

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Logical Design

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

1. Course Name:	
Logical Design	
2. Course Code :	
CSLD101	
3. Semester/ Year :	
2023/2024	
4. Description Preparation Date :	
20/3/2024	
5. Available Attendance Forms:	
Physical Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
7. Course Administrator Name :	
Name: Prof. Dr. Intisar Kazem Abed	
Email: PureComp.intesar.abd@uodiyala.edu.iq	
8. Course Objectives	
Course Objectives	Enabling students to know the most prominent basics of logical design Enable students to understand logic design methodology Enabling students to design logical design of all kinds Enable students to compare different types of logical circuits Enable students to understand aspects of logic circuit design Enabling students to connect websites to the Internet Qualifying students to teach this subject to middle and middle school students - Qualifying students to work in various private and government sectors
9. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

10.Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Understanding the Basics of Logical Design	Logical Design Basics	Reading Lab +	
2	2	Knowledge of the basics of numerical systems	Basics of numerical systems	Reading + Lab	Classroom participation in preparation
3	2	Understanding Types of Numerical Systems	Types of numerical systems	Reading + Lab	Classroom participation in preparation
4	2	Understanding Logic Gates	Logic gates	Reading + Lab	Classroom participation in preparation
5	2	Knowledge of Calculations	Calculations	Reading + Lab	Classroom participation in preparation
6	2	Understanding Complements	Supplements	Reading + Lab	Classroom participation in preparation
7	2	Knowledge of the use and application of Boolean equations	Boolean equations	Reading + Lab	Classroom participation in preparation
8	2	Knowledge of POS Term,SOP	مصطلح POS,SOP	Reading + Lab	Classroom participation in preparation
9	2	Use and application of K-MAP	The term K-MAP	Reading + Lab	Classroom participation in preparation
10	2		Exam	Reading Lab +	
11	2	Combination Circle Design	Semi-Collector and Full Circle Design	Reading + Lab	Classroom participation in preparation
12	2	Combination Circle Design	Semi-Collector and Full Circle Design	Reading + Lab	Classroom participation in preparation
13	2	Combination Circle Design	Semi-Collector and Full Circle Design	Reading + Lab	Classroom participation in preparation

14	2	Subtraction Circle Design	Semi-Circle Design and Full Circle	Reading + Lab	Classroom participation in preparation
15	2	Subtraction Circle Design	Semi-Circle Design and Full Circle	Reading + Lab	Classroom participation in preparation
16	2	Circuit Design	Comparative Circuit Design		Classroom participation in preparation
17	2	Circuit Design	Comparative Circuit Design	Reading + Lab	Classroom participation in preparation
18	2		Exam	Reading Lab +	
19	2	Circuit Design	Multiplication Circle Design	Reading + Lab	Classroom participation in preparation
20	2	Circuit Design	Multiplication Circle Design	Reading + Lab	Classroom participation in preparation
21	2	Circuit Design	Hopper Circuit Design	Reading + Lab	Classroom participation in preparation
22	2	Circuit Design	Hopper Circuit Design	Reading + Lab	Classroom participation in preparation
23	2	Circuit Design	Hopper Circuit Design	Reading + Lab	Classroom participation in preparation
24			Exam		
25					

11.Course Evaluation

Monthly Exam (40) / Practical Exam (10) / Final Exam (50)

Learning and Teaching Resources.12

1- Digital system : principle & applications

Digital City: M.Morais Male -

2-Digital system : principle & applications

1. Digital City: M.Morais Male

3-www.puresci.uodiyala.edu.iq

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name:

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

13.Course Name:	
Computer Installation Techniques and Installation Computer Architecture & Organization	
:Course Code .14	
104 CsCo	
:Semester/ Year.15	
2023/2024	
:Description Preparation Date.16	
13/2/2024	
17.Available Attendance Forms:	
Physical attendance of students in the classroom and laboratory In addition to electronic attendance in case of adding additional electronic lessons	
18.Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
19.Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Mohamed Sami Mohamed Email: dr.mohammed.sami@uodiyala.edu.iq	
20.Course Objectives	
Course Objectives	1- Qualifying the student to teach this subject in middle and middle schools. 2- Introducing students to the computer, its components, how it works, and its importance in our lives through: A. Knowledge and Understanding A1 - The student's knowledge of the components of the calculator A2- The student's knowledge of the input and output devices A3- The student's knowledge of the types of data, the methods of entering it, and how to represent it in the computer. A4- The student's knowledge of how to process the data and how to output it A5- Identifying addressing patterns A6. Identify input and output problems B. Subject-specific skill objectives B1 - Represent what the student has learned theoretically in a practical way in the laboratory B2 – The student's mastery of how to deal with the computer
21.Teaching and Learning Strategies	

Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
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22.Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Learn how to represent numbers and symbols in a computer	Representation of numbers and symbols	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
2	2	Familiarize yourself with the mechanism and functioning of the processor	Processor architecture	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
3	2	How to Fetch and Implement Information	Fetch and Execution	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
4	2	Identify the types of vectors and logs and how the unit of arithmetic and logic works	Vectors, Records, Unit of Computation and Logic	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
5	2	Familiarize yourself with the work of the control unit	Control Unit	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
6	2	Identify the types of memory	RAM, ROM	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
7	2	Identify the types of memory and the function of each memory	Flickering memory, imaginary memory	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
8	2	Recognize the function of cache memory	Cache Memory	Lecture + Discussion + Lab	Daily and monthly

					exams and laboratory reports
9	2	Learn about the workings of the I/O system and the importance of the Simus chip	Primary Input and Abscess System, Seamus Chip	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
10	2	Recognizing the importance of a hard drive	Hard Drive	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
11	2	Recognize the difference between a hard drive and a laser	Laser disc	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
12	2	Recognize the importance and functioning of input and output devices	Input and Output Devices	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
13	2	Keyboard Action, Touch Screen, Mouse	Keyboard, Touch Screen, Mouse	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
14	2	Identify the types of displays and the printer's work	Display, Printer	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
15	2	How data is transferred between RAM and CPU	Data Transfer	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
16	2	Exam			
17	2	Programming Languages	Identify the types of programming languages	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
18	2	Translators, Assembly, Interpreter, Translator	Recognize the function of the compiler, assembler, interpreter	Lecture + Discussion + Lab	Daily and monthly exams and

					laboratory reports
19	2	Processor Model 8088/8088	Understand the architecture of each processor	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
20	2	Processor Records 8086/8088, General Purpose Records, Indexing and Marking Records, Media Records	Identify the names of public and private purposes, indexing and media records.	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
21	2	Memory Addressing, Data Organization	Identify the types of addressing patterns and how to organize data	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
22	2	Memory and Logs Sections, Physical and Logical Address	Identify the divisions of memory, physical and logical address	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
23	2	Assembly Command Group	Understanding Assembly Orders	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
24	2	Transfer Orders	Recognize Transfer Orders	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
25	2	Calculation orders	Knowledge of arithmetic orders	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
26	2	Logical commands	Recognize logical commands	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
27	2	Logical commands	Recognize logical commands	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

28	2	Input Programming Methods	Identify problems with input devices	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
29	2	Output programming methods	Identify problems with output devices	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
30	2	Exam			

23.Course Evaluation

Monthly Exam (40) / Practical Exam (10) / Final Exam (50)

24.Learning and Teaching Resources

- Introduction to computers for Peter Norton 's Computers and Off-the-sh Software by Dr. Mohamed Bilal Al-Zoubi.

:Helpful Resources

computer Organization and Architecture 10th Edition by William Stallings -1
computer Organisation and Architecture Evolutionary Concepts, Principles, -2
.and Designs By Pranabananda Chakraborty Copyright Year 2021

DIGITAL NOTES ON COMPUTER ORGANIZATION AND ARCHITECTURE -3
TECH II YEAR - I SEM (2019-20) DEPARTMENT OF INFORMATION
CHNOLOGY MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)

4- VARDHAMAN COLLEGE OF ENGINEERING (AUTONOMOUS) Shamshabad
501 218, Hyderabad DEPARTMENT OF INFORMATION TECHNOLO
COMPUTER ORGANIZATION AND ARCHITECTURE.

:Lectures from electronic references

<https://www.learncomputerscienceonline.com/computer-organization-and-architecture/>

<https://www.javatpoint.com/computer-organization-and-architecture-tutorial>

<https://www.britannica.com/science/computer-science/Architecture-and-organization>

<http://www.svecw.edu.in/Docs%5CITIIBTechIISemLecCOA.p>

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Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Structured Programming

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

25.	Course Name:		
		Structured Programming	
		:Course Code	.26
		403CSOS	
		:Semester/ Year	.27
		2023/2024	
		:Description Preparation Date	.28
		20/3/2024	
	29.Available Attendance Forms:		
		Physical Presence	
	30.Number of Credit Hours (Total) / Number of Units (Total)		
		5 Hours / 6 Units	
31.	Course administrator name (mention all, if there is more than one)		
		Name: Assoc. Prof. Qasim Radham Mahmoud	
		Email pure.comp.qasim.mahmood@uodiyala.edu.iq	
32.	Course Objectives		
	Course Objectives - Explain how to write algorithms and flowcharts to find solutions to different problems to be programmed. - Teach the student the general structure of the C++ program and its basic components. - Explain read and write commands in C++ . - Explanation of clause sentences of various types and structures in C++. - Explain repetition sentences of various types and structures in C++. - Explain the different types of arrays and how to deal with them within the C++ program. - Teach the student how to write subprograms and call them within the general C++ program. - Enable the student to deal with text files (opening, typing in them, deleting them, closing them) through the . C++ - Enable the student to be able to analyze various problems and write programs to solve various problems using C++ language.		
33.	Teaching and Learning Strategies		

Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
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34. Course Structure

Week	Watch es	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluatio n Method
1	2	Introduction to programming with C++	Introduction to programming with C++	Diction + Examples	Oral exam
2	2	Writing algorithms and flowcharts to solve various problems	How to Write Algorithms and Flowcharts to Solve Various Problems	Presentation + Examples	Oral exam
2	2	Writing algorithms and flowcharts to solve various problems	How to Write Algorithms and Flowcharts to Solve Various Problems	Presentation + Examples	Oral exam
3	2	General structure of the C++ language program	Components of the overall structure of a C++ language program	Presentation + Examples + Lab	and Oral practical exam
4	2	Data Definition Ability	Defining Data Types	Presentation + Examples + Lab	and Oral practical exam
5	2	Use of Calculations and Logic	Definition of Arithmetic and Logical Operations	Presentation + Examples + Lab	Oral and practical exam
6	2	Learn how to increase, decrease, and equality	Processes of Increasing, Decreasing and Equality	Presentation + Examples + Lab	Oral and practical exam
7	2	Ability to write comments and prioritize operations	Commentary phrases and precedence in the execution of operations	Presentation + Examples + Lab	Oral and practical exam
8	2	The student should be able to define the constants, variables, and reserved words.	Definition of Constants, Variables, and Reserved Words	Presentation + Examples + Lab	Oral and practical exam
9	2	Transfers	Introduction to Transfers	Presentation +	Oral Exam and

				Examples + Lab	Homework
10	2	The student should be able to use input and output phrases	Input and Output Phrases	Presentation + Examples + Lab	Oral and practical exam
11	2	The student must be able to use the clauses within the program	Conditional Phrases	Presentation + Examples + Lab	Oral and practical exam
12	2	The student must be able to use the clauses within the program	Conditional Phrases	Presentation + Examples + Lab	Oral and practical exam
13	2	The student should be able to use repetition sentences within the program	Revolving Phrases (Repetition Sentences)	Presentation + Examples + Lab	Oral and practical exam
14	2	The student should understand what the overlap of phrases is	Overlap of phrases	Presentation + Examples + Lab	Oral and practical exam
15	2	The student should understand what the overlap of phrases is	Overlap of phrases	Presentation + Examples + Lab	Oral and practical exam
16	2	The student should be able to use jump phrases	Jump Phrases	Presentation + Examples + Lab	Oral and practical exam
17	2	The student should be able to use jump phrases	Jump Phrases	Presentation + Examples + Lab	Oral and practical exam
18	2	The student should be able to define and use the one-dimensional matrix within the program	The one-dimensional matrix	Presentation + Examples + Lab	Oral and practical exam
19	2	The student should be able to define and use the one-dimensional matrix within the program	The one-dimensional matrix	Presentation + Examples + Lab	Oral and practical exam
20	2	The student should be able to define and use the two-dimensional matrix within the program	Two-dimensional matrix	Presentation + Examples + Lab	Oral and practical exam

21		The student should be able to define and use the two-dimensional matrix within the program	Two-dimensional matrix	Presentation + Examples + Lab	Oral and practical exam
22		The student should be able to call ready-made functions within the program	Sub-Programs (Off-the-shelf Functions)	Presentation + Examples + Lab	Oral and practical exam
23		The student should be able to call ready-made functions within the program	Sub-Programs (Off-the-shelf Functions)	Presentation + Examples + Lab	Oral and practical exam
24		The student should be able to call functions and how to advertise them within the program.	Create functions and ways to advertise and call them	Presentation + Examples + Lab	Oral and practical exam
25		The student should be able to call functions and how to advertise them within the program.	Create functions and ways to advertise and call them	Presentation + Examples + Lab	Oral and practical exam
		The student should be able to call functions and how to advertise them within the program.	Create functions and ways to advertise and call them	Presentation + Examples + Lab	Oral and practical exam
27		The student should be able to call functions and how to advertise them within the program.	Create functions and ways to advertise and call them	Presentation + Examples + Lab	Oral and practical exam
28		The student should be able to call functions and how to advertise them within the program.	Create functions and ways to advertise and call them	Presentation + Examples + Lab	Oral and practical exam
29	2	The student should be able to create files, read from them, and write in them.	Create, store and read files	Presentation + Examples + Lab	Oral and practical exam
30		The student should be able to create files, read from them, and write in them.	Create, store and read files	Presentation + Examples + Lab	Oral and practical exam

35. Course Evaluation

Monthly Exam (40) / Practical Exam (10) / Final Exam (50)

Learning and Teaching Resources .36

- Stanly B.Lippman, Josee Lajoie, and Barbara E. Moo,"C++ Primer", forth edition, 2005.
- Juan Soulie,"C++ language Tutorial", 2008
- Any book and article which is related to the C++ language
- <http://www.cplusplus/>
- <http://www.tutorialspoint.com/>
- <http://www.w3schools.com/cpp/>

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Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Discrete Structures

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

37.Course Description Form

Course Name:	
Come on eat intermittent	
:Course Code . 2 .38	
104CSDS	
:Semester/Year . 3	
2024/2023	
:Description Preparation Date . 4	
2024/3/20	
5 . Available Attendance Forms:	
Physical Presence	
6 . Number of Credit Hours	
3 Hours / 6 Units	
7 . Course Administrator Name:	
Teaching Name : Assoc. Prof. Miqdad Qais Hussein Email:	
8 . Course Objectives	
Course Objectives	- Build a good mathematical background for the students of the Department of Computer Science, which will be used to understand computer science courses as well as practical applications of mathematics in computer science.
9 . Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

1 0 . Course Structure					
Weel	Watch	Required Learning Outcomes	Unit or Subject Name	Method Learning	Evaluation Method
1	2	Set theory	Types of Collections	Reading	Homework
2	2	Set theory	Operations on groups	Reading	Homework
3	2	Set theory	Operations on groups	Reading	Oral exam
4	2	Exam			
5	2	Relations	Relations	Reading	Homework
6	2	Relations	Types of relationships	Reading	Oral exam
7	2	Functions	Functions	Reading	Homework
8	2	Functions	Counter-functions	Reading	Homework
9	2	Functions	Nadeer Al-Dawal	Reading	Oral exam
10	2	Exam			
11	2	Arrays	Types of arrays	Reading	Homework
12	2	Arrays	Operations on matrices	Reading	Homework
13	2	Arrays	Limitations	Reading	Homework
14	2	Arrays	Counterpart	Reading	Homework
15	2	Linear Systems Solution	Kaos for deletion	Reading	Homework
16	2	Linear Systems Solution	Kramer	Reading	Oral exam
17	2	Exam			
18	2	Mathematical Logic	Phrases	Reading	Homework
19	2	Mathematical Logic	Logical Operations	Reading	Oral exam
20	2	Group theory	Gang	Reading	Homework
21	2	Group theory	Properties of the group	Reading	Homework

22	2	Group theory	Properties of the group	Reading	Oral exam
23	2	Number theory	Division Algorithm	Reading	Homework
24	2	Number theory	Common Denominator and Common Multiplier	Reading	Homework
25	2		Common Denominator and Common Multiplier	Reading	Homework
26	2	Number theory	Parity	Reading	Homework
27	2	Number theory	Parity	Reading	Oral exam
28	2	Mathematical Induction	Mathematical Induction	Reading	Homework
29	2	Mathematical Induction	Mathematical Induction	Reading	Oral exam
30	2	Exam			

1 1 . Course Evaluation

Monthly examination (50) / final examination (50)

Learning and Teaching Resources . 1 2

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Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Mathematics

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 18/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

39.Course Name:	
Mathematics	
:Course Code .40	
403CSOS	
:Semester/ Year.41	
2023/2024	
:Description Preparation Date.42	
18/3/2024	
43.Available Attendance Forms:	
Physical Presence	
44.Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours / 4 Units	
45.Course Administrator Name :	
Assoc. Prof. Dr. Abdul Sattar Jumaa Diab Email: purecomp.abdulsatar.theab@uodiyala.edu.iq	
46.Course Objectives	
Course Objectives	- Introduce the student to the basic principles of calculus, which are included in all fields of mathematics and its applications, and which are included in the applications of engineering and all departments of science. - Providing students with skills that enable them to teach mathematics. - Working on acquiring students the skills to conduct scientific research in the field of mathematics. - Acquire mental skills and thinking in mathematics. - Introduce students to the importance of mathematics.
47.Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Solving issues related to the scientific material. - Writing scientific reports and analyzing data. - Using e-learning in teaching according to the available possibilities. - Self-learning method. - Classroom activities and additional exercises as tasks - Scientific Books.

48.Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Define the student what is meant by the Cartesian level and how to draw functions	Cartesian plane, function drawing	Whiteboard & Data Show	Daily exams and homework in addition to monthly and final exams
2	2	Introduce the student to lines, circles, and geometric representations	Straights and Circles	=	=
3	2	Introducing the student to the functions and forced operations on them	Functions and Forced Operations on Them	=	=
4	2		Exercises and discussion	=	=
5	2	The student's definition of the concept of goals, reparation of goals, continuity	Goals, Goals Reparation and Continuity	=	=
6	2	Introduce the student to infinite goals and goals from a single payroll	Infinite Ends and One-Sided Ends	=	=
7	2		Exercises and discussion	=	=
8	2	Introducing the student to some derivation formulas, the rule of the string, the derivation of the power function	Tangential lines, derivations, and derivative calculations of some functions using the definition	=	=
9	2	Introducing the student to some applications of increasing and decreasing functions, drawing curves	,Incremental and decreasing functions plotting curves	=	=
10	2	Introducing the student to the implicit derivation and derivations from the higher ranks	Implicit Derivation and Derivation of the Upper Orders	=	=
11	2	Introducing the student to the ends, some applications on the ends.	Endings, some applications on endings	=	=
12	2	Solving some exercises that are different from the	Exercises and discussion	=	=

		topic of differentiation			
13	2	Introducing the student to the mean value theorem, the rule theorem, and the lopetal rule	,Middle Value Theorem, Rule Theorem Lopetal Rule	=	=
14	2	Student Definition of the Concept of Inverse Differential (Indefinite Integration)	Inverse of differential (indefinite (integration	=	=
15	2		,Integration methods, exercise solution and discussion	=	=
16	2	Exam			
17	2	Student's Definition of the Basic Demonstration of Integration Characteristics of Integration	Specific Integration	=	=
18	2	Student Definition of the Basic Theorem of Integration and Characteristics of Integration	The basic theorem of integration and the properties of integration	=	=
19	2	Student Definition Some Integration Applications	Some Integrations	=	=
20	2	Definition of the Concept of Exponential Functions and Logarithmic Functions	Exponential functions and logarithmic functions with their derivation and integration	=	=
21		Student Definition of Trigonometric Functions with Some Requirements	Trigonometric functions with some basic congruences	=	=
22		Student Definition of Inverse Trigonometric Functions and Hyperbolic Functions	Inverse trigonometric functions and hyperbolic functions with their derivation and integration	=	=
23		Some exercises that are different from integrations	Exercises and discussion	=	=
24		Student Definition of Retail Integration and Integration by Compensation	Integration, Segmentation and Integration by Compensation	=	=
25		Introducing the student to the concept of integration by fractionation of fractions and integration using trigonometric compensation	Integration by fractionation and integration using trigonometric compensation	=	=
26		Solve some exercises that are different from integrations	Exercises and discussion	=	=

27	2	Student Definition of Defective Integrations	Defective integrations	=	=
28	2	Solve some exercises that are different from the impaired integrations	Exercises and discussion	=	=
29	2	Definition of Polar Coordinates and Conical Segments	Polar coordinates and conical sections	=	=
30	2	Exam			

49.Course Evaluation

Monthly Exam (50) / Final Exam (50)

50.Learning and Teaching Resources

- Calculus: Written by Dr. Sabri Al-Ani and his group
- Calculus and Analytical Geometry: By Thomas (translator)
- Calculus Talbf: Persel (translator)

**Ministry of Higher Education and Scientific
Research**

Scientific Supervision and Evaluation

Authority

Directorate of Quality Assurance and

Academic Accreditation

Accreditation Department



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Arabic

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

51.Course Name:					
Arabic Language					
52. Course Code:					
:Semester/ Year.53					
2023/2024					
:Description Preparation Date.54					
20/3/2024					
55.Available Attendance Forms:					
Physical Presence					
56.Number of Credit Hours (Total) / Number of Units (Total)					
Hours/Units					
57.Course Administrator Name :					
Teaching Name:					
Email:					
58.Course Objectives					
Course Objectives		- Qualifying students to make them able to use the Arabic language correctly to be the owners of a sound language that qualifies them to stand in front of students and speak in front of them, avoiding as much as possible linguistic errors that hinder their teaching work in secondary schools, by acquainting them with a certain amount of Arabic grammatical, linguistic and spelling vocabulary, as well as studying some Quranic, poetic and prose texts to familiarize them with sober linguistic methods.			
59.Teaching and Learning Strategies					
Strategy		- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams			
60.Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method

1-2-3-4		The student should understand what he received in the lecture	The nominal sentence of the beginner and the news	Theoretical	Tests—daily and monthly
5-6-7-8		The student should understand what he learned in the lecture	The origin copies were and her sisters N and her sisters No Gender Negation	Theoretical	Tests—daily and monthly
9-10-11-12		The student should understand what he received in the lecture	Selections from Quranic Texts A Quranic text from Surat Al-Kahf and a study of a story included in the text Surat Al-Kahf and a study of two stories included in the text	Theoretical	Weekly Exams
13-14-15-16		The student should understand what he received in the lecture	Anthology of Poetic Texts Ainiyah Al-Qushayri Al-Mutanabi potty Anthology from Arabic Prose Text of (Breastfeeding) by Taha Hussein	Theoretical	Exams
17-18-19-20		The student should understand what he received in the lecture	Actual sentence Past Verb Present Tense Verb Do it	Theoretical	Applications and Theoretical Experiments
21-22		The student should understand what he received in the lecture	The subject and the object	Theoretical	Tests
-23-24-25-26		The student should understand what he received in the lecture	Introduction to Arabic Spelling Drawing the Hamza at the beginning of the word, in the middle of the word, and at the end of the word Punctuation	Theoretical	Tests
Week 27-32		The student should understand what he received in the lecture	Issue Issue Conditions Count Reminder and Feminization Highlight the number Defining and denying the number	Theoretical	Tests

61.Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

62.Learning and Teaching Resources

- Lectures in Arabic
- Texts from the Holy Quran
- Explanation of Ibn Aqeel on the Thousand Ibn Malik
- Arabic Lessons Collector
- Curriculum in grammar and syntax

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**Academic Program Guide
and Course Descriptions**

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: English

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form Mycology /second stage

1. Course Name:	
English language 1	
2. Course Code:	
UD21	
3. Semester / Year:	
Annual	
4. Description Preparation Date:	
2024-2025	
5. Available Attendance Forms:	
Imperative	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 h/2U	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecturer. Dr. Abdul Sattar Email: purecomp.abdulsatar.theab@uodiyala.edu.iq	
8. Course Objectives	
Course Objectives	- Enabling students to know the tenses and how deal with them. - The student is able to understand English vocabulary in addition to being able to express in English language. - Enabling students by preserving scientific terminology.
9.	Teaching and Learning Strategies
strategies	- Applying the theoretical aspect to reality through examples, group discussion and dialogue, as well as the preparation of daily and monthly Reports and tests.
10.	Material covered
Week 1	Course Introduction (Course material and objective, learning outcomes, lessons and assessment discussed with the learners)

Week 2,3,4	Unit 1. Student life Reading: How do you read? P4-5 Ways of reading: reading methods Writing: Describing people p6-7 Punctuations: capital letters, full stops and question marks. Linking idea: and, but to join sentences. Grammar: Tenses: present simple.
Week 5,6	Unit 2. Daily routines Reading: Work and stress Predicting content: using picture Writing: Routines and procedures
Week 7,8	Unit 3. People and environment Reading: weather Scanning – using headings Writing: describing our lives Punctuation: apostrophes Grammar: talking about frequency
Week 9	Exam
Week 10,11	Unit 4. Architecture Reading: famous buildings Writing: describing buildings Linking ideas: expressing reason, because Linking ideas: expressing result-so Words and phrases: language to describing buildings
Week 12,13	Unit 5. Education Reading: Universities Writing: Formal letters and emails Words and phrases: languages for letters and emails Writing a letter or email
Week 14,15	Unit 6. Technology Reading: inventions Getting information from websites: skimming and scanning to find useful information. Using visuals in a website: getting extra information from diagrams and pictures Writing: describing things Writing a description of a device
Week 16	exam
Week 17	Unit 7. Food, drink and culture Reading: food from other counters Topic sentences: using a topic sentence to help understanding Writers opinion: identifying the writers opinion Writing: Describing food and drink

	Punctuation: commas Linking ideas: in addition comma and and. Using pronouns: avoiding repetition Writing about food and drink.
Week 18,19	Unit 8.Cities and the worlds Reading: City life Looking at data: table, charts and graphs Getting facts from a text: using heading to help you find information Writing: Comparing data Rules: comparative and superlatives Linking ideas: using relative pronouns which and where Writing: about cites
Week 20	exam
Week 21,22	Unit 9. Brain power Reading: A healthy brain In other words: using pronouns and synonyms to avoid repetition Making notes: organizing nots Writing: Notes and summaries Common mistakes: typical grammar errors. Summaries: summarizing the main pointes of a text Writing a summary
Week 23,24,25	Unit 10. Staying alive Reading: Dangerous diseases of your time Using what you know: using your own knowledge to help you understand a text Using reference to understand a text: (relative) pronouns, possessive, adjectives and adverbs Writing: Describing statistics
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports.... etc	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	New Headway Academic Skiles (reading, writing and study skills)
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	websites

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Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Educational
Psychology and Developmental

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

63.Course Name:	
Educational Psychology and Development	
64. Course Code:	
:Semester/ Year.65	
2023/2024	
:Description Preparation Date.66	
20/3/2024	
67.Available Attendance Forms:	
Physical Presence	
68.Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
69.Course Administrator Name :	
Teaching Name:	
Email:	
70.Course Objectives	
Course Objectives	- He knows the basic concepts associated with the curriculum and the foundations of its construction. - Specifies the criteria and methods of curriculum evaluation and procedures for its development. - Illustrates theories of teaching and learning. - Identifies appropriate teaching and learning strategies. - Compares teaching and learning strategies that are appropriate for teaching situations. - It identifies the elements of character building and the promotion of cultural identity. - Identifies the most important thinking strategies and research and investigation methodologies.

	- Provides new ideas for the issues involved in the course content.				
71.Teaching and Learning Strategies					
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams				
72.Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1		The student should know the definition of educational psychology and its history	Definition of Psychology – Its History – Its Objectives	Discussion and Dialogue	Ask questions at the end of the lecture
2		The student should know the importance of educational psychology in the field of education	The Importance of Educational Psychology – Its Relationship to Other Sciences	Brainstorming	Participation of students during the lecture
3		The student should know the branches of psychology and their importance	Branches of Psychology – Theoretical and Applied Branches	Discussion and Dialogue	Participation of students during the lecture
4		The student should know what problems the teacher is directing To know the characteristics of the teacher's personality that affect the students	Characteristics of the teacher's personality. Classroom problems. Axes of the effectiveness of the learning process	Brainstorming	Participation of students during the lecture
5		The student should know what are the factors that affect teaching and learning	Factors Affecting the Teaching and Learning Process	Brainstorming	Participation of students during the lecture
6		The student should know the importance of motivation in education	Motivation in teaching and learning	Discussion and Dialogue	Ask questions at the end of the lecture
7		Scoop up the factors affecting motivation	Part II of the Motivation Chapter	Discussion and Dialogue	Participation of students during the lecture
8		Feedback	First Month Exam / First Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions

9		To know the student but it is memory The student should know how memory affects the learning process	Memory	Discussion and Dialogue	Ask questions at the end of the lecture
10		The student should know the theories that explained the memory	Memory Theories	Brainstorming	Participation of students during the lecture
11		The student should know the importance of studying memory theories	Memory Theories	Discussion and Dialogue	Participation of students during the lecture
12		The student should distinguish between memory and forgetfulness in their impact on the learning process	Oblivion	Brainstorming	Participation of students during the lecture
13		The student should know the theories that explained the forgetfulness	Theories of Oblivion	Brainstorming	Participation of students during the lecture
14		The student should know the importance of studying theories	Theories of Oblivion	Discussion and Dialogue	Ask questions at the end of the lecture
15		The student should differentiate between the factors affecting memory and forgetfulness	Factors Affecting Memory and Forgetfulness	Discussion and Dialogue	Participation of students during the lecture
16		Provide student feedback	Second Month Exam First Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions
17		Provide student feedback	Review of previous chapters	Discussion and Dialogue	Ask questions at the end of the lecture
18		Provide student feedback	Review of previous chapters	Brainstorming	Participation of students during the lecture
19		The student should know the importance of feedback in teaching and learning.	Feedback	Discussion and Dialogue	Participation of students during the lecture
20		The student should know how to provide the learner with feedback in teaching and learning	Feedback	Brainstorming	Participation of students during the lecture
21		The student should know the meaning of the transfer of the effect of the training	Transfer of Training Impact	Brainstorming	Participation of students during the lecture
22		The student should know how the impact	Transfer of Training Impact	Discussion and Dialogue	Ask questions at the end of the lecture

		of the training is transferred			
23		Provide student feedback	First Month Exam Second Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions
24		The student should know the meaning of learning and how it happens	Learning	Discussion and Dialogue	Participation of students during the lecture
25		The student should know the theories of learning and its laws.	Learning Theories and Laws	Discussion and Dialogue	Ask questions at the end of the lecture
26		The student should know the basic concepts of each theory	Learning Theories and Laws	Discussion and Dialogue	Ask questions at the end of the lecture
27		To differentiate between theories and how to apply them in education	Learning Theories and Laws	Discussion and Dialogue	Ask questions at the end of the lecture
28		Distinguish between the laws of teaching and learning theories	Learning Theories and Laws	Discussion and Dialogue	Ask questions at the end of the lecture
29		Provide student feedback	Review Previous Semesters Second Semester	Discussion and Dialogue	Ask questions at the end of the lecture
30		Provide student feedback	Second Month Exam Second Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions

73.Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

74.Learning and Teaching Resources

- Educational Psychology. Muhammad Mustafa Zeidan
- Iraqi Academic Scientific Journals
- Various contact sites related to the jurisdiction

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Accreditation Department



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Name of the Academic or Professional Program: Human Rights and Democracy

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

75.Course Name:					
Human Rights and Democracy					
76. Course Code:					
:Semester/ Year.77					
2023/2024					
:Description Preparation Date.78					
20/3/2024					
79.Available Attendance Forms:					
Physical Presence					
80.Number of Credit Hours (Total) / Number of Units (Total)					
Hours/Units					
81.Course Administrator Name :					
Teaching Name:					
Email:					
82.Course Objectives					
Course Objectives	- Introducing the importance of human rights and their important role in creating a spirit of tolerance and cooperation among members of society to promote civil peace. Using the language of dialogue to solve problems instead of using violence to avoid the injustice and oppression inflicted on human beings in the past centuries. - Consolidating the principle of adherence to the law, knowing the rights and duties, and not harming others under the pretext of freedom, but man must know that his limits end when others are free. - Knowledge of the relationship between human rights, freedom and democracy in accordance with the nature of the society in which he lives.				
83.Teaching and Learning Strategies					
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams				
84.Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method

3-2-1	6	The student should understand the concepts he received in the lecture	The concept of human rights - its importance - its historical roots - its characteristics	Lecture + Story	Student Interaction
6-5-4	6	The student should understand the concepts he received in the lecture	Human Rights Legal Sources - Foreign Sources - Human Rights Sources in England, USA and France	Lecture + Dialogue	Student Interaction+ Tests
-10-9-8-7 13-12-11	14	The student should understand the role of rights in raising the awareness of the Iraqi society	Human Rights Sources in Iraq - International Recognition of Human Rights - The Emergence of Non-Governmental Organizations and Their Role in the Field of Human Rights	Lecture + Discussion	Student + Interaction Daily and Semester Exams
16-15-14	6	The student should acquire knowledge and knowledge of the importance of these terms and how to trust the sources	Universal Declaration of Human Rights - Intellectual Property - Terrorism, its Causes and How to Address it	Lecture + Discussion	Student Interaction
19-18-17	6	The student should understand these terms and have the ability to deal with them smoothly	Freedom- Its Concept- Its Classifications- The Difference in the Level of Freedom Between the Countries of the World- Democracy- Its Concept- Its Main Components- Its Advantages	Lecture + Discussion	Student + Interaction Daily Tests
22-21-20	6	The student should understand these terms and have the ability to deal with them smoothly	The Democratic Constitution - Its Principles - Constitutional Democracy - Obstacles to Democratic Practice - Types of Democracy - Its Pillars - Its Mechanisms	Lecture + Discussion	Student + Interaction Semester Exams
24-23	4	Ability to raise students' awareness and urge them to manage peaceful and civilized dialogue	The Relationship between Human Rights and Democracy	Lecture + Discussion	Student Interaction

85.Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

86.Learning and Teaching Resources

- Vocabulary prescribed by the Ministry within the sectoral
- Online Resources
- Research Field Visits to Supervise Application Students

**Ministry of Higher Education and Scientific
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**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Fundamentals of Education

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

87.Course Name: Fundamentals of Education	
88. Course Code:	
:Semester/ Year.89	
2023/2024	
:Description Preparation Date.90	
20/3/2024	
91.Available Attendance Forms:	
Physical Presence	
92.Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours / 4 Units	
93.Course Administrator Name :	
Teaching Name : Assoc. Prof. Saher Mahmoud Kazim	
Email: Sahir.kadhom@uodiyala.edu.iq	
94.Course Objectives	
Course Objectives	1. The Foundations of Education course is designed to provide students with a deep understanding of the basic concepts and principles of the Foundations of Education, and the main objectives of the Foundations of Education course usually include the following: 1- Building and fully forming the individual's personality from all personal, physical, and psychological aspects and achieving a balance between all these qualities. 2- Training individuals on good behaviors and sound rules in life. 2. 3. Introducing individuals to matters of religion and increasing their information to distinguish between right and wrong.
95.Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Scientific Books. - Daily and Monthly Exams
96.Course Structure	

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2		Introduction to the Meaning and Objectives of Education		
2	2		Historical Origins of Education		
3	2		Education in Primitive Societies		
4	2		Characteristics of Parenting in Primitive Societies		
5	2		Education in Antiquity Education in the Mesopotamian Civilization		
6	2		:Education in the Nile Valley		
7	2		First month exam		
8	2		Education in the Chinese Civilization		
9	2		Examination System in Chinese Education		
10	2		Arab Islamic Education		
11	2		Pre-Islamic Era		
12	2		The stage of the emergence of the Islamic call		
13	2		The Stage of the Spread of the Islamic • Religion during the Era of the Rightly Guided Caliphs and the Umayyads		
14	2		Second Month Exam		
15	2				
16	2	Exam			
17	2		The Abbasid Era Stage . And the stage of deterioration and decay		
18	2		- Institutes of Education in Islam Book Mosque Schools		
19	2		Libraries Alwaraqeen Shops Houses Scientists Palaces		
20	2		Teaching Methods in Arab-Islamic Education		
21	2		Historical Stages of Arab-Islamic Education		
22	2		General Features of Arab-Islamic Education		
23	2		Exam of the first month of the second semester		
24	2		Flags of Arab-Islamic Educational Thought Ibn Khaldun		
25	2		Ben Sina, Al-Ghazali		
26	2		Media of Western Educational Thought/Jean-Jacques Rousseau/John Dewey		
27	2		The Social Foundations of Education The Relationship of Education to Society		
28	2		Education and Social Control Education and Community Development		
29	2		/Human Capital / Physical Capital		
30	2	Exam			

97.Course Evaluation

**Ministry of Higher Education and Scientific
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Directorate of Quality Assurance and

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Monthly exam (25) / final exam (50)

98.Learning and Teaching Resources: Foundations of Modern Education and
Education Systems / Mohsen Ali Attia

-

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Advanced Databases

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

99.	Course Name:		
		Advanced Databases	
		:Course Code	.100
		403CSOS	
		:Semester/ Year	.101
		2023/2024	
		:Description Preparation Date	.102
		20/3/2024	
103.	Available Attendance Forms:		
		Physical Presence	
104.	Number of Credit Hours (Total) / Number of Units (Total)		
		4 Hours / 6 Units	
105.	Course administrator name (mention all, if there is more than one)		
		Name: Assoc. Prof. Qasim Radham Mahmoud Email: pure.comp.qasim.radam@uodiyala.edu.iq	
106.	Course Objectives		
	Course Objectives - Explain the basic functions and services provided by the database management system. - Analysis of the basic components of a database management system - Types of Database Management Systems. - Introduction to Structured Query Language. - Explain how to create tables and add data to them by typing their own queries. - Explain the basic operations that can be performed on the data within the tables (add, delete, modify, display, etc.). - Establish relationships between tables by query. - Explain the queries for comparing literal strings. - Explain aggregation processes on digital fields. - Explanation of scaling functions in the query language and how to write them - Explain the orders to arrange the data ascending or descending orders. - The main query and the subquery.		

	• Use commands (IN, Exists) in subqueries. • Use commands (Any, All) with subqueries. • Explain the operations on groups (Union, Intersect, difference). • Explanation of joint queries (Joins queries). • Explanation of System Data queries.
107. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

108. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Understanding what a database management system is	Introduction to Database Management System	Diction + Examples	Oral exam
2	2	Understanding what a database management system is	Introduction to Database Management System	Presentation + Examples	Oral exam
3	2	Knowledge of the basic components of a database system	Analysis of the basic components of a database management system (entity, characteristics, relationships)	Presentation + Examples	Oral exam
4	2	The student should know the types of database management systems	Types of Database Management Systems.	Presentation + Examples	Oral exam
5	2	The student should know the types of database management systems	Types of Database Management Systems.	Presentation + Examples	Oral exam
6	2	The student should know the types of database management systems	Types of Database Management Systems.	Presentation + Examples	Oral exam
7	2		Exam		

8	2	Recognize the structured query language	Introduction to Structured Query Language.	Presentation + Examples + Lab	Oral exam
9	2	The ability to create tables within a specific database by query.	Explain how to create tables and add data to them by typing their own queries.	Presentation + Examples + Lab	Oral and practical exam
10	2	Ability to write queries for operations that can be performed on data within tables.	Explain the basic operations that can be performed on the data within the tables (add, delete, modify, display, etc.).	Presentation + Examples + Lab	Oral and practical exam
12	2	Ability to write queries for operations that can be performed on data within tables.	Explain the basic operations that can be performed on the data within the tables (add, delete, modify, display, etc.).	Presentation + Examples + Lab	Oral Exam and Homework
13	2	Ability to write queries for operations that can be performed on data within tables.	Explain the basic operations that can be performed on the data within the tables (add, delete, modify, display, etc.).	Presentation + Examples + Lab	Oral and practical exam
14	2	Ability to write queries for operations that can be performed on data within tables.	Explain the basic operations that can be performed on the data within the tables (add, delete, modify, display, etc.).	Presentation + Examples + Lab	Oral and practical exam
15	2		Exam		
13	2	The student should be able to establish relationships between the tables	Establish relationships between tables by query.	Presentation + Examples + Lab	Oral and practical exam
14	2	The student should be able to write queries for the comparison of the verbatim strings.	Explain the queries for comparing literal strings.	Presentation + Examples + Lab	Oral and practical exam

15	2	The student should be able to write queries for the comparison of the verbatim strings.	Explain the queries for comparing literal strings.	Presentation + Examples + Lab	Oral and practical exam
16	2	The student should be able to write queries to perform compilation operations on the table data	Explain aggregation processes on digital fields.	Presentation + Examples + Lab	Oral and practical exam
17	2	The student should be able to write queries to perform compilation operations on the table data	Explain aggregation processes on digital fields.	Presentation + Examples + Lab	Oral and practical exam
18	2		Exam		
19	2	The student should be able to write the queries for the sizing	Explanation of scaling functions in the query language and how to write them	Presentation + Examples + Lab	Oral and practical exam
20	2	The student should be able to write the queries for the sizing	Explanation of scaling functions in the query language and how to write them	Presentation + Examples + Lab	Oral and practical exam
21	2	The student should be able to write the queries in ascending and descending order.	Explain the orders to arrange the data ascending or descending orders.	Presentation + Examples + Lab	Oral and practical exam
22	2	The student should be able to write the queries that link between the external and internal inquiry	The main query and the subquery.	Presentation + Examples + Lab	Oral and practical exam
23	2	The student should be able to write the queries that link between the external and internal inquiry	The main query and the subquery.	Presentation + Examples + Lab	Oral and practical exam
24	2		Exam		

25		The student should be able to type queries that include commands (In, Exists)	Use commands (IN, Exists) in subqueries.	Presentation + Examples + Lab	Oral and practical exam
26	2	The student should be able to type queries that include commands (Any, All)	Use commands (Any, All) in subqueries.	Presentation + Examples + Lab	Oral and practical exam
27	2	The student should be able to write the queries of operations on groups.	Explain the operations on groups (Union, Intersect, difference).	Presentation + Examples + Lab	Oral and practical exam
28	2	The student should be able to write and show queries related to linking data from more than one table.	Explanation of joint queries (Joins queries).	Presentation + Examples + Lab	Oral and practical exam
29	2	The student should be able to write and show queries related to linking data from more than one table.	Explanation of joint queries (Joins queries).	Presentation + Examples + Lab	Oral and practical exam
30		The student should be able to write special queries for the system data	Explanation of System Data queries.	Presentation + Examples + Lab	Oral and practical exam

109. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .110

- Hector Georrica, Jeffrey D. Ullman and Jennifer Widom, "Database System The Complet Book", Pearson Prentce Hall,2002–2009.
- C.Avgerou And T. Cornford, Developing Information System: concepts, Issues, and Practices, 2nd Ed., Macmillian Press, 1998.

**Ministry of Higher Education and Scientific
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**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Data Structures

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

111. Course Name:	
Data Structures	
:Course Code .112	
201CSDA	
:Semester/ Year .113	
2023/2024	
:Description Preparation Date .114	
20/3/2024	
115. Available Attendance Forms:	
Physical Presence	
116. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
117. Course administrator name (mention all, if there is more than one)	
Name: Assoc. Prof. Dr. Adel Ibrahim Khalil	
Email: dr.adil.khalil@uodiyala.edu.iq	
118. Course Objectives	
Course Objectives	Objectives of the Data Structures Course: - Teach the student what data structures are and methods of organizing and storing data in memory - Study of the most important types of different data structures and ways to deal with them - Study of fixed and moving linear data structures, the most important of which are - Stack - The queue - Study of nonlinear data structures, the most important of which are - The tree - Scheme - Learn the most important applications related to linear and nonlinear data structures - Study of search and ranking algorithms
119. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books.

120. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	training for previous experiences on using variables	Introduction to data structures	Reading Lab +	
2	2	training for previous experiences on loops	Types of data structures	Reading + Lab	Oral exam
3	2	Practical on Array	1D Array representation on the memory	Reading + Lab	Oral exam
4	2	application to on 2D Array	2D array representation on the memory	Reading + Lab	Oral exam
5	2	Exam	Exam		
6	2	Practical application	Representation array with structures	Reading + Lab	Oral exam
7	2	Practical application of stack using array	Stack: definition , operations and algorithms	Reading + Lab	Oral exam
8	2	Practical application of a given lecture	Stack representation using array	Reading + Lab	Homework
9	2	Practical application of a given lecture	The representation of stack using structure	Reading + Lab	Applied Algorithm in LAB
10	2	Practical application to draw a circle	The applications of stack	Reading + Lab	Applied Algorithm in LAB
11	2	Exam	Exam		
12	2	Practical application of a given lecture	Queue: definition , operations and algorithms	Reading + Lab	Oral exam
13	2	Practical application of a given lecture	Queue representation using array	Reading + Lab	Oral exam
14	2	Practical application of a given lecture	Queue representation using structure	Reading + Lab	Competition
15	2	Practical application of a given lecture	Circular Queue: definition , operations and algorithms	Reading + Lab	Homework
16	2	Practical application of a given lecture	Queue representation using Circular array		
17	2	Review lessons	Review lessons	Reading Lab +	
18	2	Comprehensive Exam	Comprehensive Exam		
19	2	training for previous experiences on using variables	Introduction to data structures	Reading + Lab	Oral exam
20	2	Practical application on pointers and references	Dynamic storage allocation	Reading + Lab	Oral exam
21		Practical application of a given lecture	Linked structures : definition, , operation and algorithms	Reading + Lab	Oral exam

22		Practical application of a given lecture	Linked lists	Reading + Lab	Oral exam
23		Practical application of a given lecture	Double linked list	Reading + Lab	Oral exam
24		Exam	Exam		
25		Practical application of a given lecture	Linked stack	Reading + Lab	Oral exam
26		Practical application	Linked queue	Reading + Lab	Oral exam
27		Practical application	Graph: directed graph and undirected graph	Reading + Lab	Oral exam
28		Practical application	Tree	Reading + Lab	Oral exam
29	2	Practical application	Types of trees and its algorithms		
30		Practical application	Binary search tree		

121. Course Evaluation

Monthly Exam (40) / Practical Exam (10) / Final Exam (50)

122. Learning and Teaching Resources

- Data Structures in C Plus Plus, Essam Al-Saffar , 2018
- Goodrich et al. *Data structures and algorithms in C++*. John Wiley & Sons, 2011.

**Ministry of Higher Education and Scientific
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**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Entity Programming

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

123. Course Name:					
Entity Programming					
124. Course Code:					
:Semester/ Year .125					
2023/2024					
:Description Preparation Date .126					
20/3/2024					
127. Available Attendance Forms:					
Physical Presence					
128. Number of Credit Hours (Total) / Number of Units (Total)					
Hours/Units					
129. Course Administrator Name :					
Teaching Name:					
Email:					
130. Course Objectives					
Course Objectives	- Students' understanding of the principles of entity programming. - Understand some concepts of data structures such as symbolic strings . - Understand subprograms and integrate them with entity programming concepts. - Implement algorithms used to solve software problems using classes . - Understand and apply entity programming concepts such as classes, entities, encapsulation, inheritance of all kinds, and polymorphism.				
131. Teaching and Learning Strategies					
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams				
132. Course Structure					
Week	Watch es	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method

1	2 Theoretical + 2practical	Definition of Entity Programming	Introduction to Entity Programming	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
2	2 Theoretical + 2practical	Subprogrammes	Subprogrammes	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
3	2 Theoretical + 2practical	History and types of programming languages	Methods and types of programming languages	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
4	2 Theoretical + 2practical	Unstructured languages	Methods and types of programming languages	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
5	2 Theoretical + 2practical	Languages with modules	Methods and types of programming languages	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
6	2 Theoretical + 2practical	Entity Software	Methods and types of programming languages	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
7	2 Theoretical + 2practical	Custom and Understanding Symbolic Strings	Symbolic Strings	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
8	2 Theoretical + 2practical	Understanding Categories and Entities	Categories and Entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
9	2 Theoretical + 2practical	How to Create Entities	Creation of entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
10	2 Theoretical + 2practical	Understanding Packaging and Category Access	Packaging and Category Access	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
11	2 Theoretical + 2practical	Understanding Packaging and Category Access	Packaging and Category Access	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
12	2 Theoretical + 2practical	Understanding Scope Operations	Scope Process	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
13	2 Theoretical + 2practical	Understanding and writing the hymns	Construction	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
14	2 Theoretical + 2practical	Understanding and Writing Demolitions	Ruins	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
15	2 Theoretical + 2practical	Understanding the Concept of Heredity	Genetics	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
	2 Theoretical + 2practical	Understanding Single Inheritance	Single Inheritance	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
17	2 Theoretical + 2practical	Understanding Complex and Multiple Genetics	Complex and multi- level genetics	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
18	2 Theoretical + 2practical	Understanding Hybrid Inheritance	Hybrid Genetics	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
19	2 Theoretical + 2practical	Understanding and Writing Friendly Functions	Friendly functions	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
20	2 Theoretical + 2practical	Identify Function Overload	Overload of functions	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports

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21	2 Theoretical + 2practical	Recognize process overload	Recognize process overload	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
22	2 Theoretical + 2practical	Understanding and writing entity indicators	Indicators to Entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
23	2 Theoretical + 2practical	Understanding the Indicators of the Son Entity	Indicators to Entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
24	2 Theoretical + 2practical	Understanding Indicators Examples and Applications	Applications of indicators for entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
25	2 Theoretical + 2practical	Understanding the Indicator Matrix for Entities	Indicator Matrix for Entities	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
26	2 Theoretical + 2practical	Writing Default Functions	Default Functions	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports
27	2 Theoretical + 2practical	Understanding the Abstract Category	Data Abstraction	Presentation+ Lab	Weekly and Monthly Exams and Laboratory Reports

133. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .134

- Herber, Schildt, C++: The complete Reference, 1998.
- Robert Lafore, Object Oriented Programming in C++, 2002.

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name:

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

135. Course Name:	
Computational Theory Computational Theory	
:Course Code .136	
211CsCt	
:Semester/ Year .137	
2023/2024	
:Description Preparation Date .138	
24/3/2024	
139. Available Attendance Forms:	
Physical attendance of students in classrooms	
In addition to electronic attendance in case of adding additional electronic lessons	
140. Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours / 4 Units	
141. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Mohamed Sami Mohamed	
Email: dr.mohammed.sami@uodiyala.edu.iq	
142. Course Objectives	
Course Objectives	Equip the student and give him the necessary basics to understand and study the subject of calculus in Stage The second .1 To understand the languages used in computation to solve general programming and mathematical problems .2 In the TG The NFS The FA Understanding the meaning of each subject of accounting and differentiating between them .3 Identify the rules and laws that represent the general drawing of these roads .4 5. Understand the way of linguistic expression and transitions from one state to another from the beginning to the end
143. Teaching and Learning Strategies	
Strategy	- Traditional lectures and adopt the style of discussion and participation. - Additional exercises as assignments to solve during lectures or homework. - Additional Exercise for Solving Presented in a Special Group for Students of the Subject on Social Media - Scientific Books. - Daily and monthly exams.

144. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Understanding the Theories of Computation	Set theory	Lecture + Discussion	Daily and monthly + exams reports
2	2	Types of rules within the theories used	Set theory and grammar types	Lecture + Discussion	Daily and monthly + exams reports
3	2	Types of Grammar in Computational	Grammar types	Lecture + Discussion	Daily and monthly + exams reports
4	2	Ordinary expressions and how to deal with them	Regular expression	Lecture + Discussion	Daily and monthly + exams reports
5	2	Ordinary expressions and how to deal with them	Regular expression	Lecture + Discussion	Daily and monthly + exams reports
6	2	Specific Mechanism	Finite automata	Lecture + Discussion	Daily and monthly + exams reports
7	2	Transitional Fee	Transition graph	Lecture + Discussion	Daily and monthly + exams reports
8	2	Conversions between Defined and Indefinite	Convert from NDFA- ϵ to NDFA without ϵ	Lecture + Discussion	Daily and monthly + exams reports
9	2	Conversions between Defined and Indefinite	Convert from NDFA- ϵ to NDFA without ϵ	Lecture + Discussion	Daily and monthly + exams reports
10	2	Transfers between Indefinite and Defined	Convert from NDF to DFA	Lecture + Discussion	Daily and monthly

					+ exams reports
11	2	Conversion from expression to undefined form	Convert RE to NDFA	Lecture + Discussion	Daily and monthly + exams reports
12	2	,Comparison of Terms Transitional Fees, and Limitations	Compare F,TG,RE	Lecture + Discussion	Daily and monthly + exams reports
13	2	Introduction to Klein's Theory	Introduction to kleen theory proof 1	Lecture + Discussion	Daily and monthly + exams reports
14	2	Klein's theory	Introduction to kleen theory Proof 2	Lecture + Discussion	Daily and monthly + exams reports
15	2	Klein's theory	Introduction to kleen theory proof 3	Lecture + Discussion	Daily and monthly + exams reports
16	2	Exam			
17	2	Proof of Klein's theorem part one	kleen theory review & prove first section	Lecture + Discussion	Daily and monthly + exams reports
18	2	Proof of Klein's theorem Part II	Prove second section with EX	Lecture + Discussion	Daily and monthly + exams reports
19	2	Proof of Klein's Theorem Part III with Examples of Previous Part II	EX on second and prove third section	Lecture + Discussion	Daily and monthly + exams reports
20	2	Proof of Klein's Theorem Part IV with Examples of Previous Part III	EX on third section and prove fourth section	Lecture + Discussion	Daily and monthly + exams reports
21	2	Proof of Klein's Theorem Part IV with Examples of Previous Part II	Ex on fourth section and introduction on CFG	Lecture + Discussion	Daily and monthly + exams reports
22	2	is a type (CFG) Contextless Rules of formal grammar: a set of differentiation rules that describe all possible strings in an official language for deriving words, and these rules can be applied .regardless of the context	CFG	Lecture + Discussion	Daily and monthly + exams reports

23	2	Chomsky's Natural Model	Convert CFG to CNF	Lecture + Discussion	Daily and monthly + exams reports
24	2	Chomsky's Natural Model	Convert CFG to CNF	Lecture + Discussion	Daily and monthly + exams reports
25	2	Transformation from context-free rules to Chomsky's natural model	Moore and mealy machine	Lecture + Discussion	Daily and monthly + exams reports
26	2	Moore machine and Millie machine	Convert from moore to mealy and converse and PDA	Lecture + Discussion	Daily and monthly + exams reports
27	2	Conversion from Moore to Millie and Automation Bottom Push or "PDA" for short	Review	Lecture + Discussion	Daily and monthly + exams reports
28	2	Introducing the Turing Machine	PDA and TM	Lecture + Discussion	Daily and monthly + exams reports
29	2	Conversion from Moore to Millie and Automation Bottom Push or "PDA" for short	TM and review	Lecture + Discussion	Daily and monthly + exams reports
30	2	Exam			

145. Course Evaluation

Monthly exam (40) / final exam (60)

Learning and Teaching Resources .146

V.AHO,R.Sethi,J.D.Ullman,"Compiler principles,Techniques and tools"Addison Wesley

J.P.Tremblay"The theory and practice of compiler Writing",Megraq Hill

Theory of Computation and Application- 2nd Edition (Automata, Formal Languages, Computational Complexity)- S.R. Jena, S.K. Swain, March 2020, Edition: 2nd, Publisher: Laxmi Publications Pvt. Ltd, New Delhi, India

:Electronic References

<https://cglab.ca/~michiell/TheoryOfComputation/TheoryOfComputation.pdf>

[https://people.math.sc.edu/mlevet/Lecture Notes.pdf](https://people.math.sc.edu/mlevet/Lecture%20Notes.pdf)

<http://fuuu.be/polytech/INFOF408/Introduction-To-The-Theory-Of->

[Computation-Michael-Sipser.pdf](#)

<https://csustan.csustan.edu/~tom/SFI-CSSS/Lecture-Notes/Computation/computation.pdf>

<https://www.cis.upenn.edu/~jean/gbooks/toc.pdf>

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Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Numerical Analysis

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

147. Course Name:	
Numerical analysis	
148. Course Code:	
:Semester/ Year .149	
2023/2024	
:Description Preparation Date .150	
20/3/2024	
151. Available Attendance Forms:	
Physical Presence	
152. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
153. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Arshad Adham Ahmed	
Email:	
154. Course Objectives	
Course Objectives	- Enable the student to solve complex mathematical equations that are difficult to solve using numerical analysis methods. - Introducing students to numerical methods of advanced mathematics - Enabling students to solve advanced equations
155. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

156. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2Theoretical+2practical	Error Detection	The Error (Type of Errors)	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

2	2Theoretical+2practical	Teaching the student to solve differential equations	Solution of non linear equation Bisection method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
3	2Theoretical+2practical	Root Extraction Recognition	False position	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
4	2Theoretical+2practical	Root Extraction Recognition	Secant method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
5	2Theoretical+2practical	Identifying Secondary Root Extraction	Newton raphson method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
6	2Theoretical+2practical	Teaching the student to find the fixed root points	Fixed point interactive method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
7	2Theoretical+2practical	Teaching the student to extract numerical roots	Numerical solution of set of equation	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
8	2Theoretical+2practical	Learn how to extract roots for matrices	Gaussian elimination method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
9	2Theoretical+2practical	Learn how to extract roots for matrices	Gauss Jordan method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
10	2Theoretical+2practical	Learn how to extract roots for matrices	Jacobi method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
11	2Theoretical+2practical	Learn how to extract roots for matrices	Gauss seidel method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
12	2Theoretical+2practical	Identifying Numerical Complementary Methods	Interpolation (Lagrange interpolation method)	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
13	2Theoretical+2practical	Identifying finite differential equations	Calculus of finite differences	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

14	2Theoretical+2practical	Finding the roots for the front and back matrices	Forward and backward differences	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
15	2Theoretical+2practical	Finding the roots of the front matrices	Divided differences	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
16	2Theoretical+2practical	Finding roots for background arrays	Divided differences	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
17			Mid exam		
18			Half year break		
19			Half year break		
20	2Theoretical+2practical	Learning on Integration Methods	Numerical integration	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
21	2Theoretical+2practical	Learning on Integration Methods	Trapezoidal method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
22	2Theoretical+2practical	Integrative methods in 1/3 format	Simpsons method 1/3	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
23	2Theoretical+2practical	Integrative Methods in Formula 3 \ 8	Simpsons method 3/8	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
24	2Theoretical+2practical	Learn how to calculate finite integrations	Bools method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
25	2Theoretical+2practical	Learn how to calculate finite integrations	Weddles formula	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
26	2Theoretical+2practical	Learn how to calculate finite integrations	Taylor method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
27	2Theoretical+2practical	Learn how to calculate finite integrations	Euler method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

28	2Theoretical+2practical	Learn how to calculate finite integrations	Euler method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
29	2Theoretical+2practical	Learn how to calculate finite integrations	Runge kutta method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
30	2Theoretical+2practical	Learn how to calculate finite integrations	Runge kutta method	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
31	2Theoretical+2practical	Learn how to calculate finite from integrations the upper ranks	Higher order Differential equations	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
32	2Theoretical+2practical	Learn how to calculate finite from integrations the upper ranks	Higher order Differential equations	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

157. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

158. Learning and Teaching Resources

- .Introduction to Numerical Analysis , (Dr. Ahmed Saleh Al-Alusi and Dr Adel Zamil Al-Bayati), 1989
- Numerical methods, (P. Kandasamy, K. Thilagavathy & K. Gunavathy), 2009

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Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Arabic

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

159. Course Name:	
Arabic Language	
160. Course Code:	
:Semester/ Year .161	
2023/2024	
:Description Preparation Date .162	
20/3/2024	
163. Available Attendance Forms:	
Physical Presence	
164. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
165. Course Administrator Name :	
Teaching Name:	
Email:	
166. Course Objectives	
Course Objectives	- The course aims to give the most important vocabulary of the Arabic language (in grammatical and morphological issues) in an adequate and comprehensive manner, which touches the student's life and accompanies him in the future. - Introduce the student to the basics of correct writing (such as differentiating between Arabic sentences and knowing their types, knowing the original and sub-syntax marks, knowing the transcriptions of the noun sentence, and differentiating between sentences morphologically in terms of recall, femininity, and others). - Preparing the individual who is capable of giving and producing . - The course aims to give the most important vocabulary (in spelling and expressive matters) in general. - Introduce the student to write numbers in Arabic, and to know how to write Hamza in all its kinds. - To make the individual able to adapt to normal and different life conditions . - Reaching students to good levels and being able to provide language assistance and correct spelling mistakes to others . - Preparing a generation of conscious and educated youth.

167. Teaching and Learning Strategies

Strategy	- Traditional lectures and discussion method. - Scientific Books. - Daily and Monthly Exams
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168. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1			An introductory session, clarifying the priorities of the study, an introductory introduction to the Arabic language and its importance	/	/
2		Knowledge and Understanding	The Beginner and the News	Lecture	Oral Testing
3		Knowledge and Understanding	Surah Al-Rahman and memorizing part of it	Lecture	Oral Testing
4		Knowledge and Understanding	Aromatherapy and the art of creation	Lecture & Discussion	Written Exam
5		Knowledge and Understanding	He and her sisters	Brainstorming	Oral
6		Knowledge and Understanding	Hassan bin Thabit and the praise of the Prophet (peace and blessings of Allaah be upon him)	Brainstorming	Oral
7		Knowledge and Understanding	Entering the Tanween on the word that ends with the letter Hamza written on the line	Collaborative Learning	Oral
8		Exam			
9		Knowledge and Understanding	N and her sisters	Collaborative Learning	Oral
10		Knowledge and Understanding	The poet Almotanabbi and the poem I am the one who saw the blind	Collaborative Learning	Oral
11		Knowledge and Understanding	Delete letters from words	Brainstorming	Oral
12		Knowledge and Understanding	The doer , its definition , ruling , types and vice doer	Lecture & Discussion	Oral
13		Knowledge and Understanding	Ahmed Shawky and the poem of Ould Al-Huda	Lecture & Discussion	Oral
14		Exam			
15		Knowledge and Understanding	Review the material and solve the exam questions	Dialogue and discussion	Oral
16		Knowledge and Understanding	Adding letters to the word	Brainstorming	Oral
17		Knowledge and Understanding	Effect	Brainstorming and discussion	Editorial
18		Knowledge and Understanding	Nazik Al-Malaika and a poem called to dreams	Collaborative Learning	Oral
19		Knowledge and Understanding	The thousand at the end of the word	Brainstorming	Editorial

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20		Knowledge and Understanding	Effect	Brainstorming and discussion	Oral
21		Knowledge and Understanding	Nizar Qabbani and the poem of Baghdad	Collaborative Learning	Oral
22		Knowledge and Understanding	Situation	Collaborative Learning	Oral
23		Exam			
24		Knowledge and Understanding	Discrimination and Exception	Lecture & Discussion	Oral
25		Knowledge and Understanding	Subordinates (adjectives and affirmations)	Lecture & Discussion	Oral
26		Knowledge and Understanding	From the modern prose arts (novel and play)	Brainstorming	Oral
27		Knowledge and Understanding	Rules of Writing Numbers	Collaborative Learning	Oral
28		Knowledge and Understanding	Sources of verbs	Brainstorming	Oral
29		Knowledge and Understanding	Writing a Thought and Essay	Brainstorming	Oral
30		Exam			

169. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

170. Learning and Teaching Resources

-

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: English

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form Mycology /second stage

1. Course Name:	
English language 2	
2. Course Code:	
UD21	
3. Semester / Year:	
Annual	
4. Description Preparation Date:	
2024-2025	
5. Available Attendance Forms:	
Imperative	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 h/2U	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecturer. Dr. Antsar Ahmed Abbas Email: intisarm1978@yahoo.com	
8. Course Objectives	
Course Objectives	- Enabling students to know the tenses and how deal with them. - The student is able to understand English vocabulary in addition to being able to express in English language. - Enabling students by preserving scientific terminology.
9.	Teaching and Learning Strategies
strategies	- Applying the theoretical aspect to reality through examples, group discussion and dialogue, as well as the preparation of daily and monthly Reports and tests.
10.	Material covered
Week 1	Course Introduction (Course material and objective, learning outcomes, lessons and assessment discussed with the learners)

Week 2,3,4	Unit 1. Getting to know you Reading: people, the great communicators- the many ways we communicate Listening: Neighbors-Steve and Mrs. Snell talk about each other as neighbors Speaking: Information gap-Joy Darling Writing: Informal letters-A letter to a pen friend Grammar: Tenses: present, past and future
Week 5,6	Unit 2. The way we live Reading: Living in the USA- three people talk about their experiences Listening: You drive me mad(but I love you)-What annoys you about people in your life Speaking: Information gap-people's lifestyles. Exchanging information about immigrants to the USA Writing: Linking words: but, however. Describing a person Grammar: Present simple tense, Present continuous tense
Week 7,8	Unit 3. It all went wrong Reading: The burglars' friend. Newspaper stories: A short story- The perfect crime Listening: A radio drama- The perfect crime Speaking: Information gap- Zoe's party. Telling stories Writing: Linking words: While, during and for. Writing a story Grammar: past tenses: Past simple and Past continuous
Week 9	Exam
Week 10,11	Unit 4. Let's go shopping Reading: The best shopping street in the world Listening: My uncle is a good shopkeeper, Buying things Speaking: Town survey- the good things and bad things about living in your town, Discussion attitudes to shopping Writing: Filling in forms Grammar: Quantity, Articles
Week 12,13	Unit 5. What do you want to do Reading: Hollywood kids-growing up in Los Angeles isn't easy Listening: A song- You've got a friend Speaking: What are your plans and ambitions? Being a teenager Writing: Writing a postcard Grammar: Verb patterns 1, future intentions
Week 14,15	Unit 6. Tell me! What's it like? Reading: A tale of two millionaires- one was mean and one was generous Listening: living in another country- an interview with a girl who went to live in Sweden Speaking: Information gap-comparing cities Writing: Relative clauses 1 who\that\which\where. Describing place Grammar: Comparative and superlative adjectives, big, bigger, biggest, good, better, best
Week 16	exam

Week 17	Unit 7. Famous couples Reading: Celebrity interview from Hi1Magazine with the pop star and the footballer who are in I Listening: An interview with band Style Speaking: Mingle- Find someone who ... Role play- interviewing a band Writing: Relative clauses 2 who\which\that as the object. Writing a biography Grammar: Present Perfect and Past Simple
Week 18,19	Unit 8. Do's and don'ts Reading: Problems and suggestions Listening: Holidays in January- three people's advice on what to do in their country in January Speaking: Jobs- a game. Discussion – house rules, Asking questions about place Writing: Writing letters- Formal letters Grammar: have(go) to, should, must
Week 20	exam
Week 21,22	Unit 9. Going places Reading: The world's first megalopolis- a city of million people Listening: Life in 2025 – an interview with Michio Kaku, Professor of Theoretical Physics Speaking: What will you do? Discussion- what will life be like in the 21st century? Writing: Linking words 2, Advantages and disadvantages Grammar: Time and conditional clauses
Week 23,24,25	Unit 10. Scared to death Reading: Don't look down- walking on a dangerous footpath, 'Into the wild' Listening: When I was young p80 It was just a joke- a boy called Jamie kidnapped his friend Speaking: : When I was young- talking about your childhood Writing: Writing letters- Formal and informal letters 1 Grammar: Verb patterns 2 manage to do, used to do, go walking, Infinitives. Purpose
Week 26,27	Unit 11. Things that change the world Reading: Three plants that changed the world-tobacco, sugar and cotton Listening: The world's most common habit: chewing gum Speaking: : Exchanging information about three plants Writing: Writing a review of a book or film Grammar: Passive
Week 28,29	Unit 12. Dreams and reality Reading: The vicar who's a ghost buster Listening: An interview with a woman who heard voices Speaking: Giving advice- If I were you I'd.... Writing: Writing letters Expressions in different kinds of letters Grammar: Second conditional
Week 30	exam

11.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	New Headway plus for pre-intermediate students
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	websites

**Ministry of Higher Education and Scientific
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Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Educational
Administration and Supervision

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

171. Course Name:	
Educational Administration and Supervision	
172. Course Code:	
:Semester/ Year .173	
2023/2024	
:Description Preparation Date .174	
20/3/2024	
175. Available Attendance Forms:	
Physical Presence	
176. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
177. Course Administrator Name :	
Teaching Name:	
Email:	
178. Course Objectives	
Course Objectives	- To provide the student with basic information and principles about management. - The student should understand the meaning of management - The student should be familiar with the concept of classroom management in terms of its nature and its employment in learning. - The student should be familiar with the modern trends in management and supervision - The student should understand the concept of educational supervision goals and its types - The student should get to know the school's relationship with the community and the means of communication - The student should get to know the meaning of leadership, its characteristics and its importance - The student should be familiar with the meaning and importance of educational supervision - Learning Outcomes, Teaching Methods, Learning and Assessment
179. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books.

180. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1		The student should be introduced to the history of the department, its development path and its importance in the work	The Department of Historical Development	Discussion and Dialogue	Ask questions at the end of the lecture
2		To know what electronic management is To know the difference between it and traditional management To know its importance and areas of application	Electronic Management	Brainstorming	Participation of students during the lecture
3		To know the concept of educational administration	Educational Administration	Discussion and Dialogue	Participation of students during the lecture
4		To know what school administration is, its types and its importance	School Administration	Brainstorming	Participation of students during the lecture
5		To know what school administration is, its types and its importance	School Administration	Brainstorming	Participation of students during the lecture
6		To know what classroom management is, its types and its importance	Classroom Management	Discussion and Dialogue	Ask questions at the end of the lecture
7		To know how to communicate with the classroom and the school	Elements of the classroom communication process	Discussion and Dialogue	Participation of students during the lecture
8		The student should be able to know and absorb the knowledge he has acquired	First Month Exam / First Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions
9		The student should know the theories related to management in general To distinguish between theories	Management Theories	Discussion and Dialogue	Ask questions at the end of the lecture
10		The student should distinguish between	The second part of the chapter on management theories	Brainstorming	Participation of students

		the theories that can be applied			during the lecture
11		To know the importance of studying theories	Part III of the chapter on management theories	Discussion and Dialogue	Participation of students during the lecture
12		The student should know the types of school management styles	School Management Styles	Brainstorming	Participation of students during the lecture
13		The student should know the types of school management styles	The second part of the chapter on school management patterns	Brainstorming	Participation of students during the lecture
14		Feedback	Revision of the First Semester	Discussion and Dialogue	Ask questions at the end of the lecture
15		Feedback	Revision of the First Semester	Discussion and Dialogue	Participation of students during the lecture
16		Feedback	Second Exam / First Semester	Miscellaneous Questions by Bloom's Classification	Editorial Questions
17		The student should know the meaning of leadership and its importance in the success of administrative work.	Leadership	Discussion and Dialogue	Ask questions at the end of the lecture
18		To know the scientific theories of leadership	Leadership Theories	Brainstorming	Participation of students during the lecture
19		The student should know which theories can be applied	Leadership Theories	Discussion and Dialogue	Participation of students during the lecture
20		The student should know the importance of educational communication and its types	Educational Communication	Brainstorming	Participation of students during the lecture
21		The student should know how to apply educational communication in educational work	The second part of the Educational Communication Chapter	Brainstorming	Participation of students during the lecture
22		The student should know how to apply educational communication in educational work	Part III of the Educational Communication Chapter	Discussion and Dialogue	Ask questions at the end of the lecture
23		Feedback	Second Semester Exam	Miscellaneous Questions by Bloom's Classification	Editorial Questions

24		The student should know the importance of educational supervision and its mechanisms of work	Educational supervision	Discussion and Dialogue	Participation of students during the lecture
25		The student should know the types of educational supervision and modern trends for him	The second part of the educational supervision class	Discussion and Dialogue	Ask questions at the end of the lecture
26		The student should know the importance of assessment and the difference between assessment and evaluation	Evaluation in Educational Supervision	Discussion and Dialogue	Ask questions at the end of the lecture
27		The student should know how the evaluation is done in educational supervision and the task of the educational supervisor in visiting schools	The second part of the evaluation class in educational supervision	Discussion and Dialogue	Ask questions at the end of the lecture
28		Feedback	Review of past lectures	Discussion and Dialogue	Ask questions at the end of the lecture
29		Feedback	Continuation of the review of past lectures	Discussion and Dialogue	Ask questions at the end of the lecture
		Feedback	Second semester exam	Miscellaneous Questions by Bloom's Classification	Editorial Questions

181. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

182. Learning and Teaching Resources

- Management & Supervision/Management Theories
- Journal of the Faculty of Education for Humanities
- Various contact sites related to the jurisdiction

**Ministry of Higher Education and Scientific
Research**

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Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Scientific Research

Methodology

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

183. Course Name:	
Scientific Research Methodology	
184. Course Code:	
:Semester/ Year .185	
2023/2024	
:Description Preparation Date .186	
20/3/2024	
187. Available Attendance Forms:	
Physical Presence	
188. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
189. Course Administrator Name :	
Teaching Name:	
Email:	
190. Course Objectives	
Course Objectives	- Introducing the student to the importance of scientific research as the main pillar for the development of countries through the development of scientific knowledge using the correct scientific research mechanisms and the acquisition of scientific skills and methods, not a student who is able to achieve the goal of scientific research in development, construction and community service
191. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method.

	- Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
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192. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1 2 3 4	16	The student should understand what he received in the lecture	Research Methodology – Tariff – Objectives of Development Stages	theoretical	Daily Tests
5-6-7-8	16	The student should understand the skills and methods of scientific research	Steps to prepare the research in selecting the problem, its sources and criteria for selecting it	theoretical	Weekly Exams
9-10-11-12	16	The student should understand when to use these types of glows	Introducing the most important approaches used in scientific research	theoretical	Exams
13-14-15-16	16	The Shadow recognizes the tools used to gather information	Types of Information Collection Tools - Sources	theoretical	Tests
17-18-19-20	16	The student should be familiar with the methods of collecting information	Types of tools used in scientific research	theoretical	Weekly Exams Monthly Exams
21-22-23-24	16	Introducing how to revise the research and use the agreed methods in writing the research	The final form in writing the research includes the language of the research – refinement – divisions – the physical and technical form of the research	theoretical	Weekly and monthly exams
25-26-27-28	16	The student should understand the rules of documenting sources	The final form of writing the research	theoretical	Tests Research Discussion
29-30-31-32	16	Rules for documenting information sourced in footnotes	The final form of writing the research	theoretical	Research Discussion

193. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

194. Learning and Teaching Resources

- Scientific Research Methodology (Dr. Kamal Dashli)
- Ahmed Al-Yousefi (Scientific Research Methods)

**Ministry of Higher Education and Scientific
Research**

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**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide

and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Baath Regime Crimes

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

195. Course Name:	
Crimes of the Baath regime	
196. Course Code:	
:Semester/ Year .197	
2023/2024	
:Description Preparation Date .198	
20/3/2024	
199. Available Attendance Forms:	
Physical Presence	
200. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
201. Course Administrator Name :	
Teaching Name:	
Email:	
202. Course Objectives	
Course Objectives	- Identifying and reviewing a group of crimes committed by the Baath Party - Identifying the psychological and social crimes committed by the Baath Party regime - Exposing the Baath regime's carrying out the largest scientific and cultural impoverishment of the oldest people of the peoples - Introducing international crimes and genocide crimes - Exposing environmental crimes committed by the Baath regime - Mass Grave Crimes Committed by the Baath Party Regime - Knowing the position of the Baath regime on religion
203. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
204. Course Structure	

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1-4		The Concept of Crimes and Its Sections Definition of Crime The Language , Idiom and Crimes of the Ba'ath Regime According to the Documentation of the Law of the Iraqi Supreme Criminal Court in 2005	The concept of crimes and their types, definition of crime, language, terminology, and crimes of the Baath regime according to the documentation of the law of the Iraqi Supreme . Criminal Court in 2005	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
5-6		,Types of crimes decisions issued by the Supreme Criminal Court, psychological and social crimes and their effects and the most prominent violations of the Baathist regime in Iraq	Types of crimes, decisions issued by the Supreme Criminal Court, psychological and social crimes and their effects, and the most prominent violations of the Baathist regime in Iraq.	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
7-10		Social Crimes and Mechanisms of , Psychological Crimes Effects of ,Psychological Crimes	Social crimes and mechanisms of psychological crimes, effects of psychological crimes,	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
11-14		The militarization of society, the attitude of the Baathist regime ,towards religion violations of Iraqi laws	Militarization of society, the Baathist regime's position on religion, violations of Iraqi laws	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
15-20		Pictures of human rights violationsand crimes of the authority	Pictures of human rights violations and crimes of power	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
21-23		Baath regime prisons and detention places	Prison and detention places of the Baath regime	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
24-25		Environmental Crimes of the Baath Regime	Environmental crimes of the Baath regime	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports
26-27		Mass Grave Crimes	crimes grave M	According to point 9 above and according to the nature of the material in each lecture	/ Daily Exams / Assignments / Interaction Reports

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Accreditation Department



28-30		Exam	Examination		
205. Course Evaluation					
Monthly Exam (30) / Practical Exam (10) / Final Exam (60)					
206. Learning and Teaching Resources					
- The book of crimes of the Baath regime issued and approved by the Ministry Higher Education and Scientific Research					

Academic Program Guide

and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Software Engineering

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

207. Course Name:	
Software Engineering	
208. Course Code:	
:Semester/ Year .209	
2023/2024	
:Description Preparation Date .210	
20/3/2024	
211. Available Attendance Forms:	
Physical Presence	
212. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
213. Course Administrator Name :	
Teaching Name:	
Email:	
214. Course Objectives	
Course Objectives	- Enabling students to understand software engineering - Introduce students to how to analyze the system - Understanding students about the advantages and characteristics of a good system - Students' knowledge of the stages of building any software system
215. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

216. 0. Course Structure

Evaluation Method	Teaching Method	Module Name / or Subject	Required Learning Outcomes	Watches	The week
Monthly + exams discussion	Presentation + use of a blackboard	Introduction to Software Engineering and its Characteristics	Introducing the student to what software engineering is	2 Theoretical	1
Monthly + exams discussion	Presentation + use of a blackboard	Software Engineering Applications	Introducing the student to its applications	2 Theoretical	2
Monthly + exams discussion	Presentation + use of a blackboard	Software Problems Advantages of good system design	Introducing the student to its problems	2 Theoretical	3
Monthly + exams discussion	Presentation + use of a blackboard	Software Building Lifecycle	Introducing the student to the life cycle	2 Theoretical	4
Monthly + exams discussion	Presentation + use of a blackboard	The waterfall model, its stages, disadvantages and advantages	Introducing the student to the waterfall model	2 Theoretical	5
Monthly + exams discussion	Presentation + use of a blackboard	The prototype model, its stages, disadvantages, and disadvantages	Introducing the student to the prototype	2 Theoretical	6
Exam					7
Monthly + exams discussion	Presentation + use of a blackboard	The incremental model and its stages and disadvantages and disadvantages	Introducing the student to the incremental model	2 Theoretical	8
Monthly + exams discussion	Presentation + use of a blackboard	The spiral model and its stages and disadvantages and advantages	Introducing the student to the spiral model	2 Theoretical	9
Monthly + exams discussion	Presentation + use of a blackboard	Define system requirements, client and software characteristics	Introducing the student to a set of requirements	2 Theoretical	10
Monthly + exams discussion	Presentation + use of a blackboard	Software analysis process and purpose	Introducing the student to the analysis process	2 Theoretical	11
Monthly + exams discussion	Presentation + use of a blackboard	Elements of Structured Modeling and Analysis :Methods Data Dictionary	Introducing the student to the methods of analysis	2 Theoretical	12
Monthly + exams discussion	Presentation + use of a blackboard	Entity Relationship Diagram	Introducing the student to the methods of analysis	2 Theoretical	13
Monthly + exams discussion	Presentation + use of a blackboard	Data Flow Diagram	Introducing the student to the methods of analysis	2 Theoretical	14
Monthly + exams discussion	Presentation + use of a blackboard	Additional examples of the above three analysis methods	Understand the student more	2 Theoretical	15

Monthly + exams discussion	Presentation + use of a blackboard	Discussion of what has been studied during the semester	Student review of what has already been studied	2 Theoretical	16
Exam					18
Monthly + exams discussion	Presentation + use of a blackboard	Software Design	Introducing the student to software design	2 Theoretical	19
Monthly + exams discussion	Presentation + use of a blackboard	Stages of the software design process	Introducing the student to the stages of the design process	2 Theoretical	20
Monthly + exams discussion	Presentation + use of a blackboard	Types of Software Design Process	Introducing the student to the types of design	2 Theoretical	21
Monthly + exams discussion	Presentation + use of a blackboard	Software Testing Process	Introducing the student to the software test	2 Theoretical	22
Monthly + exams discussion	Presentation + use of a blackboard	Objectives and principles of software testing	Introduce the student to its goals and principles	2 Theoretical	23
Monthly + exams discussion	Presentation + use of a blackboard	Software Testing Stages	Introducing the student to the stages of the test	2 Theoretical	24
Monthly + exams discussion	Presentation + use of a blackboard	Methods for designing test process cases	Introduce the student to the methods of designing test cases	2 Theoretical	25
Monthly + exams discussion	Presentation + use of a blackboard	Definition of Software Project Management	Introducing the student to the management of the software project	2 Theoretical	26
Monthly + exams discussion	Presentation + use of a blackboard	Types of Management Planning	Introducing the student to the types of planning	2 Theoretical	27
Monthly + exams discussion	Presentation + use of a blackboard	Software Project Planning Events	Introducing the student to the planning activities	2 Theoretical	28
Monthly + exams discussion	Presentation + use of a blackboard	Software Quality Assurance	Introducing the student to quality assurance	2 Theoretical	29
Monthly exams + discussion	Presentation + use of a blackboard	Software Quality Assurance Events	Introducing the student to quality assurance activities	2 Theoretical	30
Monthly exams + discussion	Presentation + use of a blackboard	Discussion of the previously studied	Review	2 Theoretical	

217. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .218

- "Software Engineering – Apractitioner's Approach ", Roger S., Pressman , 6th Ed. 2005
- 2-" Software Engineering", Ian Sommerville, 9th Ed. 2010.

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Computer Architecture

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description preparation date: 2/2/2025

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

219. Course Name: Computer Architecture	
220. Course Code:	
:Semester/ Year .221	
2024/2025	
:Description Preparation Date .222	
26/2/2025	
223. Available Attendance Forms:	
Physical Presence	
224. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
225. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Saad Abdulaziz Shaaban saadazeez83@gmail.com :Email saad.shaban@uodiyala.edu.iq	
226. Course Objectives	
Course Objectives	- The Computer Architecture course is designed to provide students with a deep understanding of the concepts, principles, and mechanisms underlying the physical architectural components of a computer. The main objectives of a computer architecture course typically include: - Basic Concepts: Introduce students to the basic concepts of computer architecture, its important parts, their role, and their interdependence with each other. - Identify the parts and hierarchy of the memory device . - Memory Management: Teaching students how to manage access to data in memory by a computer system - Identify CPU parts and functions - Familiarize yourself with the CPU process of instructions and commands. - Learn about data transfer and management methods between memory and CPU.

	- Distinguish and identify the parts of the input and output units (peripherals). - Understanding the different types of paths and methods of data transmission and instructions between internal and external computer components - Identify the possibilities of parallel processing in computer systems -
227. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Additional activities and exercises as daily assignments and reports. - Scientific Books. - Daily and monthly exams.

228. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Understanding Memory Layers and Their Importance	Memory Hierarchy	Lecture, Practical Examples	Oral Questions and Exercises
2	2	Identify key memory types and their mechanism of action	Main memory	Lecture, Group Discussion	Short test
3	2	Address Map Analysis and How to Allocate Memory	Memory Address Map	Lecture, Practical Exercise	Homework
4	2	Understanding the role of cache and performance optimization	Cache Memory	Lecture, adiscussion question	Short test
5	2	Apply memory-related mapping methods	Associative Mapping	Lecture, Case Study	Writing exercise
6	2	Comparison of Associated Assignment and Cumulative Assignment	Set Associative Mapping	Lecture, Teamwork	Short Report

7	2	Understanding and using virtual memory	Virtual Memory	Lecture, Examples	Theoretical test
8	2	-	Exam	-	Exam
9	2	Distinguishing between address space and memory space	Address Space and Memory Space	Lecture, practical application	Writing exercise
10	2	Associative memory usage in page tables	Associative Memory Page Table	Lecture, Case Study	Short test
11	2	Analyze page replacement algorithms	Page Replacement	Lecture, Simulation	Research Report
12	2	Understanding Memory Management Hardware	Memory Management Hardware	Lecture, Practical Presentation	Theoretical test
13	2	Explain the concept of segmentation in page mapping	Segmented Page Mapping	Lecture, Analysis of Examples	Homework
14	2	Strategies for protecting memory and ensuring security	Memory Protection	Lecture, Open Discussion	Short test
15	2	Understanding I/O interfaces	Input-Output Interface	Lecture, Practical Examples	TagRahr
16	2	Exam			
17	2	Identify the I/O bus and splicing modules	I/O Bus and Interface Modules	Lecture, practical explanation	Writing exercise
18	2	Comparison of different data transfer methods	Modes of Transfer	Lecture, Study of Examples	Theoretical test
19	2	Direct Memory (DMA) Access role analysis	Direct Memory Access (DMA)	Lecture, Software Experiment	Homework
20	2	Explanation of the connection between the processor and the input unit	CPU-IOP Communication	Lecture, Practical Examples	Oral test
21	2	Understanding the basics of CPU architecture	CPU BASICS	Lecture, Discussion	Writing exercise

22	2	Learn about the registrar group and its functions	REGISTER SET	Lecture, Analysis of Examples	Short test
23	2	Study the data path within the processor	DATA PATH	Lecture, practical explanation	Homework
24	2	Analyze the structure of a single data bus	One-Bus Organization	Lecture, Case Study	Research Report
25	2	-	Exam	-	Exam
26	2	Comparison of single-carrier and triple carrier structure	Three-Bus Organization	Lecture, Comparative Analysis	Research Report
27	2	Understanding the instruction execution cycle in the wizard	CPU INSTRUCTION CYCLE	Lecture, practical application	Theoretical test
28	2	Analyze the mechanism of fetching instructions and executing them	Fetch Instructions	Lecture, Practical Examples	Writing exercise
29	2	Interrupt and pipeline mechanism study	Interrupt Handling & pipelining	Lecture, Software Study	Practical Report
30	3	Exam			

229. Course Evaluation

Monthly exams (50) / final exams (50)

Learning and Teaching Resources .230

no, M. Morris. Computer system architecture, 3'rd edition. Prentice-Hall, -
Inc., 1993

- Internet websites and tutorials

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Translator Design

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 26/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

231.	Course Name:				
		Translator Design			
		:Course Code	.232		
		304CSCO			
		:Semester/ Year	.233		
		2023/2024			
		:Description Preparation Date	.234		
		26/3/2024			
235.	Available Attendance Forms:				
		Physical Presence			
236.	Number of Credit Hours (Total) / Number of Units (Total)				
		2 Hours / 6 Units			
237.	Course administrator name (mention all, if there is more than one)				
		Name: Teacher Rasha Sobhi Hamid			
		Email: dr.ahmedd.k.abbas@uodiyala.edu.iq			
238.	Course Objectives				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; vertical-align: top;">Course Objectives</td> <td> - Explain the basic functions and services provided by the translator. - Analyze the basic components of compiler software, including lexical analysis, syntax analysis, semantic analysis, multimedia code, optimization, and code generation. - Study each stage of the translator's design separately in terms of how it handles the inputs and how to convert them into another format to improve the efficiency of program implementation, ensure the validity of the program, facilitate language transfer, and enable the productivity of software development. - Structure and algorithm planning for lexical and grammatical stages, implementing coding and building the compiler based on the structure and algorithm. - Clarify the strategies followed and adopted during this compilation phase. - Troubleshoot and report methods to ensure strong and actionable language. </td> </tr> </table>	Course Objectives	- Explain the basic functions and services provided by the translator. - Analyze the basic components of compiler software, including lexical analysis, syntax analysis, semantic analysis, multimedia code, optimization, and code generation. - Study each stage of the translator's design separately in terms of how it handles the inputs and how to convert them into another format to improve the efficiency of program implementation, ensure the validity of the program, facilitate language transfer, and enable the productivity of software development. - Structure and algorithm planning for lexical and grammatical stages, implementing coding and building the compiler based on the structure and algorithm. - Clarify the strategies followed and adopted during this compilation phase. - Troubleshoot and report methods to ensure strong and actionable language.		
Course Objectives	- Explain the basic functions and services provided by the translator. - Analyze the basic components of compiler software, including lexical analysis, syntax analysis, semantic analysis, multimedia code, optimization, and code generation. - Study each stage of the translator's design separately in terms of how it handles the inputs and how to convert them into another format to improve the efficiency of program implementation, ensure the validity of the program, facilitate language transfer, and enable the productivity of software development. - Structure and algorithm planning for lexical and grammatical stages, implementing coding and building the compiler based on the structure and algorithm. - Clarify the strategies followed and adopted during this compilation phase. - Troubleshoot and report methods to ensure strong and actionable language.				

	• Compare and contrast the different stages of the translator
239. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

240. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Introduction to Translator Design and its History	Introduction to Translations and Their Objectives	Reading Lab +	
2	2	Programming languages	Explain the hierarchy of programming languages and the language processing system that includes (preprocessor, compiler, compiler, and loader/link)	Reading + Lab	Oral exam
3	2	Types of Translators	The concept of the translator, the compiler, and the interpreter, the strengths, weaknesses, and the difference between them.	Reading + Lab	Oral exam
4	2	Analysis - Synthesis model of aggregation	Structure of the translator, and explanation of the components of the translator.	Reading + Lab	Oral exam
5	2	Stages of Translators	The compiler stages include lexical analysis, syntax analysis, semantic analysis, media code, optimization, and code generation.	Reading + Lab	Competition
6	2	Linguistic Analyst	The role of lexical analysis, the interaction of the lexical analyst with the linguistic analyst	Reading + Lab	Oral exam
7	2	The Role of the Linguistic Analyst	Proper Scanner and Lexical Analysis	Reading + Lab	Oral exam
8	2	Lexical Dictionary, Style, and Token	Dictionary Rule, Type, Pattern, and Lexical Analysis Code	Reading + Lab	Homework
9	2	Token attribute	Exercises for Attribute Symbol and Explain the Relationship between Attribute Symbol and Table of Symbols with Examples	Reading + Lab	Oral exam

10	2	Lexical buffer	Lexical buffer definition, functions, and examples	Reading + Lab	Oral exam
11	2	Table of Symbols	Define the table of symbols and the services it provides with examples, its importance and impact on the translation process	Reading + Lab	Oral exam
12	2	Select Clip	Provide explanations and examples of regular expressions, string operations, and language operations	Reading + Lab	Oral exam
13	2	Designing a Language Analyzer Model	Includes regular definitions for pattern construction of token types (number, id, symbols, processes, and keywords) with examples.	Reading + Lab	Oral exam
14	2	Transitional plans	Identify token transition diagrams, identify their components, and provide examples and exercises.	Reading + Lab	Competition
15	2	Recognize the clip	Recognise reserved words and identifiers	Reading + Lab	Homework
16	2	Recognize the design code	Design Procedure to Identify Token Types with Examples and Exercises	Reading + Lab	Oral exam
17	2	Exam			
18	2	Automata Limited (FA)	Limited Automata (FA) Types (NFA and DFA) with Components with Examples	Reading + Lab	Oral exam
19	2	Converting NFA to DFA	Explain and apply the algorithm (subset building) to build DFA from NFA with examples	Reading + Lab	Oral exam
20	2	Convert RE to FA	Applying Thomson's Building Algorithm with Examples	Reading + Lab	Oral exam
21		Lexical error	Enumerating types with lexical error examples and how to program a scanner	Reading + Lab	Oral exam
22		Syntax Analysis (Analyzer)	Syntax analysis functions, roles, and location of the parser in the translator model with examples	Reading + Lab	Oral exam
23		Context-Free Grammar (CFG)	For Context-Free Bases and Components (CFG)	Reading + Lab	Oral exam
24		Derivatives and Analysis Trees	Derivation Strategies and Analysis Trees with Examples	Reading + Lab	Oral exam
25		Rules issues	Detect rule problems and apply algorithms to exclude them (ambiguity, left iteration, analysis to left factors)	Reading + Lab	Oral exam

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Accreditation



Accreditation Department

26		Types of Arabic trees	Top-down and bottom-up analyzer	Reading + Lab	Oral exam
27		Top-Down Analyzer Types	Undo and not back down with examples		Oral exam
28		Recursive Ratio Analysis	Recursive Ratio Analysis Design		Oral exam
29	2	PPM Predictive Analysis Method	First, follow the stack table entry string and parser using PPM		Applied Algorithm in LAB
30		Exam			

241. Course Evaluation

Monthly Exam (40) / Practical Exam (10) / Final Exam (50)

242. Learning and Teaching Resources

- PRINCIPLES, TECHNIQUES AND TOOLS FOR TRANSLATORS, BY ALFRED, V. AHO; MONIC S. LAM, JEFFREY, D. ALLMAN. Pearson Education, 2004
- Introduction to Translator Design. By Mogensen, Turbine Egidius. Springer Nature, 2024.
- .A Practical Approach to Translator Building. By Watson, Des Springer, 2017 –

Academic Program and Course Description Guide

2024

Academic Program Description Form

University Name: University of Diyala

Faculty/Institute: Collage of Education for Pure Science

Scientific Department: Computer department

Academic or Professional Program Name: Computer Graphics

Final Certificate Name: BSc. In Computer science

Academic System: Annual

Description Preparation Date: 20/3/2024

File Completion Date:

Signature:

Head of Department Name:

Prof. Dr. Nehad Mahmoud Nasir

Date:

Signature:

Scientific Associate Name:

Prof. Dr. Khansa Farman

Date:

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

1. Program Vision

The program vision for an operating systems course aims to develop students' understanding and ability to:

- **Grasp the core concepts:** This includes understanding the fundamental principles that govern the interaction between hardware and software, processes, memory management, file systems, security, and concurrency control.
- **Apply theoretical knowledge:** Students should be able to apply the learned concepts to solve practical problems in computer graphics design and configuration.

By achieving this program vision, students will gain a solid foundation for working with and potentially contributing to the development of computer graphics that power today's technology.

2. Program Mission

The program vision describes the desired long-term outcome of the computer graphics course, focusing on the knowledge and skills students will possess after completing it.

The program mission, however, would be a more specific statement outlining the key steps the course takes to achieve that vision. Here's how the program mission might be derived from the vision:

Mission Program:

- To equip students with a comprehensive understanding of computer graphics concepts through theoretical foundations and practical application.
- To foster critical thinking skills that allow students to analyze and compare computer graphics designs.
- To provide a strong foundation for further study and careers in computer science related to computer graphics.

The program mission translates the vision's broad goals into actionable steps by highlighting the methods used (e.g., theoretical foundations, practical application) to achieve the desired student outcomes.

3. Program Objectives

Based on the program vision for the computer graphics course, here are the possible Program Objectives:

- Explain the fundamental functionalities and services provided by a computer graphics.
- Analyze the core components of a computer graphics, including processes, memory management, file systems, and security mechanisms.
- Evaluate different scheduling algorithms and their impact on system performance.
- Design and implement solutions for process synchronization and inter-process communication.
- Apply knowledge of virtual memory to analyze memory management techniques.
- Explain the structure and organization of file systems, including file access methods and directory structures.
- Discuss security principles and mechanisms employed by operating systems.
- Compare and contrast different types of operating systems (e.g., batch, multiprogramming, real-time).

These objectives translate the program vision's broad goals into more specific and measurable learning outcomes. By achieving these objectives, students will be well on their way to fulfilling the program's vision.

4. Program Accreditation

Yes, Department of Quality Assurance and University Performance

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				

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
Year		Computer Graphics	2	2

8. Expected learning outcomes of the program	
Knowledge	
- Teaching the student the components of a computer screen, how it works, and how to display images and video clips on the computer screen. - Teaching the student how to generate graphics on a computer screen by studying the main algorithms for generating two-dimensional or three-dimensional shapes. The most important of these algorithms are point drawing algorithms, line drawing algorithms, and circle drawing algorithms. - The student learns operations to simulate adding effects to shapes in the two- and three-dimension coordinate system, such as the operations of enlarging and reducing shapes, moving shapes from one place to another, rotating shapes, reflection, and other operations. - Methods of storing images and dealing with data in computer memory	
Skills	
The student has programming skills in the C++ language	
Ethics	
- Recognize the importance of responsible use of computer graphics to prevent computer crime and avoid security vulnerabilities. - Understand the ethical implications of resource management and protection of computer property, records and software.	

9. Teaching and Learning Strategies
- Traditional lectures and discussion methods.

- Laboratory activities and additional exercises as assignments.
- Scientific books.
- Daily and monthly exams

10. Evaluation methods

Monthly exam (30) / Practical exam(10) / final exam (60)

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

12. Acceptance Criterion

Central admission

13. The most important sources of information about the program

- Foley, J. D., et al. (1994). *Introduction to computer graphics* (Vol. 55). Reading: Addison-Wesley.
- Eck, David J. "Introduction to Computer Graphics." (2021).
- Enriquez, Raymond F. *New Basics of Computer Graphics 2020*. Creative Hands Publishing, 2020.

Course Description Form

243. Course Name:	
Computer graphics	
244. Course Code:	
302CSCG	
245. Semester / Year:	
2023/2024	
246. Description Preparation Date:	
20/3/2024	
247. Available Attendance Forms:	
Physical attendance	
248. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Unites	
249. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Adil Ibrahim Khalil Email: dr.adil.khalil@uodiyala.edu.iq	
250. Course Objectives	
Course Objectives	- Teaching the student the components of a computer screen, how it works, and how to display images and video clips on the computer screen. - Teaching the student how to generate graphics on a computer screen by studying the main algorithms for generating two-dimensional or three-dimensional shapes. The most important of these algorithms are point drawing algorithms, line drawing algorithms, and circle drawing algorithms. - The student learns operations to simulate adding effects to shapes in the two- and three-sided coordinate system, such as the operations of enlarging and reducing shapes, moving shapes from one place to another, rotating shapes, reflection, and other operations. - Methods of storing images and dealing with data in computer memory
251. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion methods. - Laboratory activities and additional exercises as assignments. - Scientific books.

- Daily and monthly exams

252. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to computer graphics	Learning screen Axes	Lecture +LAB	Oral Exam
2	2	Computer graphics modes and picture elements	Drawing point on the screen and learning screen axes	Lecture +LAB	Oral Exam
3	2	Cathode ray tube CRT	Drawing line using a point	Lecture +LAB	Oral Exam
4	2	Algorithms to draw vertical, horizontal and diagonal lines	Practical application to draw lines	Lecture +LAB	Oral Exam
5	2	Exam	Exam	Exam	Exam
6	2	DDA algorithm for drawing a line	Practical application of GOOD	Lecture +LAB	Oral Exam
7	2	Simple Bresenham algorithm for drawing a line	Practical application of a given lecture	Lecture +LAB	Oral Exam
8	2	Integer Bresenham algorithm for drawing a line	Practical application of a given lecture	Lecture +LAB	homework
9	2	General Bresenham algorithm for drawing a line	Practical application of a given lecture	Lecture +LAB	Applied algorithm in the LAB
10	2	Circle drawing algorithms	Practical application to draw a circle	Lecture +LAB	Applied algorithm in the LAB
11	2	Exam	Exam	Exam	Exam
12	2	Drawing circle using circle equation	System Model Deadlock Characterization and RAG	Lecture +LAB	Oral Exam
13	2	Drawing circle using polar representation	Deadlock Prevention	Lecture +LAB	Oral Exam
14	2	Drawing circle using Bresenham algorithm	Deadlock Avoidance (Safe State)	Lecture +LAB	Quiz
15	2	Ellipse and Spiral	Deadlock Detection Deadlock Recovery	Lecture +LAB	homework
16	2	Review lessons	Review lessons	Review lessons	Review lessons
17	2	Review lessons	Basic Hardware+ Address Binding+ Logical Versus Physical Address Space	Lecture +LAB	Oral Exam
18	2	Comprehensive Exam	Comprehensive Exam	Comprehensive Exam	Comprehensive Exam
19	2	Spring break	Spring break	Lecture +LAB	Oral Exam
20	2	Spring break	Spring break	Lecture +LAB	Oral Exam

21	2	Introduction :two dimensional transformation	Practical application	Lecture +LAB	quiz
22	2	Translation	Practical application of a given lecture	Lecture +LAB	Oral Exam
23	2	Translation	Practical application of a given lecture	Lecture +LAB	Oral Exam
24	2	Rotation and Scaling	Practical application of a given lecture	Lecture +LAB	Oral Exam
25	2	Exam	Exam	Exam	Exam
26	2	Rotation and Scaling	Normalized device coordinates	Lecture +LAB	quiz
27	2	Reflection and Shearing	Widowing and viewport	Lecture +LAB	Oral Exam
28		Reflection and Shearing	Introduction to Clipping	Lecture +LAB	Oral Exam
29	2	Practical application	Point clipping	Lecture +LAB	Applied algorithm in the LAB
30		Practical application	Line clipping		
		Comprehensive Exam	Comprehensive Exam	Comprehensive Exam	Comprehensive Exam

253. Course Evaluation

Monthly exam (30) / Practical exam(10) / final exam (60)

254. Learning and Teaching Resources

- Foley, J. D., et al. (1994). *Introduction to computer graphics* (Vol. 55). Reading: Addison-Wesley.
- Eck, David J. "Introduction to Computer Graphics." (2021).
Enriquez, Raymond F. *New Basics of Computer Graphics 2020*. Creative Hands Publishing, 2020.

**Ministry of Higher Education and Scientific
Research**

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**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Artificial Intelligence

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

255. Course Name:	
Artificial Intelligence	
/ :Course Code .256	
322CsAi	
:Semester/ Year .257	
2023/2024	
:Description Preparation Date .258	
20/3/2024	
259. Available Attendance Forms:	
Physical Presence	
260. Number of Credit Hours (Total) / Number of Units (Total)	
4 hours per week (2 theoretical / 2practical) to become 120 hours / 6 units	
261. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Atiaf Ismail Karim Ismail	
Email: dr.atyaf.ismaeel@uodiyala.edu.iq	
262. Course Objectives	
Course Objectives	1 - Teaching the student the skills of the artificial intelligence subject theoretically and practically. 2- Qualifying students to apply this course in various fields of work.
263. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

264. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2Theoretical, 2practical	Knowing where artificial intelligence started an idea about its types and ways of interacting from the plant environment	Introduction to Artificial Intelligence	Presentation + Laboratory	Monthly exams + Laboratory Reports

2	2Theoretical, 2practical	Contemporary AI Applications by Type and Field Utilized	Properties, Applications and Architecture Artificial Intelligence Languages and Branches	Presentation + Laboratory	Monthly exams + Laboratory Reports
3	2Theoretical, 2practical	Understand how to solve a particular problem by recognizing the environment and the possibilities that enable us to solve the problem	Examples of the field of problem solving Such as 8-puzzle, monkey, banana..... etc.	Presentation + Laboratory	Monthly exams + Laboratory Reports
4	2Theoretical, 2practical	How to move between the types of possible solutions in the sample field	State transition system	Presentation + Laboratory	Monthly exams + Laboratory Reports
5	2Theoretical, 2practical	Understand the mechanisms of moving from one solution to another using the Possible Solution Tree and of using the Tower Hanoi example	Tower of Hanoi	Presentation + Laboratory	Monthly exams + Laboratory Reports
6	2Theoretical, 2practical	,What is a customer how it works with ,search algorithms and understand how to draw a tree for possible solutions	Problem-solving agents	Presentation + Laboratory	Monthly exams + Laboratory Reports
7	2Theoretical, 2practical	Types of search algorithms in case of solutions, searching through them or lack of samples, and learning to find possible solutions	Search Types by Uniformed and informed	Presentation + Laboratory	Monthly exams + Laboratory Reports
8	2Theoretical, 2practical	What is a horizontal search algorithm and how does it work with examples	Research Types Breadth first search	Presentation + Laboratory	Monthly exams + Laboratory Reports
9	2Theoretical, 2practical	Deep Search Algorithm Knowledge with Examples	Deep (Research Types (Search Depth First Search DFS	Presentation + Laboratory	Monthly exams + Laboratory Reports
10	2Theoretical, 2practical	How to Research by Cost and Measure the Best Methods Using the Excavation Search Algorithm	Types of Research (Excavation Research) Second Lecture (Best First Search	Presentation + Laboratory	Monthly exams + Laboratory Reports
11	2Theoretical, 2practical	Introduction to the types of expert systems and identifying what they are with	Expert Systems	Presentation + Laboratory	Monthly exams + Laboratory Reports

		examples from reality			
12	2Theoretical, 2practical	The mechanism of extracting data from the expert and translating it into knowledge that can be queried from the user in a simplified manner	Expert Systems (Part II)	Presentation + Laboratory	Monthly exams + Laboratory Reports
13	2Theoretical, 2practical	Practical Examples of Expert Systems	Examples of expert systems	Presentation + Laboratory	Monthly exams + Laboratory Reports
14	2Theoretical, 2practical	Introduction to genetic algorithms and the knowledge of the elements that make up them	Genetic Algorithm (Introduction)	Presentation + Laboratory	Monthly exams + Laboratory Reports
15	2Theoretical, 2practical	Comprehensive review and linkage of all topics explained in the first semester of the academic year	Review of everything explained in the first chapter	Presentation + Laboratory	Monthly exams + Laboratory Reports
16		Exam			
17	2Theoretical, 2practical	Linking the previous lecture with the second lecture of the genetic algorithm using a numerical example that does not find the best random number produced from the genetic algorithm	Genetic Algorithm (Part Two - Example)	Presentation + Laboratory	Monthly exams + Laboratory Reports
18	2Theoretical, 2practical	The probabilities formed by the genetic algorithm and the most important areas of its application	Genetic Algorithm (Part III Applications)	Presentation + Laboratory	Monthly exams + Laboratory Reports
19	2Theoretical, 2practical	Understand how to compare a human neuron and how to use possible mechanisms to solve a particular problem (inputs and outputs)	Biological Nervous Systems _ Introduction Artificial Neural Network ANN	Presentation + Laboratory	Monthly exams + Laboratory Reports
20	2Theoretical, 2practical	What is cell training and how can the information be saved to be used in the solution while understanding the mechanism of moving forward?	Biological Nervous Systems (Cell Training) Forward propagation ANN	Presentation + Laboratory	Monthly exams + Laboratory Reports

21	2Theoretical, 2practical	When the output from the cell is active and when the result is not storeable and utilized.	Biological Nervous Systems Launch Activation) (Mechanism Firing Rules	Presentation + Laboratory	Monthly exams + Laboratory Reports
22	2Theoretical, 2practical	Train the cell in the way of progressing from the back so that the outputs are used as feeder inputs in the next process and compare them from the threshold limit value	Biological Nervous Systems (Cell Training) Backward propagation ANN	Presentation + Laboratory	Monthly exams + Laboratory Reports
23	2Theoretical, 2practical	What we can learn from cell training and some applications that can be used in it	Biological Nervous Systems (Applications)	Presentation + Laboratory	Monthly exams + Laboratory Reports
24	2Theoretical, 2practical	Definition of Ambiguous Logic with a Brief History of the Beginning of Thinking About Using It in Mathematical Problems	Fuzzy Logic Fuzzy Logic	Presentation + Laboratory	Monthly exams + Laboratory Reports
25	2Theoretical, 2practical	Applications of Blurry Logic	Fuzzy Logic applications	Presentation + Laboratory	Monthly exams + Laboratory Reports
26	2Theoretical, 2practical	Introduction to the world of robotics	ROBOTICS TYPES OF ROBOTS AND THEIR BASIC PARTS	Presentation + Laboratory	Monthly exams + Laboratory Reports
27	2Theoretical, 2practical	Brief Overview of Robotics Applications	Applications of Robotics	Presentation + Laboratory	Monthly exams + Laboratory Reports
28	2Theoretical, 2practical	Types of robots according to their advantages	Types of Robots	Presentation + Laboratory	Monthly exams + Laboratory Reports
29	2Theoretical, 2practical		Review and link to the previous topics with an explanation of the latest technologies with a brief overview and future development prospects in the field of artificial intelligence	Presentation + Laboratory	Monthly exams + Laboratory Reports
30					

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Authority

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Academic Accreditation

Accreditation Department



265. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .266

1- Elin Rich, "Artificial intelligence", 1999/ William A. Stubblefield .

2- Luger E. Gorge, " Artificial intelligence and the design of expert system", 199 –

2. Introduction to Artificial Intelligence by Bojana Dalbelo Basic and Jan Snajder 2019/2020

3. Peter Norvege "Artificial intelligence Modern Approach", <2019

o https://www.codepoc.io/blog/prolog/4990/prolog-program-to-read-and-write-file?utm_source=22 2020

**Academic Program Guide
and Course Descriptions**

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Visual Basic

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: // 2024

File Completion Date: // 2024

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

:Course Name .267		
Visual Basic		
268. Course Code:		
:Semester/ Year .269		
2023/2024		
:Description Preparation Date .270		
20/3/2024		
271. Available Attendance Forms:		
Physical Presence		
272. Number of Credit Hours (Total) / Number of Units (Total)		
Hours/Units		
273. Course Administrator Name :		
Teaching Name : Eng. Samer Hussein Ali		
Email: samer.alkhazraji@uodiyala.edu.iq		
274. Course Objectives		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;">Course Objectives</td> <td style="padding: 5px;">Teach the student visual programming using the Visual Basic language</td> </tr> </table>	Course Objectives	Teach the student visual programming using the Visual Basic language
Course Objectives	Teach the student visual programming using the Visual Basic language	
275. Teaching and Learning Strategies		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;">Strategy</td> <td style="padding: 5px;"> - Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams </td> </tr> </table>	Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams	

276. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2 Theoretical 2 Practical	Practical exercise	Introduction & Visual Basic Express 2015 IDE	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments +

					conducting a practical exam
2	2 Theoretical 2 Practical	Practical exercise	Data Types, Keywords, Variables, Constants and Operators	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
3	2 Theoretical 2 Practical	Practical exercise	Conditional Statements	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
4	2 Theoretical 2 Practical	Practical exercise	Looping Statement	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
5	2 Theoretical 2 Practical	Practical exercise	Arrays- Static and Dynamic	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
6	2 Theoretical 2 Practical	Practical exercise	Two-Dimensional Array & Control array	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
7	2 Theoretical 2 Practical	Practical exercise	Mathematical and String Functions	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments +

					conducting a practical exam
8	2 Theoretical 2 Practical	Practical exercise	Functions and Procedures	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
9	2 Theoretical 2 Practical	Practical exercise	Passing Arguments by Value and by Reference	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
10	2 Theoretical 2 Practical	Practical exercise	File Handling	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
11	2 Theoretical 2 Practical	Practical exercise	File Handling	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
	Exam				
12	2 Theoretical 2 Practical	Practical exercise	Send Email	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
13	2 Theoretical 2 Practical	Practical exercise	Classes & Objects	Delivering a Lecture in the	conducting the Midterm

				Class, addition to Google Classroom	exam + class participation + grading a number of in- class assignments + conducting a practical exam
14	2 Theoretical 2 Practical	Practical exercise	Classes & Objects	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
15	2 Theoretical 2 Practical	Practical exercise	Basic Controls	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
16	2 Theoretical 2 Practical	Practical exercise	ListBox Control	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
17	2 Theoretical 2 Practical	Practical exercise	ComboBox Control	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
18	2 Theoretical 2 Practical	Practical exercise	PicutreBox Control & Windows Media Player Control	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
19	2 Theoretical 2 Practical	Practical exercise	Timer Control	Delivering a Lecture in the Class,	conducting the Midterm exam + class

				addition to Google Classroom	participation + grading a number of in-class assignments + conducting a practical exam
20	2 Theoretical 2 Practical	Practical exercise	ProgressBar, ScrollBars, DateTimePicker and MenuStrip Controls	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
21	2 Theoretical 2 Practical	Practical exercise	How to Connect Access Database in VB.Net	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
22	2 Theoretical 2 Practical	Practical exercise	How to Connect Access Database in VB.Net (Insert, Update and Delete)	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
23	2 Theoretical 2 Practical	Practical exercise	Functions in SELECT Statements	Delivering a Lecture in the Class, addition to Google Classroom	
24	2 Theoretical 2 Practical	Practical exercise	How to Create a Quick Search using VB.net and MS Access	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in-class assignments + conducting a practical exam
25	2 Theoretical 2 Practical	Practical exercise	Practical Implementation of Database in VB.net (Complete system Implementation)	Delivering a Lecture in the Class, addition to Google Classroom	
26	2 Theoretical 2 Practical	Practical exercise	How to Connect Access Database in VB.Net	Delivering a Lecture in the	conducting the Midterm

				Class, addition to Google Classroom	exam + class participation + grading a number of in- class assignments + conducting a practical exam
27	2 Theoretical 2 Practical	Practical exercise	Report	Delivering a Lecture in the Class, addition to Google Classroom	
28	2 Theoretical 2 Practical	Practical exercise	Create an RDLC Data Report	Delivering a Lecture in the Class, addition to Google Classroom	conducting the Midterm exam + class participation + grading a number of in- class assignments + conducting a practical exam
Exam					

277. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .278

- Beginning Visual Basic 2015 by Bryan Newsome.
- The complete reference Visual Basic.NET.
- Murach's Beginning Visual basic .Net By Anne Bohem.

**Ministry of Higher Education and Scientific
Research**

Scientific Supervision and Evaluation

Authority

Directorate of Quality Assurance and

Academic Accreditation

Accreditation Department



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Curriculum and Teaching Methods

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

279. Course Name:	
Curriculum and Teaching Methods	
280. Course Code:	
:Semester/ Year .281	
2023/2024	
:Description Preparation Date .282	
20/3/2024	
283. Available Attendance Forms:	
Physical Presence	
284. Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours / 4 Units	
285. Course Administrator Name :	
Teaching Name : Prof. Dr. Maged Ayoub Mahmoud	
Email: Purecomp.majid.mahmood@uodiyala.edu.iq	
286. Course Objectives	
Course Objectives	- The student should learn the concept of science, the components of science, the processes of science, the objectives of science, and the scientific culture. - The student should learn the concept of the curriculum, the types of curricula, the foundations of building the curriculum, the hidden curriculum and its applications. - The student should learn the elements of the curriculum and study them in detail: the objectives and their levels (educational, educational, behavioral and their types (cognitive, skillful, emotional) - Curriculum Content - Teaching Methods - Evaluation Methods - Learn about educational planning - Learn to plan lessons: annual plan, daily plan
287. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method.

	- Lab activities and additional exercises as tasks - Individual learning, collaborative learning - Daily and Monthly Exams
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288. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Understanding the concept of science	The concept of science: a scientific subject, a way of thinking, both	Discussion and Presentation	Observation and interrogation
2	2	Differentiate between aspects of knowledge	Components of the scientific material: facts, laws, concepts.	Speech and interrogation	Interrogation
3	2	Learning mental processes	Science Processes: Observation, Measurement, ...	Discussion and Presentation	Interrogation
4	2	Learn ways of thinking	From the Processes of Science: Induction and Inference	Lecture and Discussion	Discussion
5	2	Advance knowledge about the concept	Objectives of Science, Ethics and Scientific Culture	Lecture and Discussion	Note
6			Monthly exam		
7	2	Understanding the Concept of Curriculum	The Concept of Methodology, Traditional and Modern: A Comparison	Lecture and Discussion	Observation and interrogation
8	2	Differentiating between curricula	Curriculum Types: Subjects, Activity Curriculum	Speech and interrogation	Interrogation
9	2	Understanding how to build the curriculum	Foundations of Curriculum Construction: Cognitive, Philosophical, Psychological, Social	Lecture and Discussion	Interrogation
10	2	Understanding Unintended Influences in Education	The Hidden Curriculum: In School, Family, Street, and the Media and Its Impact on Behavior	Diction, Problem Solving	Interrogation
11			Monthly exam		
12	2	Identify the level of long-term educational goals	Curriculum Elements: Objectives Defined , Levels: Educational	Lecture and Discussion	Note
13	2	Identify medium-term educational goals	Educational Objectives: Who Sets It? Types, Multiple	Individual Teaching and Learning	Interrogation
14	2	Identify short-term behavioral goals	Behavioral goals: their extent, formulation, and who sets them	Individual Teaching and Learning	Observation and interrogation
15	2	Learn to set and formulate behavioral goals	Types of Behavioral/Cognitive, Skillful, and Emotional Goals	Individual Teaching and Learning	Observation and interrogation
16		Exam			
17	2	Learn the components of the content	Element Two: Knowledge Content: Its Components	Lecture and Discussion	Interrogation
18	2	Learning mental processes	Bloom's Pyramid of Knowledge	Speech and interrogation	Note

19	2	Learn some teaching skills	Teaching Methods: Definition of Method, Importance of Learning Methods	Lecture and Discussion	Note
20	2	Learn Speech and Debate Skills	My Method of Lecture and Discussion	Lecture and Discussion	Interrogation
21	2	Learn new teaching methods	Interrogation and problem-solving methods	Lecture and Discussion	Observation and interrogation
22			Exam		
23	2	Learn new teaching methods	Individual, Collaborative and E-Learning Methods	Lecture and Discussion	Observation and interrogation
24	2	Understand multiple methods of calendaring	Assessment and its Aspects: Student Evaluation, Assessment Methods	Lecture and Discussion	Observation and interrogation
25	2	Learn Types of Tests	Types of Exams: Oral, Editorial: (Essays and Objectives)	Lecture and Discussion	Observation and interrogation
26			Exam		
27	2	Understanding an idea about planning	About Educational Planning, Types of Plans	Lecture and Discussion	Observation and interrogation
28	2	Learn the types of study plans	Annual Plan, Daily Plan and its Elements	Lecture and Discussion	Observation and interrogation
29			Overview		
30		Exam			

289. Course Evaluation

Monthly exam (40) / final exam (60)

290. Learning and Teaching Resources

- Curriculum and Teaching Methods Dr. Majed Ayoub Al-Qaisi
- Curriculum and Teaching Methods Dr. Mohammed Humaid Al-Masoudi
- Curriculum and Teaching Methods Dr. Fouad Mohamed Moussa

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Counseling and Mental Health

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

291. Course Name:	
Counseling and Mental Health	
292. Course Code:	
:Semester/ Year .293	
2023/2024	
:Description Preparation Date .294	
20/3/2024	
295. Available Attendance Forms:	
Physical Presence	
296. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
297. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Wissam Emad Abdel Ghani	
Email:	
298. Course Objectives	
Course Objectives	- Introduce students to the basic concepts in psychological counseling, mental health and their relationship to the educational environment. - Understand the role of technology in developing psychological counseling mechanisms and integrating them with computer science (e.g., artificial intelligence, virtual reality, and e-counseling platforms). - Enable students to analyze common psychological problems in students (e.g., anxiety, depression, academic stress) and propose supportive technical solutions. - Develop skills to design digital programs and tools to support mental health in educational institutions. - Promoting awareness of the ethics of using technology in psychological counseling (data privacy, cultural sensitivity).
299. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks

	- Scientific Books. - Daily and Monthly Exams
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300. Course Structure

Evaluation Method	Teaching Method	Module/Course or Subject Name	Required Learning Outcomes	Watches	The week
Student + Interaction Quizzes	Lecture + Story + Problems	Guidance	Knowledge of the meaning of counseling, its origin, development, concepts, justifications, and goals, the relationship between counseling and other sciences, the fields of counseling, and the methods of counseling	8	4-3-2-1
Student + Interaction Quizzes	Lecture + Dialogue	Foundations of Guidance	Knowledge of the foundations of philosophical, social, moral, religious and psychological guidance	4	6-5
Student + Interaction Quizzes	Lecture + Problems	Theories of Guidance	Knowledge of counseling theories (psychoanalysis, behavioral, existential, humanistic)	8	10-9-8-7
Student + Interaction Quizzes	Lecture + Dialogue	Information for Guidance	Know the information needed for guidance	6	13-12-11
Student + Interaction Quizzes	Lecture + Discussion	Counseling and guidance at school	Understanding Counseling and Guidance in School	4	-15-14
Student + Interaction Quizzes	Lecture + Story	Issues addressed by the guidance	Know the issues covered by the counseling	6	18- 17-16
Student + Interaction Quizzes	Lecture + Discussion	Psychological crises	Knowing Psychological Crises	6	21-20-19
Student + Interaction Quizzes	Lecture + Problems	Psychological defense mechanisms	Knowledge of psychological defense mechanisms	10	-24-23-22 26-25
Student Interaction + Quizzes	Lecture + Projects	Compatibility	Knowing your compatibility	6 hours	27-28

301. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

302. Learning and Teaching Resources

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation**

Accreditation Department



- Books Psychological Counseling and Mental Health
- Psychology Books
- Websites that deal with psychological counseling and mental health

Academic Program Guide

and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Operating Systems

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

303. Course Name:	
Image Processing	
:Course Code .304	
404CSIP	
:Semester/ Year .305	
2023/2024	
:Description Preparation Date .306	
20/3/2024	
307. Available Attendance Forms:	
Physical Presence	
308. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
309. Course Administrator Name :	
Assoc. Prof. Adel Ibrahim Khalil Email: dr.adil.khalil@uodiyala.edu.iq	
310. Course Objectives	
Course Objectives	- Explain the basic functions and services provided by the image processing system. - Basic concepts of images - Image Processing System Components - How to Build an Image - Study of the convolution process - Study of Noise Types that Affect Images - Study the types of filters for image enhancement - Study of image edge detection algorithms - Study of the image classification algorithm
311. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

312. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Introduction to Image Processing	Introduction	Reading + Lab	
2	2	Point Definition and Image Dimensions	Pixel and Image dimension	Reading + Lab	Oral exam
3	2	Learn image types	Image types	Reading + Lab	Oral exam
4	2	Learn the advantages of image resolution	Image quality	Reading + Lab	Oral exam
5	2	How to store a photo statement	Image file format	Reading + Lab	Oral exam
6	2	Exam			
7	2	Learn to distribute points in a picture	Image histogram	Reading + Lab	Oral exam
8	2	Distribution Algorithms	Histogram Equalization	Reading + Lab	Homework
9	2	algorithms Wrapping	Convolution	Reading + Lab	LAB
10	2	Scheduling algorithms	Convolution types	Reading + Lab	LAB
11	2	Learn what hype is in photos	Noise	Reading + Lab	Oral exam
12	2	Types of Image Noise 2	Noise Types 1	Reading + Lab	Oral exam
13	2	Image noise types 1	Noise Types 2	Reading + Lab	Oral exam
14	2			Reading + Lab	Oral exam
15	2	Mathematical Operations on Images		Reading + Lab	Oral exam
16	2	Exam			
17	2	Mathematical Operations on Images	Image algebra	Reading + Lab	Oral exam
18	2	Types of sports operations	Image algebra types	Reading + Lab	Oral exam
19	2	Study the edges of the image	Edge detection	Reading + Lab	Oral exam
20	2	Edge algorithms	Edge detection algorithms	Reading + Lab	Oral exam
21		Student App for Schools			
22		Student App for Schools			
23		Student App for Schools			
24		Student App for Schools			
25		Student App for Schools			
26		Student App for Schools			
27	2	Crop the image	Image segmentation	Reading + Lab	Oral exam
28	2	Segmentation algorithms	Image segmentation algorithm	Reading + Lab	Oral exam
29	2	Image Classification	Image classification	Reading + Lab	LAB
30	2	Exam			

313. Course Evaluation

**Ministry of Higher Education and Scientific
Research**

Scientific Supervision and Evaluation

Authority

Directorate of Quality Assurance and

Academic Accreditation

Accreditation Department



Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .314

Digital image processing: An algorithmic introduction, W Burger, MJ Burge - 2022

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Networking and Communications

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 25/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

315.	Course Name:		
		Networks & Communications	
		:Course Code	.316
		402CSCN	
		:Semester/ Year	.317
		2023/2024	
		:Description Preparation Date	.318
		25/3/2024	
319.	Available Attendance Forms:		
		Physical Presence	
320.	Number of Credit Hours (Total) / Number of Units (Total)		
		4 Hours / 6 Units	
321.	Course administrator name (mention all, if there is more than one)		
		Name: Assoc. Prof. Dr. Hassan Hadi Saleh	
		Email: Hassan.hadi@uodiyala.edu.iq	
322.	Course Objectives		
	Course Objectives	The Networks and Communications course is designed to provide students with a deep understanding of the concepts, principles, and mechanisms behind communication and networking systems. The main objectives of the Networks and Communications course include : - Concept of Communications and Networks: Introduce students to the basic concepts of networks and their devices , including types, intermediate interconnection methods, protocols, and standards for them. - Network Connectivity: Explain the devices and their types of networking and communications, such as router, network cards, distributor, and network splitter. - Binding topology: Teaching students how to connect networks to many types such as connecting a star or tree, a ring, and a hybrid ring and the differences between them.	

	• Types of Networks: Introducing students to the existing types of networks such as local area networks, the Internet, or wireless networks. • Transmission Media: Exploring the media through which data is transmitted such as wired linking and its types or transmission over wireless media such as wave frequencies. • Digital and Analog Signs: Introducing students to differentiate between them and differentiate between them. • Network Protocols: Explain the layers of the traditional protocol, know how each layer works, how they interconnect, and introduce other protocols. • Addressing: Introducing students to the mechanisms and methods of addressing in sending and receiving, and ways to know each address, such as real and virtual, and the benefit of each.
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323. Teaching and Learning Strategies

Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
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324. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Introduction to Networking	Introduction to Computer Networking	Reading Lab +	
2	2	Networking Basics	Networking Basics	Reading + Lab	Oral exam
3	2	Data Types	Data Transfer Properties	Reading + Lab	Oral exam
4	2	Difference Between Data and Signal Types	Data Types and Signals	Reading + Lab	Oral exam
5	2	Types of Devices	Networking Devices	Reading + Lab	Competition
6	2	Types of networks	Types of networks	Reading + Lab	Monthly Exam
7	2	Types of Copology	Network topology	Reading + Lab	Oral exam
8	2	Transportation	Transportation	Reading + Lab	Duties

9	2	Digital Signage	Digital Signage	Reading + Lab	Competition
10	2	Analog Signals	Analog Signals	Reading + Lab	Oral exam
11	2	Data Communications	Data Communications	Reading + Lab	Monthly Exam
12	2	Bandwidth	Bandwidth	Reading + Lab	Oral exam
13	2	Productivity	Productivity	Reading + Lab	Oral exam
14	2	Bandwidth	Bandwidth	Reading + Lab	Competition
15	2	Disadvantages of transportation	Disadvantages of data transfer	Reading + Lab	Monthly Exam
16	2	Network Metrics	Network Metrics	Reading Lab +	
17	2	Network Models	Network Models	Reading + Lab	Competition
18	2	Networking Software	Networking Software	Reading + Lab	Oral exam
19	2	Protocols and Standards	Protocols and Standards	Reading + Lab	Oral exam
20		for Student App Schools			
21		Student App for Schools			
22		Student App for Schools			
23		Student App for Schools			
24		Student App for Schools			
25		Student App for Schools			
26	2	OSI Model	OSI Model		Oral exam
27	2	Classes	Classes		Oral exam
28	2	Addressing and its types	Addressing and its types		Exam
29					
30					

325. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .326

**Ministry of Higher Education and Scientific
Research**

**Scientific Supervision and Evaluation
Authority**

**Directorate of Quality Assurance and
Academic Accreditation**

Accreditation Department



- Computer Networking, seventh edition, Behrouz A. Forouzan,
- Fourth Edition ,Computer Networks ,ANDREW S. TANENBAUM

Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name:

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

327. Course Name:	
Web Design Web Design	
:Course Code .328	
441CsWd	
:Semester/ Year .329	
2023/2024	
:Description Preparation Date .330	
23/3/2024	
331. Available Attendance Forms:	
Physical attendance of students in the classroom and laboratory In addition to electronic attendance in case of adding additional electronic lessons	
332. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
333. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Mohamed Sami Mohamed Email: dr.mohammed.sami@uodiyala.edu.iq	
334. Course Objectives	
Course Objectives	Studying the basic concepts of website programming and identifying the basics of the work of these websites, technologies and languages that can be used for this purpose, whether from the server side or from the client side, and how to deal with the design of web pages and methods of linking to databases. A. Knowledge and Understanding A1- The student's ability to program using web design languages A2. Enable the student to use the language to solve multiple problems A3- The student's ability to link HTML language with other languages such as CSS and the possibility of linking it with PHP language and MySQL databases. A4- The student can use different browsers and simple programs such as Notepad , which means ease of learning.
335. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method.

	- Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams
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336. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Web Design Lab Explaining Browsers, Software, and Basic Web Terms	Web browsers and Notepad	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
2	2	Web Design Lab Explained	Introduction to HTML	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
3	2	Introduction to HTML and HTML tags, elements, structure	Write an HTML program using Notepad or text editor	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
4	2	Web Design Lab Illustrating Examples and Simple Programs in HTML	HTML Heading ,Font, Color and Text formatting	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
5	2	Applying programs in which students learn Heading, Font, Color	Linking web pages	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
6	2	Hyperlink and Hypertext Software Application	HTML images	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
7	2	Add a static and animated image to the web page and use it as well and add alternative text to the image and use its locations	Table in HTML	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
8	2	Designing web page software and tables and controlling table properties	مع التعامل مع Table border ,cell padding ,cell spacing	Lecture + Discussion + Lab	Daily and monthly exams and

					laboratory reports
9	2	Designing programs for framed or non-frame tables and controlling the distances of cells from each other and their content	Form in HTML	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
10	2	HTML form Introduction to	FORM elements	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
11	2	Designing software to identify model elements	FORM ELEMENTS	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
12	2	Designing a template that contains a text box, password, radio and checkbox button	Examples and solutions	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
13	2	Applying and solving some software on the previous topics	List in HTML	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
14	2	Listings Explained	Simple and	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
15	2	Designing software around simple menus and drop-down menus	drop-down list	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
16	2	Exam			
17	2	Types of menus with examples	Disc,Circle,Square LISTS	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
18	2	Designing software to handle nested lists	Nested List	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports

19	2	Designing software to handle meta and descriptive lists	Descriptive and meta lists	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
20	2	Linking HTML with CSS	Introduction to CSS	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
21	2	How to Enable Colors and Backgrounds for Web Pages	Colors and backgrounds using CSS	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
22	2	Implementing programs for colored backgrounds and backgrounds by adding an image and how to download it from the net, repeat it, make it fixed and moving, and locate it.	Wallpaper properties	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
23	2	Designing programs to use all the above instructions	Examples and Review	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
24	2	Designing software to control the fonts and types of web pages and all the capabilities related to the fonts	Fonts in CSS and their capabilities	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
25	2	Designing CSS Links Software	Links in CSS , their properties, and capabilities	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
26	2	DEFINE SPECIFIC PROPERTIES FOR SPECIFIC ITEMS : CLASS, ID	Matching and Assembling Items	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
27	2	Designing Element Aggregation Software Using DIV, SPAN	Item grouping	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
28	2	Designing a box model and specifying its properties such as enclosure border, frame, filler, and contents limit	Fun Model	Lecture + Discussion + Lab	Daily and monthly exams and

					laboratory reports
29	2	PHP A Simple Introduction to and Its Properties	PHP Language	Lecture + Discussion + Lab	Daily and monthly exams and laboratory reports
30	2	Exam			

337. Course Evaluation

Monthly Exam (30) / Practical Exam (20) / Final Exam (50)

Learning and Teaching Resources .338

The ultimate beginner guide to HTML, JS, CSS, PHP, MYSQL.

<https://www.slideshare.net/2nees/css-arabic-course>

<https://www.w3schools.com/>

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



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Operating Systems

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

339. Course Name:	
Operating Systems	
:Course Code .340	
403CSOS	
:Semester/ Year .341	
2023/2024	
:Description Preparation Date .342	
20/3/2024	
343. Available Attendance Forms:	
Physical Presence	
344. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
345. Course Administrator Name :	
Assoc. Prof. Dr. Ahmed Khudair Abbas Email: dr.ahmedd.k.abbas@uodiyala.edu.iq	
346. Course Objectives	
Course Objectives	- Explain the basic functions and services offered by the operating system. - Analyze the core components of the operating system, including processes, memory management, file systems, and security mechanisms. - Evaluate different scheduling algorithms and their impact on system performance. - Design and implement solutions for process synchronization and interoperability communication. - Apply virtual memory knowledge to analyze memory management techniques. - Explain the structure and organization of file systems, including file access methods and directory structures. - Discuss the security principles and mechanisms used by operating systems. - Compare and contrast different types of operating systems (e.g., batch, multi-programming, real-time).
347. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books.

	- Daily and Monthly Exams
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348. Course Structure

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2	Introduction to the operating system	Introduction to the operating system, objectives and history	Reading + Lab	
2	2	Operating System Structure	Operating System, Computer System and DMA Architecture Caching and caching	Reading + Lab	Oral exam
3	2	Operating System Components	System Calls, Memory Management, File Management, and Interruption	Reading + Lab	Oral exam
4	2	Operating System Categories	Batch Systems ,Time Sharing Systems ,Parallel Systems , Real Time Systems Distributed Systems	Reading + Lab	Oral exam
5	2	Operations	Process Concept, PCB, Queue Scheduling	Reading + Lab	Oral exam
6	2	Operations	Collaborative Processes, Independent Processes and the Concept of Threads	Reading + Lab	Oral exam
7	2	CPU scheduling	CPU and Sender Scheduling and Scheduling Criteria	Reading + Lab	Oral exam
8	2	Scheduling algorithms	FCFS, SJF algorithm	Reading + Lab	Homework
9	2	Scheduling algorithms	Exercises for SJF and Priority Explanation with Examples	Reading + Lab	LAB
10	2	Scheduling algorithms	Round Robin algorithm	Reading + Lab	LAB
11	2	Scheduling algorithms	Algorithm Evaluation and Race Status	Reading + Lab	Oral exam
12	2	Deadlock	Description of inertia in the system model and TAR	Reading + Lab	Oral exam
13	2	Ways to deal with inertia	Preventing Inertia	Reading + Lab	Oral exam
14	2	Ways to deal with inertia	Avoiding Inertia (Safe State)	Reading + Lab	
15	2		Freeze Recovery to Detect Inerties	Reading + Lab	Homework
16	2	Exam			
17	2	Memory Management	Primary Hardware + Address Binding + Logical vs. Physical Address Space	Reading + Lab	Oral exam
18	2	Memory Management	Contiguous Memory Allocation + Memory Allocation	Reading + Lab	Oral exam
19	2	Memory Management	Migration and page table structure	Reading + Lab	Oral exam
20	2	Memory Management	Segmentation and structure of the table	Reading + Lab	Oral exam
21		Student App for Schools			
22		Student App for Schools			
23		Student App for Schools			
24		Student App for Schools			

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25		Student App for Schools			
26		Student App for Schools			
27	2	Memory Management	Hardware Support	Reading + Lab	Oral exam
28	2	Memory Management	Fragmentation	Reading + Lab	Oral exam
29	2	Memory Management	First Fit , Best Fit , Worst Fit algorithms	Reading + Lab	LAB
30	2	Exam			

349. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

350. Learning and Teaching Resources

- Abraham Silberschatz Operating System Concepts, Tenth Edition, 2018
- Introduction to Operating System Design and Implementation -
- www.javatpoint.com/operating-system

Academic Program Guide

and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Data Wish

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File Completion Date: 30/3/2024

Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:

Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:

Dean's Approval

Course Description Form

351. Course Name:	
Computer Security	
:Course Code .352	
431 Cs Se	
:Semester/ Year .353	
2023/2024	
:Description Preparation Date .354	
20/3/2024	
355. Available Attendance Forms:	
Physical Presence	
356. Number of Credit Hours (Total) / Number of Units (Total)	
4 Hours / 6 Units	
357. Course Administrator Name :	
Teaching Name : Assoc. Prof. Dr. Maad Mudar Khalil	
Email: maad.khalil@uodiyala.edu.iq	
358. Course Objectives	
Course Objectives	1- Teaching the student the skills of computer and network security theoretically and practically. 2- Qualifying students to teach this subject to middle and middle school students 3 - Qualifying students to work in the various private and governmental sectors of the state.
359. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Lab activities and additional exercises as tasks - Scientific Books. - Daily and Monthly Exams

360. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2 Theoretical, 2 Practical	Introducing the importance of security	The importance of security in general	Presentation + Lab	Monthly Exams + Lab Reports

2	2 Theoretical, 2 Practical	Presenting the Past and Present Information Menu	Information Assurance in the Past and Present	Presentation + Lab	Monthly Exams + Lab Reports
3	2 Theoretical, 2 Practical	Definition of Computer Crime and its Elements	Elements of Computer Crime	Presentation + Lab	Monthly Exams + Lab Reports
4	2 Theoretical, 2 Practical	Definition of the most important classifications of information systems	Information Systems Security Classification	Presentation + Lab	Monthly Exams + Lab Reports
5	2 Theoretical, 2 Practical	Definition of Classification of Systems by Function	Categorization by Job	Presentation + Lab	Monthly Exams + Lab Reports
6	2 Theoretical, 2 Practical	Clarifying the types of attacks	Types of Attackers	Presentation + Lab	Monthly Exams + Lab Reports
7	2 Theoretical, 2 Practical	Definition of Network Security	Network Security Principle	Presentation + Lab	Monthly Exams + Lab Reports
8	2 Theoretical, 2 Practical	Definition of the most important methods of concealment	Hide information	Presentation + Lab	Monthly Exams + Lab Reports
9	2 Theoretical, 2 Practical	Definition of the science of occultation	The science of concealment	Presentation + Lab	Monthly Exams + Lab Reports
10	2 Theoretical, 2 Practical	Definition of Watermark	Watermark	Presentation + Lab	Monthly Exams + Lab Reports
11	2 Theoretical, 2 Practical	Definition of Cryptography and Decoding	Encryption and decryption	Presentation + Lab	Monthly Exams + Lab Reports
12	2 Theoretical, 2 Practical	Definition of symmetrical and asymmetric encryption systems	Symmetrical and asymmetric encryption systems	Presentation + Lab	Monthly Exams + Lab Reports
13	2 Theoretical, 2 Practical	Clarification of the Future of Wish	The Future of Wish	Presentation + Lab	Monthly Exams + Lab Reports
14	2 Theoretical, 2 Practical	Definition of the Basic Principles of Cryptography	Basic Principles of Cryptography	Presentation + Lab	Monthly Exams + Lab Reports
15	2 Theoretical, 2 Practical	Clarification of Virus Types	Types of viruses	Presentation + Lab	Monthly Exams + Lab Reports
16	2 Theoretical	Exam			
17	2 Theoretical, 2 Practical	Explanation of Julius Caesar's algorithm	Julius Caesar's Method	Presentation + Lab	Monthly Exams + Lab Reports
18	2 Theoretical, 2 Practical	monoalphabetic شرح لطرق	Monoalphabetic Encryption Method, Playfair cipher	Presentation + Lab	Monthly Exams + Lab Reports
19	2 Theoretical, 2 Practical	Explanation of substitution encryption methods	Alternative encryption methods	Presentation + Lab	Monthly Exams + Lab Reports
20	2 Theoretical, 2 Practical	Standard Encryption Method Explained	Standard encryption method	Presentation + Lab	Monthly Exams + Lab Reports
21	2 Theoretical, 2 Practical	Clarification of the science of network security classification	Network Security Classification	Presentation + Lab	Monthly Exams + Lab Reports

22	2 Theoretical, 2 Practical	Vernam Method Explained	Vernam Vernam Method	Presentation + Lab	Monthly Exams + Lab Reports
23	2 Theoretical, 2 Practical	Clarification of rotor technology	Rotor Technology	Presentation + Lab	Monthly Exams + Lab Reports
24	2 Theoretical, 2 Practical	Clarification of Stream Encryption Methods and Block Methods	Stream encryption methods , Block encryption methods	Presentation + Lab	Monthly Exams + Lab Reports
25	2 Theoretical, 2 Practical	Explanation of Public Key Algorithms (diffie, hellman)	Public Key Algorithms (DIFFIE, Hellman)	Presentation + Lab	Monthly Exams + Lab Reports
26	2 Theoretical, 2 Practical	Illustration of other methods and algorithms such as RSA	Other methods and algorithms RSA, Rijndael	Presentation + Lab	Monthly Exams + Lab Reports
27					
28					
29					
30		Exam			

361. Course Evaluation

Monthly Exam (30) / Practical Exam (10) / Final Exam (60)

Learning and Teaching Resources .362

- 1Stallings , William , ‘Cryptography and Network Security ‘ , Prentice Hall, 2006-
- 2 -Stalling , William , ‘Network & Internetwork security ‘ , Prentice Hall , 2005 -3Chapman , Elizabeth , ‘ Building Internet firewalls ‘ , O‘Reilly ,2005
- -
- Chris, Siyan , ‘Internet Firewall and Network Security ‘ , New Riders , 2006
- William , Steven , ‘ Firewall and Internet Security ‘ , Addison Wesley, 2004.
- https://www.youtube.com/playlist?list=PLd2pEan0ZG_Y1lTa4mXV1y0h-iJjINrqX

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Accreditation Department**



Academic Program Guide and Course Descriptions

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name: Measurement and Evaluation

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

363. Course Name:	
Measurement & Evaluation	
364. Course Code:	
:Semester/ Year .365	
2023/2024	
:Description Preparation Date .366	
20/3/2024	
367. Available Attendance Forms:	
Physical Presence	
368. Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours / 4 Units	
369. Course Administrator Name :	
Teaching Name : Assoc. Prof. Saher Mahmoud Kazim	
Email: Sahir.kadhom@uodiyala.edu.iq	
370. Course Objectives	
Course Objectives	- The Measurement and Evaluation course is designed to provide students with a deep understanding of the basic concepts and principles of measurement and evaluation. The main objectives of the Measurement and Evaluation course typically include the following: - Training students to perform course evaluations. - Training students, faculty and support staff on the development and administration of the test. - Introduce students to how to perform and evaluate practical tests. - Prepare the note card for oral and practical tests. -
371. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Scientific Books. - Daily and Monthly Exams
372. Course Structure	

Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1	2		,Introduction, Definition of Measurement Measurement in Our Daily Life, Types :of Measurement		
2	2		The importance of measurement, the factors affecting measurement, the origin and development of measurement, the measurement and evaluation of academic achievement, mental measurement, the ,characteristics of measurement		
3	2		Types of Metrics		
4	2		Applications of Educational Measurement		
5	2		Grading, Estimating Tools		
6	2		Grading Lists, Grading Scales:		
7	2		First Month Exam		
8	2		Features of the Grading Ladders		
9	2		Calendar, Calendar in its Sense of Old and Modern		
10	2		,Types of calendars		
11	2		Difference Between Measurement and Evaluation		
12	2		:Calendar Tools		
13	2		Types of Assessment: Tribal and Constructive		
14	2		Second Month Exam		
15	2		,Introduction, Definition of Measurement Measurement in Our Daily Life, Types :of Measurement		
16	2	Exam			
17	2		Diagnostic Evaluation andDiagnosis :and Treatment of Learning Problems		
18	2		Final and final calendar		
19	2		Measurement and Evaluation Purposes		
20	2		Student Application in Schools		
21	2		Student Application in Schools		
22	2		Student Application in Schools		
23	2		Student Application in Schools		
24	2		Student Application in Schools		
25	2		Student Application in Schools		
26	2		:Dimensions of Assessment Tests, Types Oral Essay Tests		
27	2		First month exam		
28	2		Objective Tests General Guidelines in Formulating Objective Questions of All Kinds		
29	2		Preparation of the specification table The factors based on which the question form is chosen		
373. Course Evaluation					
Monthly exam (25) / final exam (50)					
374. Learning and Teaching Resources					

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375. Measurement and Evaluation in Education and Psychology / Abd al-Salam
Jawdat Al-Zubaidi / Measurement and Evaluation in Education and Psychology
/ Sami Mohamed Melhem

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**Academic Program Guide
and Course Descriptions**

2024

Academic Program Description Form

University Name: Diyala University

College/Institute: College of Education for Pure Sciences

Scientific Department: Computer Department

Academic or Professional Program Name:

Final Certificate Name: Bachelor's degree in Computer Science

Academic System: Annual

Description Preparation Date: 20/3/2024

File completion date:



Signed:

Head of Department:

Prof. Dr. Nihad Mahmoud Nasser

Date:



Signing:

Name of the Scientific Associate:

Prof. Dr. Khansa Farman

Date:

The file is checked through:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signed:



Dean's Approval

Course Description Form

376. Course Name:	
Practical Education	
377. Course Code:	
:Semester/ Year .378	
2023/2024	
:Description Preparation Date .379	
20/3/2024	
380. Available Attendance Forms:	
Physical Presence	
381. Number of Credit Hours (Total) / Number of Units (Total)	
Hours/Units	
382. Course Administrator Name : Practical Education	
Teaching Name : Prof. Dr. Maged Ayoub Mahmoud	
Email: Purecomp.majid.mahmood@uodiyala.edu.iq	
383. Course Objectives	
Course Objectives	- Practical application of lesson planning, execution and evaluation - Applying the Foundations of a Successful Lesson - Applying the Qualities of a Successful Teacher - Applying the qualities of the educator teacher.
384. Teaching and Learning Strategies	
Strategy	- Explanation and practical application by the professor. - Discussion - Practical application for students.

385. Course Structure					
Week	Watches	Required Learning Outcomes	Unit or Subject Name	Learning method	Evaluation Method
1		Teaching Planning Skills	Study of the types of planning and its importance	Practicality	Observation and discussion
2		Lesson planning skills	Writing the annual plan for the curriculum	Practicality	Observation and discussion

3		Lesson planning skills	Writing the daily lesson plan	Practicality	Observation and discussion
4		Lesson Implementation Skills	Practical time division between the paragraphs of the daily plan	Practicality	Observation and discussion
5		Lesson Implementation Skills	Oral Review of the Student's Thoughts on the Lesson	Practicality	Observation and discussion
6		Lesson Implementation Skills	Explanation and application of the lecture method and its origins	Practicality	Observation and discussion
7		Lesson Implementation Skills	Applying the Lecture Method by Students	Practicality	Observation and discussion
8		Lesson Implementation Skills	Explain and apply the use of the discussion method	Practicality	Observation and discussion
9		Lesson Implementation Skills	Applying the Problem Solving Method by Students	Practicality	Observation and discussion
10		Lesson Implementation Skills and Student Evaluation	Explanation and application of the method of oral interrogation and its origins	Practicality	Observation and discussion
11		Lesson Implementation Skills and Student Evaluation	Application of the method of oral questioning by students	Practicality	Observation and discussion
12		Lesson Implementation Skills and Student Evaluation	Explain and apply the use of the discussion method	Practicality	Observation and discussion
13		Lesson Implementation Skills and Student Evaluation	Application of the use of the discussion method by students	Practicality	Observation and discussion
14		Lesson Implementation Skills and Student Evaluation	Explaining and applying the individualized learning method	Practicality	Observation and discussion
15		Lesson Implementation Skills and Student Evaluation	Applying the method of using individualized learning by students	Practicality	Observation and discussion
16		Exam			
17		Learning and collaboration skills	Explaining and applying the cooperative learning method	Practicality	Observation and discussion
18		Learning and collaboration skills	Applying the Cooperative Learning Method by Students	Practicality	Observation and discussion
19		Lesson Implementation Skills and Student Evaluation	Application of the Lecture and Interrogation Methods	Practicality	Observation and discussion
20		Learning, Implementation and Assessment Skills for the Lesson	Application of the use of lecture and individual learning methods	Practicality	Observation and discussion
21		Implementation and Evaluation Skills	Application of the use of lecture and collaborative learning methods	Practicality	Observation and discussion

22		Learning and Implementation Skills	Application of Practical Experiments in Computer Learning	Practicality	Observation and discussion
23		Learning and Implementation Skills	Review of the Use of Educational Technology App	Practicality	Observation and discussion
24		Lesson Implementation Skills	Review of the application of using thought-provoking methods	Practicality	Observation and discussion
25		Lesson Implementation Skills	Review of the application of individual differences methods	Practicality	Observation and discussion
26		Lesson Implementation Skills	Review of the Application of Using Mental Processes of the Bloom Cognitive Pyramid	Practicality	Observation and discussion
27		Lesson Implementation Skills	Review the application of multiple methods in class adjustment	Practicality	Observation and discussion
28		Lesson Implementation Skills	Review of how to achieve emotional goals	Practicality	Observation and discussion
29		Assessment Skills for Students	Applying the process of conducting exams for students	Practicality	Observation and discussion
30		Exam			

386. Course Evaluation

Monthly Application (60), Plan (10) Discussion (20) Attendance (10)

387. Learning and Teaching Resources

- Education Curricula Founded and Applied by Dr. Ali Ahmed Madkour
- Curriculum and Teaching Methods Dr. Majed Ayoub Al-Qaisi
- Curricula and Teaching Methods Dr. Rahim Younis Karo Al-Azzawi
- Curricula and Teaching Methods Dr. Ithar Al-Mayahi -