student should be able to understand, design and apply programming	Data mining knowledge representation Task relevant data Background knowledge	theoretical offer With help with charts Explanatory+ practical lectures	Discussion
20-24	10 theoretical + 10 Practical	The student should be able to deal with files in their various forms to store and retrieve data	Clustering Basic issues in clustering First conceptual clustering system	theoretical offer With help with charts Explanatory+ practical lectures	Achievement test + Discussion and question
25-30		The student should be able to	Advanced techniques,		Achievement test

	12 theoretical + 12 Practical	develop general programs that do not depend on a specific type of data,	Data Mining software and applications Text mining: extracting attributes	theoretical offer With help with charts Explanatory+ practical lectures	+ Discussion and question
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## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Ian H. Witten and Eibe Frank, Data Mining: Practical Machine Learning Tools and Techniques (Second Edition), Morgan Kaufmann, 2005, ISBN: 0-12-088407-0.
Recommended books and references (scientific journals, reports...)	Data Mining Concepts and Techniques, iawei Han, Micheline Kamber, Jian Pei; Morgan Kauffman Publishing
Electronic References, Websites	Data Mining System with Free Open Source Machine Learning Software in Java. Available at <a href="http://www.cs.waikato.ac.nz/~ml/weka/index.html">http://www.cs.waikato.ac.nz/~ml/weka/index.html</a> .

## Course Description Form ( E-Learning ( optional ) )

1. Course Name: <b>E-Learning ( optional )</b>	
2. Course Code: -	
3. Semester / Year: Annual/ 2023 - 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Omar A. Mohamad	
Email: engit2020@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<p>1.Enabling the student to obtain a complete knowledge of the concept of e-learning and what are its basics and the most important hardware and software components necessary for the success of e-learning.</p> <p>2.Enabling the student to understand the most important modern technologies used in the field of e-learning, what are the e-learning management systems, and how to create virtual classes.</p> <p>3.Enabling the student to acquire a scientific and practical skill in using computer and the Internet in the field of e-learning, and what is the role of the Internet of things in the success of e-learning.</p> <p>4.Giving the graduate student the necessary knowledge of e-learning forms according to the type of technology used, in addition to full knowledge of electronic libraries and ways to benefit from them in a modern scientific manner.</p>

## 9. Teaching and Learning Strategies

<b>Strategy</b>	1- Theoretical presentation of the course vocabulary. 2- Classroom group discussions for practical examples. 3- Practical application in the laboratory using packet tracer software.
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## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical + 4 practical	The student must understand the topic	Introduction to E-Learning System + Component of E-Learning	theoretical offer + practical lectures	Quiz
3	2 theoretical + 2 practical	The student must understand the topic	E-Learning System Types	theoretical offer + practical lectures	Discussion
4	2 theoretical + 2 practical	The student must understand the topic	Multimedia in E-Learning	theoretical offer + practical lectures	Quiz
5	2 theoretical + 2 practical	The student must understand the topic	Management System in E-Learning	theoretical offer + practical lectures	Discussion
6-8	6 theoretical + 6 practical	The student must understand the topic	Virtual Classroom System	theoretical offer + practical lectures	Quiz
9-11	6 theoretical + 6 practical	The student must understand the topic	Internet and computers in Learning System	theoretical offer + practical lectures	Discussion
12-13	4 theoretical + 4 practical	The student must understand the topic	Evolution of Educational Technology	theoretical offer + practical lectures	Quiz
14-16	6 theoretical + 6 practical	The student must understand the topic	Blended Learning System	theoretical offer + practical lectures	Discussion
17-19	6 theoretical + 6 practical	The student must understand the topic	Tools of E-Learning System	theoretical offer + practical lectures	Quiz
20-21	4 theoretical + 4 practical	The student must understand the topic	IOT in E-Learning System	theoretical offer + practical lectures	Discussion
22-23	4 theoretical	The student must understand the	The future of IOT in E-Learning System	theoretical offer +	Quiz

	+ 4 practical	topic		practical lectures	
24-25	4 theoretical + 4 practical	The student must understand the topic	E-Library	theoretical offer + practical lectures	Discussion
26-27	4 theoretical + 4 practical	The student must understand the topic	Types of E-Library in E-Learning system	theoretical offer + practical lectures	Quiz
28-29	4 theoretical + 4 practical	The student must understand the topic	Tools effects in E-Learning System	theoretical offer + practical lectures	Discussion
30	2 theoretical + 2 practical	The student must understand the topic	Explain Examples in E-Learning System	theoretical offer + practical lectures	Quiz

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1. The basics of e-learning. 2. Introduction to the Internet of Things. 3. Introduction to electronic libraries.
Recommended books and references (scientific journals, reports...)	1. E-Learning Fundamentals A Practical Guide, By Diane Elkins. 2. Learn HTML And CSS.
Electronic References, Websites	Websites deal with e-learning

**Course Description Form**  
**( Measurement and calendar )**

<b>1. Course Name: Measurement and calendar</b>	
<b>2. Course Code: -</b>	
<b>3. Semester / Year: Annual/ 2023 – 2024</b>	
<b>4. Description Preparation Date: 5/11/2023</b>	
<b>5. Available Attendance Forms: weekly</b>	
<b>6. Number of Credit Hours (Total) / Number of Units (Total): 120</b>	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Lect. Ali Sattar	
Email: alisattar9292@gmail.com	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li><b>1. Clarifying the basic concepts in measurement and evaluation.</b></li> <li><b>2. Explaining the types of achievement tests, their advantages and disadvantages, and ways to improve them.</b></li> <li><b>3. How to construct the achievement test and prepare a question bank.</b></li> <li><b>4. Identify the standard characteristics of the test paragraph.</b></li> <li><b>5. Identifying the testing methods for assessing students' skills.</b></li> <li><b>6. Applying all future standard concepts regarding practicing the teaching profession.</b></li> </ol>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	

- 1- Theoretical presentation of the course vocabulary.
- 2- Classroom group discussions for practical examples.

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical	The student should be able to recall the basic concepts and tools of structured programming using the C++ language	Introduction to About measurement and evaluation	theoretical offer	Achievement test + Discussion and question
3	2 theoretical	The student must understand the topic	The importance of measurement and evaluation	theoretical offer	Quiz
4-8	10 theoretical	The student should be able to analyze, design and implement software	Meaning of measurement and its characteristics	theoretical offer	Achievement test + Discussion and question
9-14	12 theoretical	The student should be able to apply the concepts of inheritance in the programs he builds to achieve the greatest	Meaning of calendar, The relationship between measurement, evaluation and testing	theoretical offer	Achievement test + Discussion and question
15-19	10 theoretical	The student should be able to understand, design and apply programming	Types of evaluation according to time interpretation of results, Types of achievement tests	theoretical offer	Discussion
20-24	10 theoretical	The student should be able to deal with files in their various forms to store and retrieve data	The effectiveness of the wrong alternatives	theoretical offer	Achievement test + Discussion and question
25-30	12 theoretical	The student should be able to develop general programs that do not depend on a	Characteristics of a good test	theoretical offer	Achievement test + Discussion and question

		specific type of data,			
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## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.
  - B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).
  - C- Multiple choice paragraphs.
  - D- Homework and class assignments.
- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Measurement and evaluation/methodological analysis distributed by the university
Main references (sources)	Psychological measurement by Safwat Faraj, measurement and evaluation by Al-Dulaimi, articles from the Internet
Recommended books and references (scientific journals, reports...)	-
Electronic References, Websites	-



## Course Description Form

( View and calendar )

1. Course Name: <b>Entity programming</b>	
2. Course Code: –	
3. Semester / Year: Annual/ 2023 – 2024	
4. Description Preparation Date: 5/11/2023	
5. Available Attendance Forms: weekly	
6. Number of Credit Hours (Total) / Number of Units (Total): 120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lect. Ali Sattar Email: alisattar9292@gmail.com	
8. Course Objectives	
<b>Course Objectives</b>	<p>1. Providing students with the opportunity to learn about teaching methods and methods</p> <p>2. Enabling students to follow up on the material they learn theoretically and apply it practically.</p> <p>3. Introducing students to the method of classroom management and handling educational situations</p> <p>5. Directing students to the aspects that are important in the application and giving them insight into the difficulties they face</p>
9. Teaching and Learning Strategies	
<b>Strategy</b>	

- 1- Theoretical presentation of the course vocabulary.
- 2- Classroom group discussions for practical examples.

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4 theoretical	The student should be able to recall the basic concepts and tools	Relevance of the topic to the purpose From the lesson	theoretical offer	Achievement test + Discussion and question
3	2 theoretical	The student must understand the topic	How to write a daily plan For the theoretical lesson	theoretical offer	Quiz
4-8	10 theoretical	The student must understand the topic	Relevance of the topic to the environment requester	theoretical offer	Achievement test + Discussion and question
9-14	12 theoretical	The student should be able to apply the concepts	How to write a theoretical lesson	theoretical offer	Achievement test + Discussion and question
15-19	10 theoretical	The student understand the topic	Matching the material with capabilities Students How to write the plan for the lesson Applied	theoretical offer	Discussion
20-24	10 theoretical	The student should be able deal with students	The relationship between arousal and level Intellectual for students	theoretical offer	Achievement test + Discussion and question
25-30	12 theoretical	The student should be able to present	The student presents an imam lesson Classroom	theoretical offer	Achievement test + Discussion and question

## 11. Course Evaluation

- 1- Achievement test with the concepts below:
  - A- The paragraphs with the selected answer.

B- Synthetic questions (answering is done by understanding the information available in the question form and in illustrative forms).

C- Multiple choice paragraphs.

D- Homework and class assignments.

- 2- Building a real network model used in the current reality of life using the packet tracer program and to assess the student's deep understanding of the subject matter at the end of the semester.

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Teaching methods and techniques Must watch and apply
Main references (sources)	Dhawqan Obaidat and Suhaila Abu Al-Samid, Teaching Strategies in the Century 21st, 9002
Recommended books and references (scientific journals, reports...)	Al-Sawy, Muhammad Wajih, learning according to ends and means, a future vision . Ain Shams University, 9009
Electronic References, Websites	Websites deal with books, electronic libraries