

Academic Program Description Form

University Name: University of Baghdad

Faculty/Institute: College of Education for Women.

Scientific Department: Computer Department ...

Academic or Professional Program Name: Bachelor's

Final Certificate Name: Bachelor's Degree in Computer.....

Academic System: Annual.....

Description Preparation Date: 15/10/2023

File Completion Date: 15/2/2024

Prof. Anaam Dawood Salloom, Ph.D

Deputy Dean For Scientific Affairs
and Higher Studies

Signature:

Head of Department Name:

Asst. Prof. Dr. Asman Abdul-Razzaq

Date: 21/4/2024

Signature:

Scientific Associate Name

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 college seeks to graduate female teachers with general and educational qualifications and to create an educational generation capable of building and reforming society in the socially necessary scientific and educational fields. It seeks to prepare female teachers capable of assuming responsibility through various scientific and technical means and methods.

2. Program Mission

Preparing female students in line with scientific and technical progress, and preparing qualified cadres who possess specialized and professional competencies, continuous development competencies, and community service competencies to work in the stages of higher education.

3. Program Objectives

Graduating female students to teach in middle schools and work in state departments

- 1- It provides information in computer science to cover what is taught in the middle and middle schools in Iraq.
- 2- He is provided with information that qualifies him to work in scientific departments, scientific research facilities, and state ministries
- 3- He is provided with sufficient information that qualifies him to complete his graduate studies.
- 4- He is provided with information that helps him prepare educational lessons.

4. Program Accreditation

Nothing

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5. Other external influences

Application for the fourth grade, lasting 45 days, graduation research, seminars, and free report work

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	The first stage: 10 Second stage:11 The third stage: 11 Fourth stage:9	First stage: 47 units The second stage: 52 units The third stage: 50 units Fourth stage: 42 units		Basic course
College Requirements	Exist			
Department Requirements	Exist			
Summer Training	Nothing			
Other	Nothing			

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours
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			Theoretical	practical
First	104CSP	Structured programming	2	2
	106CLD	Logical design	2	2
	108CT	techniques	2	2
	101CM	mathematics	3	
	109CDS	Intermittent structures	2	
	107CEP	Educational Psychology	2	
	102CPE	Foundations of education	2	
	103HR	human rights	2	
	105CAL	Arabic Language	2	
	110 CTCL	English	2	
Second	211CCT	Computational theory	3	
	213COOP	Entity programming	2	
	215CDAS	Data structures	2	
	214CNA	Numerical Analysis	2	
	217CSA	Systems analysis	2	
	212CCA	Calculator architecture	2	
	218CASE	Administration and secondary education	2	
	216CGP	Developmental psychology	2	
	219CTBC	Textbook curriculum	2	
	220 C EL	English	2	
	221 CPhE	physical education		1
	222 CArE	Art education		1
	223 C CB	Baath Party crimes	1	
Third	324CAI	Artificial intelligence	2	2
	326CCG	Fee Calculator	2	2
	327CGEP	Software engineering	2	
	325CCA	Calculator architecture	2	
	323CCO	Translators	2	2
	329CVP	Visual programming	2	
	328CTM	Syllabuses, and teaching methods	2	
	331 CCPH	Counseling and mental health	2	
	332 C EL	English language	2	

	333 C DB	Databases	2	2
Fourth	434CMM	multimedia	2	2
	435COS	operating system	2	2
	436CSoC	Computer security	2	2
	437CCNe	computer networks	2	2
	438CIA	Smart applications	2	
	439CME	Measurement and evaluation	2	
	440Cap	Application/practical education		4
	441CRP	research project	2	
	442C EL	English language	2	

8. Expected learning outcomes of the program	
Knowledge	
1 Provides information in computer science to cover what is taught in the middle and middle schools in Iraq. 2- He is provided with information that qualifies him to work in scientific departments, scientific research facilities, and state ministries.	1- He is provided with sufficient information that qualifies him to complete his graduate studies. 2- He is provided with information that helps him prepare educational lessons.
Skills	
Provides information in preparing computer laboratories	Confronting the developments imposed by the world's rapid change in the subject of computers

Providing support and assistance to other college departments	
Ethics	
Covering what is taught in the middle and middle schools in Iraq.	Provides information in preparing computer laboratories
Provide him with information to help him prepare educational lessons	

9. Teaching and Learning Strategies

The students worked in groups for the purposes of the seminars in order to encourage the students to engage in self-education, in addition to assigning the students to work on projects through these groups and using the Internet to complete the work.

10. Evaluation methods

Theoretical and practical tests, graduation projects, in addition to reports and seminars

11. Faculty

Faculty Members

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

1- Prof. Dr. Ayad Abdel Qahar	computer Sciences	Multimedia security			Staff	
2- A.P.Dr. Asmaa Abdul Razzaq	computer Sciences	Programs			Staff	
3- A.P.Dr. Afaf Badie Qaddo	computer Sciences	Parallel networks and processor s			Staff	
4- A.P.Dr. Nashwan Al-Salam Ali	computer Sciences	Data security			Staff	
5- A.P.Dr. Mona Majeed Lafta	computer Sciences	Multimedia security			Staff	
6- A.P.Dr. Rasha Hussein Ali	computer Sciences	Artificial intelligence			Staff	
7- A.P. Amer Abdel Khalaf	Physics Science	Digital image processing			Staff	
8- A.P. Iman Muhammad Jaafar	Engineering computers	Control and computer engineering			Staff	
9- A.P. Enas Muzaffar is beautiful	computer Sciences	Umniah Computer s			Staff	
10- A.P. Saba Noori Majeed	Mathematical sciences	Dynamic organization			Staff	
11- T. Dr.. Israa Nafie Mahmoud	computer Sciences	Artificial intelligence			Staff	
12- T. Iman Ismail	computer Sciences				Staff	
13- T. Maryam Yassin	computer Sciences				Staff	
14- T. Enas Ismail	computer Sciences				Staff	
15-A.T. Raghad Kazem Abdel Hassan	computer Sciences				Staff	

16- A.T. Saad Abdel Karim Abdel Amir	computer Sciences	computer Sciences			Staff	
17- A.T. Nebras Amer	computer Sciences	Information Technology			Staff	
18- A.T. Sawsan Hadi Jadoua	computer Sciences	Software engineering science			staff	
19- A.T. Farah Rafid Salman	computer Sciences	Databases				
20- A.P.Dr. Fayza Abdul Jabbar	computer Sciences	computer Sciences			Not staff	
21- A.P. Shaima Abbas	computer Sciences	computer Sciences				
		computer Sciences			Not staff	
		operating system				
		Image processing				

Professional Development
Mentoring new faculty members
Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.
Professional development of faculty members
Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion
(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13. The most important sources of information about the program
State briefly the sources of information about the program.

14. Program Development Plan
The department seeks to encourage female students to use the Internet through individual research, graduation projects, and seminars

Program Skills Outline															
				Required program Learning outcomes											
Year/L evel	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A 1	A2	A 3	A 4	B 1	B 2	B 3	B4	C1	C2	C3	C4
First 2023- 2024															
	104CSP	Structured programming	basic	•				•				•			
	106CLD	Logical design	Basic	•				•				•			
	108CT	techniques	Basic	•				•				•			
	101CM	mathematics	Basic	•				•				•			
	109CDS	Intermittent structures	Basic	•				•				•			
	107CEP	Educational Psychology	Basic	•				•				•			
	102CPE	Foundations of education	Basic	•				•				•			
	103HR	human rights	Basic	•				•				•			
	105CAL	Arabic Language	Basic	•				•				•			
	110 CTEL	English	Basic	•				•				•			

Please tick
corresponding to
individual
learning
under evaluation.

Course

the boxes
the
program
outcomes

Second	211CCT	Computational theory	basic	•				•				•			
	213COOP	Entity programming	Basic	•			•				•	•			
	215CDAS	Data structures	Basic	•			•				•	•			
	214CNA	Numerical Analysis	Basic	•			•				•	•			
	217CSA	Systems analysis	Basic	•			•				•	•			
	212CCA	Calculator architecture	Basic	•			•				•	•			
	218CASE	Administration and secondary education	Basic												
	216CGP	Developmental psychology	Basic												
	219CTBC	Textbook curriculum	Basic												
	220 C EL	English	Basic	•			•				•	•			
	221 CPhE	physical education	Basic												
	222 CArE	Art education	Basic												
	223 C CB	Baath Party crimes	Basic												
	Third	324CAI	Artificial intelligence	basic	•			•				•	•		
		326CCG	Fee Calculator	Basic								•	•		
		327CGEP	Software engineering	Basic	•			•				•	•		
		325CCA	Calculator architecture	Basic	•			•				•	•		
1. Course Name:	323CCO	Translators	Basic	•			•					•	•		
Mathematics	329CVP	Visual programming	Basic	•			•					•	•		

0. Course Code:	
101CM	
0. Semester / Year:	
First	
0. Description Preparation Date:	
3/4/2024	
0. Available Attendance Forms:	
Annual	
0. Number of Credit Hours (Total) / Number of Units (Total)	
96	
0. Course administrator's name (mention all, if more than one name)	
Name: Saba Noori Majeed Email: saba.noori@coeduw.uobaghdad.edu.iq	
0. Course Objectives	
Course Objectives	1- Solving mathematical equations 2- How to represent equations and solve them using a computer 3- How to represent a mathematical problem and its solution
0. Teaching and Learning Strategies	
Strategy	Teaching mathematics topics with solving many exercises and clarification The practical aspect of this important topic in our lives

0. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Identify functions	Functions	theoretical	the exam
2	3			theoretical	
3	3	Identify functions	and inequalities		the exam
4	3			theoretical	
5	3	Identify functions	Functions and inequalities		the exam
6	3			theoretical	
7	3	Identify goals	Functions and inequalities		the exam
8	3			theoretical	
9	3	Recognize continuity	Ending goals		the exam
10	3			theoretical	
11	3	Discuss exercises	Unfinished goal		the exam
12	3				
13	3	First semester exam	Continuous functions		
14	3	Half year holiday		theoretical	the exam
15	3				
16	3	Identify derivatives	Derivatives of functions	theoretical	the exam
17	3				
18	3	Derivative applications	Function applications	theoretical	the exam
19	3				
20	3	Drawing functions	Trigonometric	theoretical	the exam
21	3				
22	3	Drawing functions	functions	theoretical	the exam
23	3	Learn about integrals		theoretical	
24	3		Absolute function		
		Learn about integrals	Finite integrals	theoretical	the exam

25	3		Definite integrals		
26	3	Discuss exercises		theoretical	the exam
27	3	Semester exam	Non-square matrices	theoretical	the exam
28	3				
29	3	Learn about matrices		theoretical	the exam
30	3		Square matrices		
31	3	Learn about matrices	Collection of matrices	theoretical	the exam
32	3	Collection of matrices	Square and proportional	theoretical	the exam
		Matrix multiplication	Square matrices	theoretical	the exam
		Matrix determinants	Invertible matrices	theoretical	the exam
		The inverse of the matrix	Cramer's method	theoretical	the exam
		Cramer's method for solving equations	Types of sequences	theoretical	the exam
		Identify sequences	Types of sequences	theoretical	the exam
		Identify sequences		theoretical	the exam
		Types of sequences	Sequences and their importance	theoretical	the exam
		Numerical series			the exam
		Numerical sequences	Numerical series	theoretical	the exam
		Geometric series			
		Geometric series	Numerical series		
		Discuss exercises		theoretical	
		Semester exam	Geometric series		
			Geometric series	theoretical	

0. Course Evaluation					
50 semester grades + 50 final exam grades = 100 college grades					
0. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			1-Calculus – James Stewart 2-Engineering Mathematics – K. A. Stroud – Second Edition 3- Calculus – Howard Anton – Sixth Edition 4- "Mathematics for computer science", Eric Lehman , F.Thomson Leighton , Albert R. Meyer,2017 5- اساسيات التفاضل والتكامل وتطبيقاتها , أ.نادية برقلي, 2010, دار الكتب الوطنية, بنغازي , ليبيا		
Main references (sources)			1-Calculus – James Stewart 2-Engineering Mathematics – K. A. Stroud – Second Edition 3- Calculus – Howard Anton – Sixth Edition 4- "Mathematics for computer science", Eric Lehman , F.Thomson Leighton , Albert R. Meyer,2017		

	اساسيات التفاضل والتكامل وتطبيقاتها, أ.نادية -5- برقلي, 2010, دار الكتب الوطنية, بنغازي, ليبيا
Recommended books and references (scientific journals, reports...)	1-Calculus – James Stewart 2-Engineering Mathematics – K. A. Stroud – Second Edition 3- Calculus – Howard Anton – Sixth Edition 4- "Mathematics for computer science", Eric Lehman , F.Thomson Leighton , Albert R. Meyer, 2017 5- اساسيات التفاضل والتكامل وتطبيقاتها, أ.نادية -5- برقلي, 2010, دار الكتب الوطنية, بنغازي, ليبيا
Electronic References, Websites	YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentation uploaded to the electronic classroom, in addition to electronic interactive lessons.

Course Description Form

2. Course Name:

Logic Design					
1. Course Code:					
106 CLD					
1. Semester / Year:					
2 nd					
1. Description Preparation Date:					
8/7/2024					
1. Available Attendance Forms:					
Annual					
1. Number of Credit Hours (Total) / Number of Units (Total)					
160					
1. Course administrator's name (mention all, if more than one name)					
Name: Amer Abed Khalaf Email: amerallehiebe@coeduw.uobaghdad.edu.iq					
1. Course Objectives					
Course Objectives					
1. Teaching and Learning Strategies					
Strategy	Studying logic gates used in computer and applications				
1. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Numerical system	Numerical systems definitio	Theoretical	Exams
2	4	Numerical systems	Numerical systems Transforms	Teoretical	Exams

3	4	Numerical systems Transforms	Numerical systems Transforms	Theoretical	Exams
4	4		Arithmetic operations definition		
5	4	Arithmetic operations	Arithmetic operations definition	Theoretical	exams
6	4	Arithmetic operations	Boolean algebra definition	Theoretical	exams
7	4	Boolean algebra	Boolean algebra definition		exams
8	4	Boolean algebra	Boolean algebra definition	Theoretical and Experimental	exams
9	4	Boolean algebra	Boolean algebra definition		exams
10	4	Boolean algebra		Theoretical and Experimenta l	exams
11	4	First Exam	Solution using Karnaugh map	Theoretical and Experimenta l	exams
12	4	Karnaugh Map	Solution using Karnaugh map	Theoretical and Experimenta l	exams
13	4	Karnaugh Map	Solution using Karnaugh map	Theoretical and Experimenta l	exams
14	4	Half and Full adders	Half and Full adders design		exams
15	4	Half and Full adders	Half and Full adders design	Theoretical	exams

16	4	BCD to Excess-3	BCD to Excess-3 convertor		exams
17	4	Binary to grey	Binary to grey convertor	Theoretical	exams
18	4	1 s and 2 s complements	Design 1 s and 2 s complements logic circuit	Theoretical	exams
19	4	Parallel adder	Parallel adder design		exams
20	4	Second exam		Theoretical and experimental	
21	4	Flip-flops	Flip-flops design	Theoretical and Experimental	exams
22	4	Asynchronous RS flip-flop	Asynchronous RS flip-flop design	Theoretical Experimenta l	exams
23	4	Synchronous RS flip-flop	Synchronous RS flip-flop Design	Theoretical and experimental	exams
24	4	Flip flop D (Delay)	D-flip flop Deign	Theoretical and Experimenta l	exams
25	4	Flip-flop JK	JK flip flop design		exams
26	4	T flip flop(toggle)	T flip flop design	Theoretical and Experimenta l	exams
	4	Encoder and Decoder	Encoder and decoder design		exams

	4	Multiplexers	Multiplexer Design	Theoretical and Experimental 1	exams
27	4	Third exam			
	4	Read only memory ROM	ROM design	Theoretical and Experimental 1	exams
28	4	Counters	Counters types	Theoretical and Experimental 1	exams
29	4	Registors	Registors types	Theoretical and Experimental 1	exams
30				Theoretical and Experimental 1	
31				Theoretical and Experimental 1	
32				Theoretical and Experimental 1	

				Experimenta l	
				Theoretical and Experimenta l	
				Theoretical and Experimenta l	
				Theoretical and Experimenta l	
1. Course Evaluation					
Annual endeavor score = 30 theoretical exams + 5 reports + 15 practical exams Final grade = 50 endeavors + 50 end-of-year exam grades (40 notebooks + 10 practical) Final grade = 100					
1. Learning and Teaching Resources					
الالكترونيك الرقمي مبادئ وتطبيقات التصميم المنطقي ودوائر الكمبيوتر ملزمة تصميم الالكترونيك الرقمي د.سامي سرحان د.زياد القاض أ.صهيب عبدالجبار د.قيس إسماعيل Digital design principles and practices					

John F. Wakerly	
The same previous sources	
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.	

Course Description Form

3. Course Name:

Discrete Structure

2. Course Code:

109CDS

2. Semester / Year:

First stage 2023-2024

2. Description Preparation Date:

12/10/2023

2. Available Attendance Forms:

Whole year

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

96

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

Name: Assist.Prof. Shaimaa Abbas Fahdel Al-Abaidy

2. Course Objectives

Course Objective	• Introducing students to the principles of basic discrete structures, such as mathematical logic relationships, and algebra of functions. • Encouraging students to use mathematical logic in representing and solving complex problems • Students' ability to recognize logical functions • Learn about algebra of functions • Identify logical relationships
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2. Teaching and Learning Strategies

Strategy

2. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Learn about the topics mentioned and solve the exercises	Mathematical induction	Theoretical	tests
2	3	Learn about the topics mentioned and solve the exercises	Mathematical logic introduction Simple logical expressions	Theoretical	tests
3	3	Learn about the topics mentioned	Variables used in declarative sentences	Theoretical	tests

		and solve the exercises	Complex logical expressions		
4	3	Learn about the topics mentioned and solve the exercises	Logical issues Logical equivalence The statement of attainment and the statement of contradiction	Theoretical	tests
5	3	Learn about the topics mentioned and solve the exercises	Logical requirement Algebra of issues	Theoretical	tests
6	3	Learn about the topics mentioned and solve the exercises	Conditional expressions and contradiction Maswarat Logical reasoning	Theoretical	tests
7	3	Learn about the topics mentioned and solve the exercises	Set theory introduction Ways to express groups Basic concepts in groups	Theoretical	tests
8	3	Learn about the topics mentioned and solve the exercises	Venn diagrams 5- Sets of numbers 6- Algebra of groups	Theoretical	tests

			7- The family of collections and the family of indexed collections		
9	3	Learn about the topics mentioned and solve the exercises	exam	Theoretical	tests
10	3	Learn about the topics mentioned and solve the exercises	Ordered pairs and multiplying sets Boolean algebra	Theoretical	tests
11	3	Learn about the topics mentioned and solve the exercises	relations introduction Bilateral relations Relationship statement Ways to write elements of a relationship statement The starting point and scope of the relationship	Theoretical	tests
12	3	Learn about the topics mentioned	Self-relationships and inverse relationships	Theoretical	tests

		and solve the exercises	Installing relationships Types of relationships Equivalence relations		
13	3	Learn about the topics mentioned and solve the exercises	- Functions introduction Definitions and basic concepts in functions Examples of functions Composite function	Theoretical	tests
14	3	Learn about the topics mentioned and solve the exercises	exam	Theoretical	tests
15	3	Learn about the topics mentioned and solve the exercises	- Algebra of functions 6- Discussing functions through arrow representation 7- Draw a function diagram	Theoretical	tests

16	3	Learn about the topics mentioned and solve the exercises	Ordered pairs and multiplying sets Boolean algebra	Theoretical	tests
17	3	Learn about the topics mentioned and solve the exercises	Vectors and matrices introduction Vectors Matrices	Theoretical	tests
18	3	Learn about the topics mentioned and solve the exercises	Models of the square matrix Algebraic operations in matrices Determinants Thumbnails and cofactors	Theoretical	tests
19	3	Learn about the topics mentioned and solve the exercises	Find the inverse of a square matrix Solve linear equations using matrix inverse Cramer's method	Theoretical	tests
20	3	Learn about the topics mentioned and solve the exercises	Half year holiday	Theoretical	tests

21	3	Learn about the topics mentioned and solve the exercises	Charts introduction Basic concepts Types of charts	Theoretical	tests
22	3	Learn about the topics mentioned and solve the exercises	Definitions Examples of charts Diagrams and relationships Charts and matrices Algorithm for finding the shortest path between two points	Theoretical	tests
23	3	Learn about the topics mentioned and solve the exercises	Cliques	Theoretical	tests
24	3	Learn about the topics mentioned and solve the exercises	exam	Theoretical	tests
25	3	Learn about the topics mentioned	Conjugates	Theoretical	tests

		and solve the exercises			
26	3	Learn about the topics mentioned and solve the exercises	Ordinary subgroup	Theoretical	tests
27	3	Learn about the topics mentioned and solve the exercises	division group Symmetry and conformation	Theoretical	tests
28	3	Learn about the topics mentioned and solve the exercises	Episodes	Theoretical	tests
29	3	Learn about the topics mentioned and solve the exercises	exam	Theoretical	tests
30	3	Learn about the topics mentioned and solve the exercises	review	Theoretical	tests

2. 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

2. Learning and Teaching Resources

Required textbooks, (curricular any)	1) Intermittent Structures, Jassim Tohme Sarsouh, College of Science, University of Basra, 1992. 2) Discrete Mathematical Structures With Application To Computer Science, J. P. Tremblay & R. Manohar, 2nd , McGraw-Hill Book company, 1988. 3) Discrete Mathematical Structures For Computer Science, K.Bernard & Robert C., prentice-Hall Inc. 1984
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports...)	The sources mentioned above are sufficient
Electronic Reference Websites	YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.

Course Description Form

4. Course Name:
Techniques
3. Course Code:
108CT
3. Semester / Year:
First

3. Description Preparation Date:					
3/4/2024					
3. Available Attendance Forms:					
Annual					
3. Number of Credit Hours (Total) / Number of Units (Total)					
128					
3. Course administrator's name (mention all, if more than one name)					
Name: Saad Adulkareem Abdulameer Email: saad@coeduw.uobaghdad.edu.iq					
3. Course Objectives					
Course Objectives				1- Computer hardware 2- Computer software 3- Computer performance	
3. Teaching and Learning Strategies					
Strategy		Books & Papers			
3. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1.	4	Computer Basics	Data Representation	Theoretical & Practical	Tests
2.	4	Computer Basics	Numbers	Theoretical & Practical	Tests
3.	4	Computer Basics	Characters	Theoretical & Practical	Tests
4.	4	Computer Basics	Computer Architecture -Processor Architecture	Theoretical & Practical	Tests

5.	4	MS-DOS commands	Fetch & Execute	Theoretical & Practical	Tests
6.	4	MS-DOS commands	Busses	Theoretical & Practical	Tests
7.	4	MS-DOS commands	Registers	Theoretical & Practical	Tests
8.	4	MS-DOS commands	ALU	Theoretical & Practical	Tests
9.	4	Xp commands	Control Unit	Theoretical & Practical	Tests
10.	4	Xp commands	Types of Memory - RAM	Theoretical & Practical	Tests
11.	4	Xp commands	Types of Memory -ROM	Theoretical & Practical	Tests
12.	4	Xp commands	Flash Memory	Theoretical & Practical	Tests
13.	4	Office (word)	Virtual Memory	Theoretical & Practical	Tests
14.	4	Office (word)	Cache Memory	Theoretical & Practical	Tests
15.	4	Office (word)	BIOS	Theoretical & Practical	Tests
16.	4	Office)excel)	CMOS	Theoretical & Practical	Tests
17.	4	Office)excel)	Data Storage -Hard Disk -CD-ROM	Theoretical & Practical	Tests

18.	4	Office)excel)	Interface (I/O Devices) -Input (Keyboard -Touch Screen –Mouse)	Theoretical & Practical	Tests
19.	4	Office)excel)	Output (Display , Printer)	Theoretical & Practical	Tests
20.	4	Office)excel)	Data Transmission	Theoretical & Practical	Tests
21.	4		Programming Language - Machine Language	Theoretical & Practical	Tests
22.	4		- Assembly Language - High level Language	Theoretical & Practical	Tests
23.	4		Types of Editors -Translators -Assemblers	Theoretical & Practical	Tests
24.	4		Types of Editors -Interpreter -Compiler	Theoretical & Practical	Tests
25.	4		Software Model of the 8088/8086 MP -8088/8086 Registers -General purpose Register	Theoretical & Practical	Tests
26.	4		-Instruction Pointer -pointer & index Register - Status & Flag Register	Theoretical & Practical	Tests
27.	4		Memory Address Space & Data Organization	Theoretical & Practical	Tests

28.	4		Segment Register & Memory Segmentation	Theoretical & Practical	Tests
29.	4		Generating a memory address Space(Logical & Physical Address)	Theoretical & Practical	Tests
30.	4		Addressing Modes	Theoretical & Practical	Tests
31.	4		Instruction set - Transfer Instruction - Arithmetic Instruction - Logical Instruction	Theoretical & Practical	Tests
32.	4		Input / Output programming -Programmed I/O -Interrupt I/O -Polling -DMA	Theoretical & Practical	Tests

3. Course Evaluation

Theoretical & Practical exams

3. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer in your future, bryan pfaffenberger, New Jersey, 2003.
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports...)	Same as above
Electronic References, Websites	YouTube, Google Classroom, Power Point Lectures, Interactive online lessons

Course Description Form

5. Course Name:	
Structured programming	
4. Course Code: 104CSP	
104CSP	
4. Semester / Year: 2023-2024	
4. Description Preparation Date:	
1-10-2023	
4. Available Attendance Forms:	
Annual	
4. Number of Credit Hours (Total) / Number of Units (Total) :	
128	
4. Course administrator's name (mention all, if more than one name)	
Name: Assist. Lecturer Sawsan Hadi Jaddoa Email:sawsan.h@coeduw.uobaghdad.edu.iq	
4. Course Objectives	
Course Objectives	1- How to program using the C++ language 2- Solving problems according to specific algorithms
4. Teaching and Learning Strategies	

Strategy	Teaching structured programming using C++ programming language with many exercises and clarifications.				
4. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	definition of programming language, rules for writing a program, variables and constants	Introduction to C++	Theoretical & practical	the exams
2	4			Theoretical & practical	the exams
3	4	Input and output statements and arithmetic substitution statements	Write Simple C++ Program	Theoretical and practical	the exams
4	4			Mathematical functions	Solving Homework
5	4	Comparison operations, logical operations, and operations on bits	Solving Homework	Theoretical and practical	the exams
6	4			Selection statements	Solving Homework
7	4	Single and nested if statements	If Statements	Theoretical and practical	the exams
8	4	Applications in an if statement	Application on if statement		
9	4	Switch statement	Switch Statement	Theoretical and practical	the exams
10	4	The while statement	While statement	Theoretical and practical	the exams
11	4	The do while statement	do while Statements	Theoretical and practical	the exams
12	4	Break and continue Statements	Break and continue Statements	Theoretical and practical	the exams
13	4	The for loop statement	For loop Statements		

14	4	Applications in repetition sentences	Solving Problems	Theoretical and practical	the exams
15	4	Nested repetition sentences	Solving Problems	Theoretical and practical	the exams
16	4	Applications in nested repetition sentences	Solving Problems	Theoretical and practical	the exams
17	4	unary arrays	Declaration and Creation, Using Array	Theoretical and practical	the exams
18	4	Applications to the unary matrix	Solving problems	Theoretical and practical	the exams
19	4	Two-dimensional arrays	Declaration and Creation, Using 2d-Arrays. Solving problems	Theoretical and practical	the exams
20	4	Applications to two-dimensional matrix	Declaration and Creation, Using Multi d -Arrays. Solving problems	Theoretical and practical	the exams
21	4	Multidimensional arrays	Declaring and accessing function	Theoretical and practical	the exams
22	4	Applications in multidimensional arrays	Solving problems	Theoretical and practical	the exams
23	4	Functions of the first type	Functions of the second type	Theoretical and practical	the exams
24	4	Applications	Applications	Theoretical and practical	the exams
25	4	Functions of the second type	Literal strings	Theoretical and practical	the exams
26	4	Literal strings			the exams

27	4	Applications in string literals	Applications in string literals	Theoretical and practical Theoretical and practical Theoretical and practical Theoretical and practical	the exams
28	4	Structure data type	Structure data type		
29	4	Array of structure	Array of structure		
30	4	Applications in structure	Applications in structure		
31	4	Pointers in c++	Pointers in c++		
32	4	Application on pointers	Application on pointers		
4. Course Evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					
4. Learning and Teaching Resources					
1- Teach Yourself C++ in 21 Days , Laura Lemay Charles L. Perkins.					
2- Head First C++" by Kathy Sierra and Bert Bates					
3-C++: A Beginner's Guide" by Herbert Schildt					

Course Description Form

6. Course Name: English Language	
5. Course Code: 110 CTCL	
5. Semester / Year: First year	
5. Description Preparation Date: 2024/4/20	
5. Available Attendance Forms: face to face	
5. Number of Credit Hours (Total) / Number of Units (Total)(30 hours)	
5. Course administrator's name (mention all, if more than one name)	
Name: Hiba Ahmed Kareem Email: heba.a@coeduw.uobaghdad.edu.iq	
5. Course Objectives	
Course Objectives	Develop the linguistic competence that enables them to aware of the cultural, economic and social issues of the society in order to contribute in giving solution. to enable the learner to communicate effectively and appropriately in real life situation.
5. Teaching and Learning Strategies	

Strategy	1. Brain storming 2. Encourage Critical thinking 3. Encourage analytical thinking strategy 4. Introduce correct research methodologies	
5. Course Structure		
Week	Hours	Unit or subject name
1	1	Unit 1- Hello
2	1	Unit 2- Your World
3	1	Unit 3- All about You
4	1	Unit 4- Family and Friends
5	1	Unit 5- The way I live
6	1	Unit 6- Everyday
7	1	Unit 7- My Favorite
8	1	Unit 8- Where I live
9	1	Unit 9- Times Past
10	1	Unit 10- We had a great time!
11	1	Unit 11- I can do that!
12	1	Unit 12- Please and thank you
13	1	Unit 13- Here and now
14	1	Unit 14- It's time to go!
15	1	Review
16	1	Exam
17	1	Expression of obligation using have/has to/should/must
18	1	Medical terms: a cold/the flu/food poisoning/a temperature /a Prescription
19	1	Using of take/get/do/make verbs in specific context
20	1	Adverbs: Celluly/Carvoli/Jost/-- Steel/Toe

21	1	!Express exclamation: He was so scares !He's such an idiot The difference between writing formal and informal letters
22	1	Verbs used with certain nouns: tell a story/ keep promise
23	1	Warnings: Out of Tea Grass/Out of Order
24	1	Exam
25	1	Vocabulary about the most common customs in the world such as chewing gums How to write a review for a book or a movie
26	1	Present perfect continuous and present perfect simple
27	1	Conditions : Mainly / Possible / Exactly
28	1	Past Perfect Tense
29	1	Review
30	1	Exam
26	1	Unit 1- Hello
27	1	Unit 2- Your World
28	1	Unit 3- All about You
29	1	Unit 4- Family and Friends
30	1	Unit 5- The way I live
5. Course Evaluation		
5. 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		
Learning and Teaching Resources		

Required textbooks (curricular books any)	<i>New Headway Plus</i> (Beginner Student's Book) by John and Liz Soars, Oxford University Press.
Main references (sources)	قاموس أكسفورد
Recommended books and references (scientific journals, reports...)	الكتب المنشورة ضمن نفس سلسلة <i>Headway</i> والمجلات التعليمية الخاصة باللغة الانكليزية
Electronic References, Websites	www.newheadwayplus.london:oxforduniversitypress

Course Description Template

1. The course name
Computational Theory
2. The course code
211CCT
3. The course semester or year
2nd
4. The date of preparation for this description
18-02-2024
5. Available attendance formats
Full year
6. The total number of study hours/units
96

.(The name of the course coordinator (if there are multiple names, mention them .7					
	Maryam yaseen Abdullah email:maryam84@coeduw.uobaghdad.edu.iq				
.The course objectives .8					
The aim of this course is to teach the principles of computational theory that lead to learn the foundations of compilers course			The course objectives.		
.Teaching and learning strategies .9					
Dialog-Based Learning Strategy Mind Mapping Strategy					Strategy
Course structure .10					
Assessment method	Learning method	unit name or topic	Learning outcomes	hours	week
exams	theoretical	An overview of Set Theory	Identify the mentioned groups and theories and solve problems	3	1
exams	theoretical	Graphs and Trees	solving equations	3	2
exams	theoretical	Finite Automata (Deterministic)	solving equations	3	3
exams	theoretical	Finite Automata (Non Deterministic)	solving equations	3	4
exams	theoretical	Regular Expressions	solving equations	3	5

exams	theoretical	Transition Graphs	solving equations	3	6
exams	theoretical	Equivalent of DFA's, and UFA's	solving equations	3	7
exams	theoretical	Kleene's Theorem	solving equations	3	8
exams	theoretical	Kleene's Theorem	solving equations	3	9
exams	theoretical	Kleene's Theorem	solving equations	3	10
exams	theoretical	Finite Automata with Output	solving equations	3	11
exams	theoretical	Finite Automata with Output	solving equations	3	12
exams	theoretical	Regular Languages	solving equations	3	13
exams	theoretical	Regular Languages	solving equations	3	14
exams	theoretical	Decidability	solving equations	3	15
exams	theoretical	Examination	solving equations	3	16
exams	theoretical	Context free Grammars	solving equations	3	17
exams	theoretical	Context free Grammars	solving equations	3	18

exams	theoretical	Representing of Arithmetic Expressions	solving equations	3	19
exams	theoretical	Context Sensitive Grammars	solving equations	3	20
exams	theoretical	Regular Grammars	solving equations	3	21
exams	theoretical	Regular Grammars	solving equations	3	22
exams	theoretical	Derivation trees	solving equations	3	23
exams	theoretical	Greibach Normal Form	solving equations	3	24
exams	theoretical	Chomsky Normal Form	solving equations	3	25
exams	theoretical	Chomsky Normal Form	solving equations	3	26
exams	theoretical	Push Down Automata	solving equations	3	27
exams	theoretical	Push Down Automata	solving equations	3	28
exams	theoretical	Turing Machine	solving equations	3	29
exams	theoretical	Turing Machine	solving equations	3	30
exams	theoretical	Complexity Theory	solving equations	3	31
exams	theoretical	Examination	solving equations	3	32

Course evaluation ..11	
	Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
	<u>100 marks divides as below:</u>
	4 exams by 15 marks =60
	5 quizzes by 2 marks=10
	2 reports by 10 marks =10 All Homework's by 10 Activities by 10
Learning and teaching resources.12	
Introduction to Theory of Computation Anil Maheshwari Michiel Smid School of Computer Science Carleton University Ottawa Canada April 17, 2019	Required textbooks (methodology, if any)
Same as above	Main references (sources)
The sources mentioned above are sufficient	Recommended supporting books and references (scientific journals, reports....)
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.	Electronic references, Internet sites

Course Description Form

7. Course Name:

Numerical Analysis					
6. Course Code:					
214 CNA					
6. Semester / Year:					
2nd					
6. Description Preparation Date:					
3/4/2024					
6. Available Attendance Forms:					
Annual					
6. Number of Credit Hours (Total) / Number of Units (Total)					
160					
6. Course administrator's name (mention all, if more than one name)					
Name: Saba Noori Majeed Email: saba.noori@coeduw.uobaghdad.edu.iq					
6. Course Objectives					
Course Objectives				Studding methods and using ma program	Numer
6. Teaching and Learning Strategies					
Strategy		Applying numerical methods using computer programs			
6. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	4	Protection from numerical errors	Sources of errors, definitions and types of errors (Chapter One)	Theoretical and applied	the exams
2	4	Issues and ideals	Bulk sorter		
3	4	Issues and ideals	Absolute error and relative error	Theoretical and applied	the exams
4	4	Issues and ideals	bulk sorter		
5	4	Solutions of linear and nonlinear algebraic equations	Solving nonlinear equations (Chapter Two) using drawing	Theoretical and applied	the exams
6	4		Bisection method	Theoretical and applied	the exams
7	4	Solutions of linear and nonlinear algebraic equations	False location method		
8	4		Iterative fixed point method	Theoretical and applied	the exams
9	4		Newton-Raphson method		
10	4	Solutions of linear and nonlinear algebraic equations	System of linear equations and matrices (Chapter Three)	Theoretical and applied	the exams
11	4		Solving a system of linear equations using the Chaos-Newton progress method	Theoretical and applied	the exams
12	4	Linear and non-linear algebraic equations before	Solving a system of linear equations using the Chaos-Newton backfl method		
13	4	Solve innovative linear equations	Solve linear equations using Chaos-Gordon method	Theoretical and applied	the exams
14	4	Solve innovative linear equations	Solve linear equations using the Jacobi method		
15	4	Solve innovative linear equations	Solve linear equations using Kaus-Seidel method	Theoretical and applied	the exams
16	4	Problem solving and examples	First semester exam for the academic year		
17	4		Half year holiday		
18	4	Problem solving and examples	Introduction to numerical interpolation and inclusion (Chapter Four)	Theoretical and applied	the exams
19	4	Problem solving and examples	Inclusion and interpolation Lagrange method		
20	4	Problem solving and examples	Table of differences and progress and backward effects	Theoretical and applied	the exams
21	4				
22	4				
23	4				
24	4				
25	4				
26	4				
27	4				
28	4				
29	4				
30	4				

31 32	4	Problem solving and examples	Newton's progressive method - retrograde by complementation	Theoretical & applied	the exams
	4		Newton's method for relative differences by complementation	Theoretical & applied	the exams
	4	Chapter V Problem solving and examples	Numerical derivation using progressive and backward difference table	Theoretical & applied	the exams
		Problem solving and examples	Numerical derivation using the method of central differences and finite progressive differences	Theoretical & applied	the exams
		Problem solving and examples	Trapezoidal method of numerical integration	Theoretical & applied	the exams
		Problem solving and examples	Simpson 3/1 and Simpson 8/3 methods for numerical integration	Theoretical & applied	the exams
		Problem solving and examples	Introduction to algebraically solvable ordinary differential equations/separable differential equations	Theoretical & applied	the exams
		Problem solving and examples	Solving differential equations using the Taylor series method	Theoretical & applied	the exams
		Problem solving and examples	Solving differential equations using Euler's method	Theoretical & applied	the exams
		Problem solving and examples	Solving differential equations using the Runge-Kutta method	Theoretical & applied	the exams
6. Course Evaluation					
Annual endeavor score = 30 theoretical exams + 5 reports + 15 practical exams					
Final grade = 50 endeavors + 50 end-of-year exam grades (40 notebooks + 10 practical)					
Final grade = 100					

6. Learning and Teaching Resources	
1- Thomas G.calculus and analytic geometry (2010) 2- Mathew J.h(1999) numerical method using matlab prentice hall . 3- Applied numerical method with matlab (steven c.chapra) 2008. 4- Applied numerical method with matlab (laurene v.gausett (2010) 5-1990 (التحليل الهندسي والعددي التطبيقي (الدكتور المهندس حسن مجيد)	
The same previous sources	
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.	

Course Description Form

8. Course Name: Data Structure
7. Course Code: 215 CDAS
7. Semester / Year: Second Year
7. Description Preparation Date: 11/10/2023
7. Available Attendance Forms: year

7. Number of Credit Hours (Total) / Number of Units (Total) 160	
7. Course administrator's name (mention all, if more than one name)	
Name: Instructor. Iman Ismaeel Hamid Email: iman.hamid@coeduw.uobaghdad.edu.iq	
7. Course Objectives	
Course Objectives	Qualifier students with the importance of data to obtain the information through the control of the distribution of data and to identify the nature and construction of main memory in a particular format, and build and retrieval of data from strong programs and the empowerment of programmed innovative ways of creativity in the writing of programs and short lead times, storage and retrieval of data from memory
7. Teaching and Learning Strategies	
Strategy	In-person teaching in classroom and scientific laboratories
7. Course Structure	

Week	H ou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Learn data structures	Introduction ,Benefits ,Types of data structure. How to select the suitable data structure	Theoretical and practical (lab.)	test
2	4	Learn arrays	Representation element in one and two dimensional array	Theoretical and practical (lab)	test
3	4	Programs of arrays c++	Representation element in array with	Theoretical and practical (lab)	test

			structur		
4	4	Programs of stack algorithms in c++	Stack: definition, operations, and algorithms	Theoretical and practical (lab)	test
5	4	stack record implementation	Array representation of stack record implementation of stack	Theoretical and practical (lab)	test
6	4	Queue: definition, operations, algorithms	Queue: definition, operations, and algorithms	Theoretical and practical (lab)	test
7	4	Array representation	Array representation Queue	Theoretical and practical (lab)	test

8	4	Programs of queue algorithms in c++	record implementation Queue	Theoretical and practical (lab)	test
9	4	Circular queue definition, operation and algorithms	Circular queue: definition, operations, and algorithms	Theoretical and practical (lab)	test
10	4	Array representation Circular Queue	Array representation Circular Queue	Theoretical and practical (lab)	test
11		Programs of circular queue algorithms in c++	record implementation Circular Queue	Theoretical and practical (lab)	test
12		Linked structure sequential & dynamic Storage Allocation	Linked structure: sequential & dynamic Storage Allocation	Theoretical and practical (lab)	test

13		Linked list: definition, operations, algorithms	Linked list: definition, operations, and algorithms	Theoretical and practical (lab)	test
14		Linked Stack & Queue. Double linked list	Linked Stack & Queue. Double linked list	Theoretical and practical (lab)	test
15		Programs of linked list algorithms in c++	Half Year Break	Theoretical and practical (lab)	test
16		Directed and undirected graph	Graph : -Directed graph -undirected graph	Theoretical and practical (lab)	test

			g p		
17		Half – Year Break		Theoretical and pract l (lab	test
18		Half – Year Break		Theoretical and pract l (lab	test
19		trees	Types trees.	Theoretical and pract l (lab	test
20		trees	Tree traversi .		
21		trees	Tree repres entati on: -Gene ral tree Binar y tree	Theoretical and pract l (lab	test
22		Trees	transfor ations.	Theoretical and pract l (lab	test
23		binary tree	Represent ation of arithme	Theoretical and pract l (lab	test

			express n using binary tree.		
24		Binary search tree	Binary search tree.	Theoretical and pract l (lab	test
25		Sorting algorithms	Sorting algorith s: selectio bubble, insertio and qui sort.	Theoretical and pract l (lab	test
26		Searching algorithms	Searchi algorith s: sequent & bina search.	Theoretical and pract l (lab	test
27		Programs of sorting algorithms in c++	Differen exampl & program for data structur	Theoretical and pract l (lab	test
28		Programs of searching algorithms in c++	Review	Theoretical	test

				and pract l (lab	
29		Review	review	Theoretical and pract l (lab	test
30		Review	review	Theoretical and pract l (lab	test
31		Review	review	Theoretical and pract l (lab	test
32		Review	review	Theoretical and pract l (lab	test
	4				

7. 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

7. Learning and Teaching Resources

Required (curricular books, if any)	textbook - Issam Alsafar, Data structure, alsafar 2001. 2- Lectures of Data Structures With C by Lecturer. 3- Lectures of Data Structures from internet . 4- Data Structures Using C and C++ (2nd Edition) 2nd Edition
Main references (sources)	The same resources

9. Teaching and Learning Strategies

Strategy

Lecture, exam, discussion, use of PowerPoint and the Internet

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Emulator 8086 Learning	Bus system(address, data, control)	Theoretical and practical	Achievement tests
2	4	Emulator 8086 Learning	Bus cycle		Achievement tests
3	4	Emulator 8086 Learning	Fetch and execute	Theoretical and practical	Achievement tests
4	4	Emulator 8086 Learning	Memory organization	Theoretical and practical	Achievement tests
5	4	Emulator 8086 Learning	Addressing modes	Theoretical and practical	Achievement tests
6	4		Exam	Theoretical and practical	Achievement tests
7	4	Emulator 8086 Learning	Addressing modes		Achievement tests
8	4	Programming Introduction	8086 software model	Theoretical and practical	Achievement tests
9	4	Programming Introduction	General & special purpose registers	Theoretical and practical	Achievement tests
10	4	Programming Introduction	Transfer instructions	Theoretical and practical	Achievement tests
11	4	Program executing	Arithmetic instructions	Theoretical and practical	Achievement tests

12	4	Program executing	Arithmetic instructions		Achievement tests
13	4	Program executing	Logical instructions	Theoretical and practical	Achievement tests
14	4	Program executing	Shift & rotate Instructions	Theoretical and practical	Achievement tests
15	4		Exam	Theoretical and practical	Achievement tests
16	4		عطلة نصف السنة		Achievement tests
17	4		عطلة نصف السنة		Achievement tests
18	4	Program executing	Flag register instructions	Theoretical and practical	Achievement tests
19	4	Program executing	Control transfer	Theoretical and practical	Achievement tests
20	4	Program executing	Unconditional and Conditional jump Instructions	Theoretical and practical	Achievement tests
21	4	Program executing	Programming Examples		Achievement tests
22	4	Program executing	Stack principles	Theoretical and practical	Achievement tests
23	4	Program executing	Stack instructions	Theoretical and practical	Achievement tests
24	4	Program executing	Programming Examples	Theoretical and practical	Achievement tests
25	4		Exam	Theoretical and practical	Achievement tests
26	4	Program executing	Principles of interrupt		Achievement tests
27	4	Program executing	Interrupt instructions	Theoretical and practical	Achievement tests
28	4	Program executing	I/O port instructions	Theoretical and practical	Achievement tests
29	4	Program executing	Memory H/w Organization	Theoretical and practical	Achievement tests
30	4		Exam	Theoretical and practical	Achievement tests
31	4	Program executing	Reports discussion	Theoretical and practical	Achievement tests

11. Course Evaluation

Class activities (10 marks), extracurricular activities (10 marks), exams (20 marks), attendance at lectures (10 marks), final exam (50 marks)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

**The 8086 Microprocessors Architecture,
software and interfacing techniques**

By: *Walter A. Triebel*

**-The 8086/8088 MPU, Architecture,
programming and interfacing**

BY: *Barry B. Brey*

Main references (sources)

Ammeter program

Recommended books and references (scientific
journals, reports...)

**The 8086 Microprocessors Architecture,
software and interfacing techniques**

By: *Walter A. Triebel*

**-The 8086/8088 MPU, Architecture,
programming and interfacing**

BY: *Barry B. Brey*

Electronic References, Websites

**YouTube, files uploaded to the electronic classroom, and presentations
uploaded to the electronic classroom, in addition to electronic interactive
lessons.**

Course Description Form

9. Course Name:	
System Analysis and Database	
8. Course Code:	
217CSA	
8. Semester / Year:	
2nd	
8. Description Preparation Date:	
3/4/2024	
8. Available Attendance Forms:	
Annual	
8. Number of Credit Hours (Total) / Number of Units (Total)	
128	
8. Course administrator's name (mention all, if more than one name)	
Name: Enas Muzaffer Jamel Email: enasm.j@coeduw.uobaghdad.edu.iq	
8. Course Objectives	
Course Objectives	Learn the students - The principle of system analysis and design. - The concept of database systems. - How can manage and design database systems
8. Teaching and Learning Strategies	
Strategy	-Theoretical lectures and practical apply. - E-learning (e-classroom): video recordings, electronic assignments and reports.
8. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to System Analysis and Design- Access 2007:explain interfaces &elements	Introduction to System Analysis and Design- Access 2007:explain interfaces &elements	Theoretical and practical	the exams
2	4	The life cycle of the system Software	The life cycle of the system: analysis and design	Theoretical and practical	the exams
3	4	The life cycle of the system Software	coding, testing, implementation and Maintenance	Theoretical and practical	the exams
4	4	DFD , ERD	System Design and Modelling	Theoretical and practical	the exams
5	4	Represent data by (ER Model)- -Create table (relation), Properties of the attributes &control data fields(attributes)	Data Modeling : Entity- Relationship Model (ER Model) , Relationships- Create table (relation), Properties of the attributes &control data fields(attributes)	Theoretical and practical	the exams
6	4	Converting ER models to relational database- Creating the relationship with its type (one to one- one to many- many to many)	Converting ER models to relational database- Creating the relationship with its type (one to one- one to many- many to many)	Theoretical and practical	the exams
7	4	Enhanced Entity Relationship Model (EER Model)	Enhanced Entity Relationship Model (EER Model)	Theoretical and practical	the exams
8	4	Exam	Exam	Theoretical and practical	the exams
9	4	Types of Keys and apply- Creating the queries, Queries and criteria	Keys Fields - Creating the queries, Queries and criteria	Theoretical and practical	the exams
10	4	File System & Database System	Introduction to Databases and File system, Purpose of database system	Theoretical and practical	the exams
11	4	DBMS	DBMS	Theoretical and practical	the exams
12	4	Database System Concepts: Schema and Instance, Data abstraction, Data Independence- Forms: control add a picture or object	Database System Concepts: Schema and Instance, Data abstraction, Data Independence- Forms: control add a picture or object	Theoretical and practical	the exams
13	4	Data Model	Data Model	Theoretical and practical	the exams
14	4	An overview to relational databases : properties attributes, tuple, and	An overview to relational databases : properties attributes, tuple, and domains- Report: creating ,modifying	Theoretical and practical	the exams

		domains - Report: creating ,modifying			
15	4	Integrity Rules and Constraints- Apply Macro	Integrity Rules and Constraints- Apply Macro	Theoretical and practical	the exams
16	4	Exam	Exam	Theoretical and practical	the exams
17	4		Half year holiday		
18	4	An overview to normalization and problems of redundancy	An overview to normalization and problems of redundancy	Theoretical and practical	the exams
19	4	Functional dependencies	Functional dependencies	Theoretical and practical	the exams
20	4	Convert the un normalization table to normalization table	The three normalization forms 1nf,2nf,3nf	Theoretical and practical	the exams
21	4	The applying the three normalization forms	The applying the three normalization forms	Theoretical and practical	the exams
22	4	The properties of the ACID - Test	The properties of the ACID - Test	Theoretical and practical	the exams
23	4	SQL in access 2007: explain interface & elements, SQL view	Structured Query Language (SQL): DDL, DML,DCL	Theoretical and practical	the exams
24	4		Exam	Theoretical and practical	the exams
25	4	Implementation of SQL	Creating tables and inserting records	Theoretical and practical	the exams
26	4	Implementation of SQL	Deleting, copy and updating records	Theoretical and practical	the exams
27	4	Implementation of SQL	Retrieving records(the select statement- order)	Theoretical and practical	the exams
28	4	Implementation of SQL	Filtering retrieved records (where clause)	Theoretical and practical	the exams
29	4	Implementation of SQL	SQL NULL Values, Comparison Operators	Theoretical and practical	the exams
30	4	Implementation of SQL	SQL Functions, GROUP BY , SQL HAVING CLAUSE	Theoretical and practical	the exams
31	4	Implementation of SQL	DDL, SQL Sub Queries	Theoretical and practical	the exams

32	4		Exam	Theoretical and practical	the exams
8. Course Evaluation					
Annual endeavor score = 30 theoretical exams +5 assignments + 15 practical (10 practical exams +5 reports) Final grade = 50 Annual endeavor score + 50 end-of-year exam grades (40 notebooks + 10 practical) Final grade = 100					
8. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Introduction to DataBase System, C.J.,2000		
Main references (sources)			1- Howard Gould," Systems Analysis and Design", 1st Ed. ebooks at bookboon.com, 2016. 2- Ramez Elmasri and Shamkant B. Navathe, " Fundamentals of Database Systems", 6 th Ed., Addison – Wesley, 2011. 3- SQL for Microsoft access, CeceliaL.		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom in addition to electronic interactive lessons.		

Course Description Form

10. Course Name:
Object Oriented Programming
9. Course Code:

213 COOP					
9. Semester / Year:					
Second					
9. Description Preparation Date:					
3/4/2024					
9. Available Attendance Forms:					
Annual					
9. Number of Credit Hours (Total) / Number of Units (Total)					
128					
9. Course administrator's name (mention all, if more than one name)					
Name: Assist. Prof. Rasha H.Ali Email: rashaha2003@coeduw.uobaghdad.edu.iq					
9. Course Objectives					
Course Objectives			1- How to program using the Java language 2- Solving problems according to specific algorithms 3- How to use the capabilities of object-oriented programming		
9. Teaching and Learning Strategies					
Strategy	Teaching object-oriented programming (OOP) concepts using Java programming language with many exercises and clarifications. The (OOP) is important in problem-solving.				
9. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	4	History of Java , The Java Programm	Introduction to JA	Theoretical	the exams
2	4	,Language, Running Programs in Java		and	
		The Java Platform , Java Program Executi	Write Simple	practical	the exams
3	4	Types of Java Programs, Writing Sim	Java Program	Theoretical	the exams
4	4	Application		and	
		Writing Simple Applet, Data Types, Fi	Solving Homewor	practical	the exams
5	4	Variables		Theoretical	the exams
6	4	Binary Arithmetic Operators, Un	Solving Homewor	and	
7	4	Arithmetic ,Operators, Relational a		practical	the exams
8	4	Conditional Operators		Theoretical	the exams
9	4	Print Statement	Print Statement	and	
10	4			practical	the exams
11	4	Shift and Logical Operators,	If and for Stateme	Theoretical	
12	4			and	
13	4	Shortcut Assignment Operators	Switch Statement	practical	
14	4	if/else Statements, The switch Statement	While and do wh	Theoretical	the exams
15	4	The while and do-while Statements	Statements	and	
16	4		Break and contin	practical	
17		The for Statement, The break Statement	Statements	Theoretical	the exams
			Break and contin	and	
18	4	The continue Statement	Statements	practical	the exams
		Solving Problems	Break and contin	Theoretical	the exams
19	4		Statements	and	
20	4	Declaring Classes	Solving Problems	practical	the exams
				Theoretical	
21	4	Member Variables and Methods	Solving Problems	and	
				practical	
22	4	Class Constructors	Solving Problems	Theoretical	the exams
		Creating Objects, Declaring a Variable to re		and	
		to an Object	Solving Problems	practical	the exams
23	4	عطلة نصف السنة			the exams

24	4	Instantiating a Class, Initializing an Object	Instantiating a Class	Theoretical	
25	4	Using Objects, Referencing an Object's Variable,	Initializing an Object	practical	the exams
26	4	Using Constructors	Using Object's Variable,	Theoretical and practical	the exams
27	4	Calling an Object's Methods, Cleaning Unused Objects, The Garbage Collector	Application Theoretical Text	Theoretical and practical	the exams
28	4	Finalization		Theoretical and practical	the exams
29	4	Using Methods, Static Methods, Argument Promotion and Casting	Application Theoretical Text	practical Theoretical and	
30	4	Scope of Declaration Method, Overloading	Application Theoretical Text	practical Theoretical and	
31	4	Declaration and Creation, Using Arrays, Enhanced for statement	Declaration Creation, Using Arrays, Enhanced statement	practical Theoretical and	
32		Declaration and Creation, Using Arrays, Enhanced for statement Application the Theoretical Text	Application the Theoretical Text Application the Theoretical Text	Theoretical and practical Theoretical and practical	
		Passing Arrays to Methods, Multidimensional Arrays	Passing Arrays Methods, Multidimensional Arrays	practical Theoretical and	
		Application the Theoretical Text	Application the Theoretical Text	practical Theoretical and	
		Variable-Length Argument List	Application the Theoretical Text	practical	

		this Reference Composition, Enumeration Superclass and Subclass Constructors and Finalizers in Subclasses	Application the Theoretical Text Application the Theoretical Text Application the Theoretical Text Application the Theoretical Text	Theoretical and practical Theoretical and practical Theoretical and practical Theoretical and practical Theoretical and practical Theoretical and practical	
9. Course Evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					
9. Learning and Teaching Resources					
2- Teach Yourself JAVA in 21 Days , Laura Lemay Charles L. Perkins. 2- Head First Java" by Kathy Sierra and Bert Bates 3-Java: A Beginner's Guide" by Herbert Schildt					

1- Java Concurrency in Practice" by Brian Goetz et al. 2- Java: The Complete Reference" by Herbert Schildt 3- Clean Code: A Handbook of Agile Software Craftsmanship" by Robert C. Martin 4- Java Performance: The Definitive Guide" by Scott Oaks	
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.	

Course Description Form

11. Course Name: English language
10. Course Code:
220 CEL
10. Semester / Year:2023-2024
10. Description Preparation Date:3\4\2024
10.Available Attendance Forms: attendance the whole year
10.Number of Credit Hours (Total) / Number of Units (Total) 12 hours\2 units
10. Course administrator's name (mention all, if more than one name)
Name: Asst.prof . Hanan Abbas Hussein

10. Course Objectives

Course Objectives

- Developing students' ability to speak English.
- Understanding reading passages and knowing their meaning.
- Developing the possibility of drafting sentences in English.

10. Teaching and Learning Strategies

Strategy

Use the book Headway of Pre-Intermediate Student's Book

Using electronic explanation by creating Google classroom for students if necessary

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Chapter one	Getting to know you	Theoretical	Testing
2	1	Chapter two	The way to live	Theoretical	Testing
3	1	Chapter three	It all went wrong	Theoretical	Testing
4	1		Let's go shopping!	Theoretical	Testing
5	1	Chapter four	What do you want to do	Theoretical	Testing
6	1	Chapter five	Tell me! What's it like?	Theoretical	Testing
7	1	Chapter six	Fame	Theoretical	Testing
8	1	Chapter seven	Getting to know you	Theoretical	Testing
9	1	Chapter eight	If Clauses	Theoretical	Testing
10	1	Chapter nine	Passive voice	Theoretical	Testing
11	1	Chapter ten	expressions	Theoretical	Testing
12	1	Chapter eleven	Conversation	Theoretical	Testing

10. Course Evaluation Theoretical Tests

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	
10. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Headway of Pre-Intermediate Student's Book
Main references (sources)	The same source which mentioned above.
Recommended books and references (scientific journals, reports...)	\
Electronic References, Websites	YouTube and files descending on the electronic classroom and presentation descending on the electronic classroom as well as online interactive lessons

Course Description Form

13. Course Name:
Artificial Intelligence
14. Course Code:
CAI 324
15. Semester / Year:
Yearly
16. Description Preparation Date:
12-04-2024
17. Available Attendance Forms:
4 hour per week
18. Number of Credit Hours (Total) / Number of Units (Total)

128					
19. Course administrator's name (mention all, if more than one name)					
Name: Israa Nafea Mahmood. Email: israa.n@coeduw.uobaghdad.edu.iq					
20. Course Objectives					
Course Objectives		- Introducing students to the basic concepts and techniques of Artificial Intelligence. Learning AI by doing it, i.e. developing skills of using AI algorithms for solving practical problems. - To gain experience of doing independent study and research.			
21. Teaching and Learning Strategies					
Strategy					
22. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Prolog programming Language	AI Introduction, Definition, scientific Goals of AI, Intelligent Agent.	Lecture and lab	Written test, and daily participation
2	4	Write a Program in Prolog Language	AI Applications, Programming, Generic Techniques Development,	Lecture and lab	Written test, and daily participation

3	4	Family Tree	Logic, Syntax and Semantics, Predicates, Connectives, Constants,	Lecture and lab	Written test, and daily participation
4	4	Family Tree	Functions, Variables and Quantifiers.	Lecture and lab	Written test, and daily participation
5	4	Family Tree	Translating From English to First Order Logic (FOL).	Lecture and lab	Written test, and daily participation
6	4	Exam	Exam 1	Lecture and lab	Written test, and daily participation
7	4	Solving Problems in Prolog	Translating From FOL to English, Logic Representation: Horn Clauses, Atomic Sentence, Literal, Clause.	Lecture and lab	Written test, and daily participation
8	4	Solving Problems in Prolog	Production Rule representations.	Lecture and lab	Written test, and daily participation

9	4	Solving Problems in Prolog	Knowledge Representation in Natural Language.	Lecture and lab	Written test, and daily participation
10	4	Solving Problems in Prolog	Equivalences and Rewrite Rules: Commutativity, Associativity	Lecture and lab	Written test, and daily participation
11	4	Solving Problems in Prolog	Negation, De Morgan's Laws, Contraposition and Other equivalences,	Lecture and lab	Written test, and daily participation
12	4	Solving Problems in Prolog	Common Identities.	Lecture and lab	Written test, and daily participation
13	4	Exam	Exam 2	Lecture and lab	Written test, and daily participation
14	4	Solving Problems in Prolog	Unary Predicate: Converting Unary Predicates to Binary Predicates, Skolemization, Unification.	Lecture and lab	Written test, and daily participation
15	4	Solving Problems in Prolog	Conjunctive Normal Form (CNF).	Lecture and lab	Written test, and daily participation
16	4	Midterm break	Midterm break	Midterm break	Midterm break
17	4	Solving Problems in Prolog	Resolution	Lecture and lab	Written test, and daily participation

18	4	Solving Problems in Prolog	Resolution	Lecture and lab	Written test, and daily participation
19	4	Solving Problems in Prolog	Semantic Networks,	Lecture and lab	Written test, and daily participation
20	4	Solving Problems in Prolog	Frames, Scripts	Lecture and lab	Written test, and daily participation
21	4	Solving Problems in Prolog	Theory of State Space Search	Lecture and lab	Written test, and daily participation
22	4	Solving Problems in Prolog	Strategies of State Space Search	Lecture and lab	Written test, and daily participation
23	4	Solving Problems in Prolog	Strategies of State Space Search	Lecture and lab	Written test, and daily participation
24	4	Solving Problems in Prolog	Search Techniques: Depth First Search	Lecture and lab	Written test, and daily participation
25	4	Solving Problems in Prolog	Breadth First Search.	Lecture and lab	Written test, and daily participation
26	4	Solving Problems in Prolog	Heuristic Search: Hill Climbing, Best First Search, A* Algorithm.	Lecture and lab	Written test, and daily participation
27	4	Solving Problems in Prolog	Problem Reduction	Lecture and lab	Written test, and daily participation
28	4	Solving Problems in Prolog	Expert system (ES): Introduction, Architecture, ES's Applications, Machine Learning.	Lecture and lab	Written test, and daily participation

29	4	Review	Control Strategy: Backward and Forward.	Lecture and lab	Written test, and daily participation
30	4	Exam	Exam2	Lecture and lab	Written test, and daily participation
31	4		Review	Lecture and lab	Written test, and daily participation
32	4		Solving Problem	Lecture and lab	Written test, and daily participation
11. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, monthly, and written exams, reports etc					
11. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			"Artificial Intelligence Structures and Strategies for Complex Problem Solving", George F. Luger, William A. Stubblefield, 3 rd ED., 1997.		
Main references (sources)			"Artificial Intelligence Structures and Strategies for Complex Problem Solving", George F. Luger, William A. Stubblefield, 3 rd ED., 1997.		
Recommended books and references (scientific journals, reports...)			Artificial Intelligence: A modern Approach 3 rd Edition		
Electronic References, Websites			Youtube videos, interactive Power point Lectures on google class.		

Course Description Form

12. Course Name: Computer Graphics	
11. Course Code: 326 CCG	
11. Semester / Year: Third	
11. Description Preparation Date: 4-2-2024	
11. Available Attendance Forms: Annual	
11. Number of Credit Hours (Total) / Number of Units (Total) 128	
11. Course administrator's name (mention all, if more than one name) Name: Asst. Prof. Dr. Afaf Badie Jamil Email: afafkaddo@coeduw.uobaghdad.edu.iq	
11. Course Objectives	
Course Objectives	● Defining computer graphics and Processing drawn images as a means of improving the clear presentation of the information generated by the computer to the student. ● Cognitive objectives : A: How to draw with a computer using specific algorithms B: Image processing using computer ● The skills objectives of the course: Image processing ● Emotional and value goals: Urging students to use image processing and drawing using computer.
11. Teaching and Learning Strategies	

Strategy	Books, lieutenants and practical application				
11. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to Computer Graphics	- Introduction to Computer Graphics.	Theoretical and practical	tests
2	4	Drawing Elementary Figure.	Drawing programs. -Plotting Point.	Theoretical and practical	tests
3	4	Bresenham`s Algorithm	Bresenham`s Algorithm. And ready instructions	Theoretical and practical	tests
4	4	General Bresenham`s Algorithm.	General Bresenham`s Algorithm.	Theoretical and practical	tests
5	4	Circle Drawing. Circle General	Circle Drawing. And ready instructions.	Theoretical and practical	tests
6	4	Circle General Bresenham`s Algorithm	Circle General	Theoretical and practical	tests

			Bresenham's Algorithm		
7	4	Circle Drawing by Using Circle Equation	Circle General Bresenham's Algorithm	Theoretical and practical	tests
8	4	Two Dimensional Geometric Transformations	Circle Drawing by Using Circle Equation	Theoretical and practical	tests
9	4	Rotation. Scaling	Translation. And ready instructions.	Theoretical and practical	tests
10	4	Reflection. Shearing	Translation. And ready instructions.	Theoretical and practical	tests
11	4	Matrix Representation of Transformations ⁴	Rotation.	Theoretical and practical	tests
12		TESTS			
13	4	Rotation, Scaling	Scaling	Theoretical and practical	tests
14	4	Reflection. Shearing.	Reflection.	Theoretical and practical	tests
15	4	Two Dimensional Viewing Transaction	Shearing.	Theoretical and practical	tests
16	4	Clipping. Rectangular Clipping	Ready instructions	Theoretical and practical	tests

			to different shapes		
17		EXAM			
18		Half-year Break			
19	4	Line Clipping. - Simple Visibility	Ready instructions and making project practical.	Theoretical and practical	tests
20	4	Find Intersection Points. Midpoint Subdivision	Ready instructions and making project practical.	Theoretical and practical	tests
21	4	Polygon Clipping Algorithm.	Ready instructions and making project practical.	Theoretical and practical	tests
22	4	Aspect Rotation. Graphics Primitive	Ready instructions and making project practical	Theoretical and practical	tests
23	4	Normalization Device Coordinates	Ready instructions and making project practical.	Theoretical and practical	tests

24	4	Three Dimensional Transformations	Ready instructions and making project practical.	Theoretical and practical	tests
25	4	Rotation. Scaling.	Ready instructions and making project practical.	Theoretical and practical	tests
26	4	3D Models	3D Models.	Theoretical and practical	tests
27	4	3D Modeling.	3D Models.	Theoretical and practical	tests
28	4	3D Modeling Operations.	3D Modeling Operations	Theoretical and practical	tests
29	4	Usage of 3D Modeling	3D Modeling Operations	Theoretical and practical	tests
30	4	3D Models Features	3D Modeling Operations	Theoretical and practical	tests
31	4	The Process of 3D Modeling	Applications in 3D models.	Theoretical and practical	tests
32	4	3D Models Creating Method	Applications in 3D models.	Theoretical and practical	tests

12. 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)	1- J.D Foley & A. Dametal , "Introduction to Computer Graphic", Addison-Wesly,1993. .D. Hearn & M.P. Baker," Computer Graphics ", 2nd Ed., Prentice-Hall, 1994 -2 3- I. Viola, J. Rigau & M. Sbert, "Introduction theory tools for Computer graphics", Morgan & Cbypool publishers, 2009. B.E. Johnson," 3D Modeling and Animation ",design, images& text -4 .copyrights©1976-2012 اساسيات الرسم بالحاسوب, للاستاذ الدكتور نضال العبادي, الطبعة الاولى , 2018 -5
Main references (sources)	The same mentioned above
Recommended books and references (scientific journals, reports...)	The same mentioned above
Electronic References, Websites	YouTube, files uploaded to the electronic classroom, presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.

Course Description Form

13. Course Name:
Database Design

12. Course Code:					
333 CDB					
12. Semester / Year:					
3rd					
12. Description Preparation Date:					
3/4/2024					
12. Available Attendance Forms:					
Annual					
12. Number of Credit Hours (Total) / Number of Units (Total)					
96					
12. Course administrator's name (mention all, if more than one name)					
Name: Enas Muzaffer Jamel Email: enasm.j@coeduw.uobaghdad.edu.iq					
12. Course Objectives					
Course Objectives				Learn the students • The principle of system design. • The creation and managements of database systems. • How to manage and design database systems. How can creating relationship with its types..	
12. Teaching and Learning Strategies					
Strategy		-Theoretical lectures and practical apply. - E-learning (e-classroom): video recordings, electronic assignments and reports.			
12. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Getting started with SQL	Overview of databases and language SQL	Theoretical and practical	the exams

2	3	Database Design: The Design Process	Database Design: The Design Process	Theoretical and practical	the exams
3	3	Structured Query Language (SQL): DDL, DML,DCL	Structured Query Language (SQL): DDL, DML,DCL	Theoretical and practical	the exams
4	3	Introduction for create and modified of tables	Introduction for create and modified of tables	Theoretical and practical	the exams
5	3	Database Cardinality	Database Cardinality	Theoretical and practical	the exams
6	3	Entities and Foreign Keys	Entities and Foreign Keys	Theoretical and practical	the exams
7	3	Converting ER models to relational database- Creating the relationship with its type (one to one- one to many- many to many)	Converting ER models to relational database- Creating the relationship with its type (one to one- one to many- many to many)	Theoretical and practical	the exams
8	3	Insert Only Specified Columns , INSERT data from another table using SELECT, Insert multiple rows at once	Insert Only Specified Columns , INSERT data from another table using SELECT, Insert multiple rows at once	Theoretical and practical	the exams
9	3	Exam	Exam	Theoretical and practical	the exams
10	3	Retrieving records(the select statement)	Retrieving records(the select statement)	Theoretical and practical	the exams
11	3	Filtering retrieved records (where clause)	Filtering retrieved records (where clause)	Theoretical and practical	the exams
12	3	Database Administrator and Deleting, copy and updating records	Database Administrator and Deleting, copy and updating records	Theoretical and practical	the exams
13	3	Database System Architecture	Database System Architecture	Theoretical and practical	the exams
14	3	Centralized Database System and Client- Server Database system	Centralized Database System and Client- Server Database system	Theoretical and practical	the exams
15	3	Parallel Database System and Distributed Database System	Parallel Database System and Distributed Database System	Theoretical and practical	the exams
16	3	AND & OR Operators	AND & OR Operators	Theoretical and practical	the exams
17	3	Exam	Exam	Theoretical and practical	the exams
18	3		Half year holiday		
19	3	ORDER BY clause to sort records by the value of columns	ORDER BY clause to sort records by the value of columns	Theoretical and practical	the exams

20	3	Null value	Null value	Theoretical and practical	the exams
21	3	Comparison Operators	Comparison Operators	Theoretical and practical	the exams
22	3	IN clause and Between	IN clause and Between	Theoretical and practical	the exams
23	3	The properties of the ACID for Transaction	The properties of the ACID for Transaction	Theoretical and practical	the exams
24	3	SQL Functions	SQL Functions	Theoretical and practical	the exams
25	3	Exam	Exam	Theoretical and practical	the exams
26	3	GROUP BY , SQL HAVING CLAUSE	GROUP BY , SQL HAVING CLAUSE	Theoretical and practical	the exams
27	3	Creating an Index, Unique	Creating an Index, Unique	Theoretical and practical	the exams
28	3	Relational Algebra	Relational Algebra	Theoretical and practical	the exams
29	3	JOIN method	inner join , Right Outer Join , Left Outer Join	Theoretical and practical	the exams
30	3	Data Integrity	Data Integrity	Theoretical and practical	the exams
31	3	SQL Sub Queries	SQL Sub Queries	Theoretical and practical	the exams
32	3	Exam	Exam	Theoretical and practical	the exams

13. Course Evaluation

Annual endeavor score = 30 theoretical exams +5 assignments + 15 practical (10 practical exams +5 reports)

Final grade = 50 Annual endeavor score + 50 end-of-year exam grades (40 notebooks + 10 practical)

Final grade = 100

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

“SQL: The Ultimate Beginners Guide: Learn SQL Today” By Steve Tale

	"SQL: QuickStart Guide – The Simplified Beginner's Guide To SQL" By Clydebank Technology "SQL Database Programming" (2015 Edition) By Chris Fehily
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom in addition to electronic interactive lessons.

Course Description Form

14. Course Name:
Computer Architecture
13. Course Code:
325 CCA
13. Semester / Year:
Annual
13. Description Preparation Date: 4-4-2024
13. Available Attendance Forms: In Person lectures
13. Number of Credit Hours (Total) / Number of Units (Total)
2 hour weekly / 64 Unit (30 hours)
13. Course administrator's name (mention all, if more than one name)
Name: Nibras Amer Mohammed Ali

Email: Nebras.Ali@Coeduw.Uobaghdad.Edu.Iq					
13. Course Objectives					
Course Objectives				• Study of computer architecture • Understand basic concepts and principles • To design and develop computer systems	
13. Teaching and Learning Strategies					
Strategy		Books, manuals and educational videos			
13. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Classification of Computer architecture; Von Neumann Machines	Classification of Computer architecture; Von Neumann Machines	Theoretical	Tests
2	2	Memory system architecture	Memory system architecture	Theoretical	Tests
3	2	Memory device characteristics	Memory device characteristics	Theoretical	Tests
4	2	RAM unit components	RAM unit components	Theoretical	Tests
5	2	RAM organization	RAM organization	Theoretical	Tests
6	2	Semiconductors RAM s	Semiconductors RAM s	Theoretical	Tests
7	2	RAM design	RAM design	Theoretical	Tests
8	2	Cache design	Cache design	Theoretical	Tests
9	2	Principles of locality of reference	Principles of locality of reference	Theoretical	Tests
10	2	Structure of cache memory	Structure of cache memory	Theoretical	Tests

11	2	Basic operation of cache	Basic operation of cache	Theoretical	Tests
12	2	Performance of cache	Performance of cache	Theoretical	Tests
13	2	Mapping function	Mapping function	Theoretical	Tests
14	2	Examples; Replacement algorithms	Examples; Replacement algorithms	Theoretical	Tests
15	2	Write Policies		Theoretical	Tests
16	2	Half year holiday	Half year holiday		
17	2	Virtual Memory; Translation look aside buffer	Virtual Memory; Translation look aside buffer	Theoretical	Tests
18	2	Page replacement Policies	Page replacement Policies	Theoretical	Tests
19	2	Segmentation technique; Segmentation with Paging	Segmentation technique; Segmentation with Paging	Theoretical	Tests
20	2	Input Output System; 1- Programmed IO. 2- Direct Memory Access	Input Output System; 1- Programmed IO. 2- Direct Memory Access	Theoretical	Tests
21	2	DMA controller; Types of DMA; DMA transfer	DMA controller; Types of DMA; DMA transfer	Theoretical	Tests
22	2	CPU structure; Register organization	CPU structure; Register organization	Theoretical	Tests
23	2	Control Unit; Hardwired CU; Micro programmed CU	Control Unit; Hardwired CU; Micro programmed CU	Theoretical	Tests
24	2	Von Neumann Machine Cycle	Von Neumann Machine Cycle	Theoretical	Tests
25	2	Central Processing Unit; Single bus Organization; Multi Bus Organization	Central Processing Unit; Single bus Organization; Multi Bus Organization	Theoretical	Tests

26	2	Execution of a complete Instruction; Examples	Execution of a complete Instruction; Examples	Theoretical	Tests
27	2	Branching	Branching	Theoretical	Tests
28	2	Types of Microinstructions; Horizontal microinstructions; Vertical microinstructions	Types of Microinstructions; Horizontal microinstructions; Vertical microinstructions	Theoretical	Tests
29	2	Pipelining; Cycle time of Pipelining Process; Pipeline latency	Pipelining; Cycle time of Pipelining Process; Pipeline latency	Theoretical	Tests
30	2	Introduction to Pentium architecture	Introduction to Pentium architecture	Theoretical	Tests
31	2	Pentium register organization	Pentium register organization	Theoretical	Tests
32	2	Pipelining in Pentium	Pipelining in Pentium	Theoretical	Tests

14. 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

14. Learning and Teaching Resources

Required textbooks (curricular books, if any)	M. Morris Mano, "computer System Architecture," University of California, Prentice Hall, 3rd Ed., 1993. 1- schaum's series, "Computer Architecture", Nicholas Carter, 2001. 2- John P. Hays, "Computer Architecture and Organization", "University of Michigan, McGraw Hill, 2nd Ed., 1988.
Main references (sources)	Computer Architecture: A Quantitative Approach Film by John Hennessy and David Patterson

Recommended books and references (scientific journals, reports...)	Structured Computer Organization” by Andrew Tannenbaum. "Computer Systems: A Programmer's Perspective" by Randy Bryant and David O'Hallaron.
Electronic References, Websites	https://www.khanacademy.org/computing/computer-science

Course Description Form

15. Course Name:	
Compiler	
14. Course Code:	
323 CC0	
14. Semester / Year:	
third	
14. Description Preparation Date:	
28/4/2024	
14.Available Attendance Forms:	
Annual	
14.Number of Credit Hours (Total) / Number of Units (Total)	
128	
14. Course administrator's name (mention all, if more than one name)	
Name: Muna Majeed laftah Email: muna.majeed@coeduw.uobaghdad.edu.iq	
14. Course Objectives	
Course Objectives	1- describe the types of translator 2- explain each stage of compiler

14. Teaching and Learning Strategies

Strategy

14. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to compiler			
2	4	Compiler and interpreter	Design Compiler Stage	Theoretical and	
3	4	Compiler stage	using c ++ language	lab	the exams
4	4	Programming language	Design Compiler Stage		
5	4	Context free grammar	using c ++ language	theoretical and	the exams
6	4	Regular expression	Design Compiler Stage	lab	
7	4	Lexical analyzer	using c ++ language		the exams
8	4	Design of lexical	Design Compiler Stage	Theoretical and	
9	4	Parser	using c ++ language	lab	the exams
10	4	Exam	Design Compiler Stage		
11	4	Intermediate code	using c ++ language	theoretical and	the exams
12	4	Code optimization	Design Compiler Stage	lab	
13	4	Code generation table management	using c ++ language		the exams
14	4	Examples	Design Compiler Stage		
15	4	Left most derivation	using c ++ language		the exams
16	4	Exam	Design Compiler Stage		
17	4	عطلة نصف السنة	using c ++ language		the exams
18	4	Right most derivation	Design Compiler Stage		
19	4	Ambiguous	using c ++ language		
20	4	Parsing techniques	Design Compiler Stage		
21	4	Bottom-up parsing	using c ++ language		
22	4	Shift reduce	Design Compiler Stage		
23	4	Operator precedence	using c ++ language		
24	4	Examples	Design Compiler Stage		
25	4	Exam	using c ++ language		the exams
26	4	Top-down parsing	Design Compiler Stage		
27	4	Problems with top-down parsing	using c ++ language		the exams
28	4	Left recursion	Design Compiler Stage		
29	4	Left factoring	using c ++ language		the exams
30	4	Intermediate code	Design Compiler Stage		
31	4	Code generation	using c ++ language		the exams
32	4	(Predicative LL(1			

					the exams
15. Course Evaluation					
50 semester grades + 50 final exam grades = 100 college grades					
15. Learning and Teaching Resources					
Compiler principles and tools, by V. Alto					
The same previous sources					
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.					

Course Description Form

16. Course Name:
Visual Basic.Net
15. Course Code:
329 CVP
15. Semester / Year:
Thrid
15. Description Preparation Date:
3/4/2024
15. Available Attendance Forms:
Annual
15. Number of Credit Hours (Total) / Number of Units (Total)
128
15. Course administrator's name (mention all, if more than one name)

Name: Faaza Abdul Jabar Alwan
Email: faaza.a.a@ihcoedu.uobaghdad.iq

15. Course Objectives

Course Objectives

1. Study the basic concepts of visual Basic programming and learn about the basics object-oriented programming.
2. How to design user interfaces using windows forms and how to connect to database.

15. Teaching and Learning Strategies

Strategy

Teaching topics with many exercises and clarifications.

15. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Practical Exercises	Introduction & Visual Basic Express 2010 IDE	Theoretical & Practical	Exams
2	4	Practical Exercises	Working with Basic Controls	Theoretical & Practical	Exams
3	4	Practical Exercises	-Working with Control Properties.	Theoretical & Practical	Exams
4	4	Practical Exercises	Object Oriented Programming.	Theoretical & Practical	Exams
5	4	Practical Exercises	Writing the Code.	Theoretical & Practical	Exams
6	4	Practical Exercises	Managing Data	Theoretical & Practical	Exams
7	4	Practical Exercises	Mathematical Operations.	Theoretical & Practical	Exams

8	4	Practical Exercises	String Manipulation.	Theoretical & Practical	Exams
9	4	Practical Exercises	Conditional Statements - Using If...Then....Else	Theoretical & Practical	Exams
10	4	Practical Exercises	Conditional statements - Using Select Case	Theoretical & Practical	Exams
11	4	Practical Exercises	Looping statements	Theoretical & Practical	Exams
12	4	Practical Exercises	Arrays –static and dynamic	Theoretical & Practical	Exams
13	4	Practical Exercises	Two-Dimensional array & control array	Theoretical & Practical	Exams
14	4	Practical Exercises	Two-Dimensional array & control array	Theoretical & Practical	Exams
15	4	Exam1	Exam1	Theoretical & Practical	Exams
16	4		Half Year Break		
17	4	Practical Exercises	Functions Part I Functions Part II	Theoretical & Practical	Exams
18	4	Practical Exercises	Functions Part III- Math Functions. Functions Part IV- Formatting Functions	Theoretical & Practical	Exams
19	4	Practical Exercises	Using Check Box Using Radio Button	Theoretical & Practical	Exams
20	4	Practical Exercises	Creating A Simple Web Browser.	Theoretical & Practical	Exams
21	4	Practical Exercises	Errors Handling	Theoretical & Practical	Exams
22	4	Practical Exercises	List Box control Combo Box Control	Theoretical & Practical	Exams
23	4	Practical Exercises	Using Timer	Theoretical & Practical	Exams
24	4	Practical Exercises	Creating Animation	Theoretical	Exams

				& Practical	
25	4	Practical Exercises	Managing Graphics 1-Basic Concepts. Drawing Rectangle, ellipse, circle and polygon	Theoretical & Practical	Exams
26	4	Practical Exercises	How to connect to Access database in VB.Net	Theoretical & Practical	Exams
27	4	Practical Exercises	How to connect to Access database in VB.Net (Insert, Delete and Update)	Theoretical & Practical	Exams
28	4	Practical implementation of DB in VB (Complete system)	How to create a quick search using VB and Access DB.	Theoretical & Practical	Exams
29	4	Practical Exercises	Reports	Theoretical & Practical	Exams
30	4	Exam2	Exam2	Theoretical & Practical	Exams
31	4	Practical Exercises	Common Dialogs	Theoretical & Practical	Exams
32	4	Practical Exercises	File Handling	Theoretical & Practical	Exams
16. Course Evaluation					
50 semester grades + 50 final exam grades = 100 college grades					
16. Learning and Teaching Resources					
1."Visual Basic 2010 Made Easy", Kiong L. Voon, 1 st ED., 2011.					
2. Murach's Beginning Visual Basic. Net By Anne Bohem					
The same previous sources					

YouTube, Pdf files uploaded to the google classroom, and presentations uploaded to the google classroom, in addition to electronic interactive lessons.	
https://www.tutorialspoint.com/vb.net/vb.net_database_access.htm https://www.vbtutor.com	

Course Description Form

17. Course Name:	
Computer teaching methods	
16. Course Code:	
328 CTM	
16. Semester / Year:	
Third grade 2023 –2024	
16. Description Preparation Date:	
12/10/2023	
16. Available Attendance Forms:	
Academic year	
16. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours	
16. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Hanan Hassan Majeed Email: hanan.majeed@coeduw.uobaghdad.edu.iq	
16. Course Objectives	
Course Objectives	1 - Introducing students to the concept of computers, its importance, and the stages of its development 2 - Introducing students to educational objectives, their types, the concept of each of them, and how to formulate them 3 - Introducing the types of scientific computer knowledge and computer skills 4 - Definition of terms related to teaching, strategy, method, style and teaching model 5 - Training on the use of traditional and modern computer teaching methods

		6- Knowing how to plan teaching			
16. Teaching and Learning Strategies					
Strategy		Lecture, interrogation, discussion, classroom and extracurricular activities, and use of PowerPoint and the Internet			
16. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student should know the computer and compare its generations	Concept generations OF computer	Lecture and discussion And interrogation	The exams Achievement
1	2	The student should know how to Formulates goals Educational	Educational goal	Presentation and discussion	The exams Achievement
2	4	Formulates goals Behavioral	Behavioral goals	Class and classroom activities	The exams Achievement
6	12	Gives examples To know Computational	Types of knowledge Computational	Examples	The exams Achievement
3	6	Uses software the computer	Computer skills	Computer lab	The exams Achievement
13	26	Learn about teaching methods	Teaching method	Questioning and discussion	The exams Achievement
4	8	finds out a plan Teaching	Teaching planning	lecture	The exams Achievement
17. Course Evaluation					
Class activities (10 marks), extracurricular activities (10 marks), exams (20 marks), attendance at lectures regularly (10 marks, final exam) 50 marks					
17. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Lectures computer teaching methods, prepared by the subject teacher, Prof. Dr. Hanan Has Majeed		
Main references (sources)			Accompanying sources: Vocabulary of Computer Teaching Methods (2016) of the Ministry Higher Education and Scientific Research		
Recommended books and references (scientific journals, reports...)			1- The educational computer and its educational applications, (2014) 2 - Computer teaching methods, applied vision, (2013) 3 - Computerization of teaching, (2011) 4 - Methods of teaching science, (2011).		
Electronic References, Websites			The official website of the General Directorate of Curricula on the Internet		

Course Description Form

18. Course Name:	
Software Engineering	
17. Course Code:	
327 CGEP	
17. Semester / Year:	
Third	
17. Description Preparation Date:	
12/10/2023	
17. Available Attendance Forms:	
Annual	
17. Number of Credit Hours (Total) / Number of Units (Total)	
128	
17. Course administrator's name (mention all, if more than one name)	
Name: Inas Ismael Imran Email: enas.i@coeduw.uobaghdad.edu.iq	
17. Course Objectives	
Course Objectives	To follow the essential software processes of specification, design, development, verification and validation, and management
17. Teaching and Learning Strategies	
Strategy	Teaching Software Engineering topics with many exercises and clarifications This application is an important topic in our lives

17. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Identify the stages of designing a Software according to the mentioned stage	Computer software	Theoretical	exams
2	2	Learn about software engineering techniques	Software engineering technique	Theoretical	exams
3	2	Identify Solve of software problems	Solving problems	Theoretical	exams
4	2	Introduction to software engineering	Introduction to S-E	Theoretical	exams
5	2	Software operations	Process activities	Theoretical	exams
6	2	List all Applications	Application	Theoretical	exams
7	2	Identify Crises	Crisis an horizon	Theoretical	exams
8	2	Software characteristics	Attribute of good software	Theoretical	exams
9	2	Identify Component of S-E	Component of S-E	Theoretical	exams
10	2	Explain Software life cycle	Software of life cycle	Theoretical	exams
11	2	Explain Software development	Software development	Theoretical	exams
12	2	Explain Software models	S-E MODEL	Theoretical	exams
13	2	Explain User requirements	User requirements	theoretical	exams
14	2	Explain System requirements	System requirements	Theoretical	exams
15	2	Explain Interfaces	Interface specification	Theoretical	exams
16	2	Explain Software document	The software requirements document	Theoretical	exams

17	2	Explain Feasibility study	Feasibility study	Theoretical	exams
18	2	Explain Requirements elicitation	Requirements elicitation and analysis	Theoretical	exams
19	2	Explain Requirements validation	Requirements validation	Theoretical	exams
20	2	Verify requirements	Requirements management	Theoretical	exams
21	2	Explain Context models	Context models	Theoretical	exams
22	2	Explain Behavior models	Behavioral models	Theoretical	exams
23	2	Explain Data models	Data models	Theoretical	exams
24	2	Explain OBJECT Properties	Object models	Theoretical	exams
25	2	Explain Models	Structured models	Theoretical	exams
26	2	Explain Architecture	Architectural design decisions	Theoretical	exams
27	2	Explain System technologies	System organization	Theoretical	exams
28	2	Explain software design	Software Design	Theoretical	exams
29	2	Explain Control styles	Control styles	Theoretical	exams
30	2	Example of Case study	Case study	Theoretical	exams
31	2	Test of software	TEST	Theoretical	exams
32	2	Examination	Examination	Theoretical	exams

18. Course Evaluation

50 semester grades + 50 final exam grades = 100 college grades

18. Learning and Teaching Resources

1. Rajab Mall, Fundamental of software engineer, prentice Hall of India 2. http:// www. tutorials point .com 3-T. Winters, T. Manshreck, and H. Wright, Software Engineering at Google: Lessons Learned from Programming Over Time, 2nd ed. Sebastopol, CA, USA: O'Reilly Media, 2023.	
The same previous sources	
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.	

Course Description Form

2. Course Name:
Educational Techniques and Technology
3. Course Code:
4. Semester / Year:
yearly 2023-2024

5. Description Preparation Date:	
1-10-2023	
6. Available Attendance Forms:	
in-person classes	
7. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours/	
8. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Tamather Hameed Mahdi Email: tamather.h@coeduw.uobaghdad.edu.iq	
9. Course Objectives	
The Course aims to: 1. Introduce female students to the concept of educational techniques and educational technology, the history of its emergence, the foundations of educational technology and its components, a set of educational tools for educational technology, and identifying the types of educational tools for educational technology. 2. familiarize students with the importance of educational technology in the Department of Computer 3. Perceive the evolved skills and their application in applied educational technology in the Department of Computer 4. Understand the importance of educational technology concerning humans in the Department of Computer. 5. Aware of the importance of using and applying all the restrictions used in education, including technological controls	
6. Teaching and Learning Strategies	
Strategy	Blended e-learning, lecture, guided discussion Participatory structured interrogation, a presentation of models of educational techniques And educational technology Show examples of teaching and learning techniques

7. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1.	2	Historical background	A historical overview of educational technologies	lecture	the exams
2.	2	=	Concepts related to educational technologies	=	Oral and written
3.	2	=	Concepts related to educational technologies	Participatory questioning	Oral exams
4.	2	=	educational technology, educational technology)	=	=
5.	2	The advantages of educational techniques and technology	Factors affecting the choice of method	=	=
6.	2	=	Characteristics of educational media, and obstacles to using educational media	Participatory questioning	=
7.	2	The psychological basics of using	Psychological foundations in choosing the method	=	=

		educational techniques			
8.	2	=	Behavioral and cognitive theories, their models, and design	=	=
9.	2	The relationship between using educational techniques and teaching	The concept of communication, its theories, and models	=	=
10.	2	=	Systems approach and its types	Discussion	Achievement tests
11.	2	The classification of educational techniques	According to the senses	Discussion	=
12.	2	=	According to experience	Directed interrogation	=
13.	2	The practical application of the material	Educational panels and their types	View models	=
14.	2	=	Optically displayed materials: transparencies	=	=
15.	2	=	slide projector, vertical projector, Multimedia projector	Flipped classroom	=

16.	2	First-semester exam	First-semester exam	=	=
17.	2	To learn about audio educational techniques and their applications	Educational telephone, language laboratory	=	=
18.	2	=	School radio	=	=
19.	2	To learn about sensory educational techniques and their applications	Models, patterns, samples	lecture	=
20.	2		Pictures and posters, educational and simulation games, educational television	Discussion	=
21.	2	To become familiar with the standards of good educational technology	Terms of use, stages of use	Directed group debriefing	=
22.	2	To learn about modern trends in educational	Educational computer and computerized	=	=

		techniques and educational technology	program preparation		
23.	2	=	E-learning, synchronous, and asynchronous learning	Discussion	=
24.	2	=	The difference between e-learning and traditional education	=	=
25.	2	To become familiar with the virtual learning environment	Smart school, virtual classroom	Flipped classrooms	report
26.	2	=	Video conferencing, e-book	=	=
27.	2	Get to know the activities	Fields and selection criteria	=	Oral test
28.	2	=	Its goals and types	=	=
29.	2	=	Class and extracurricular activities	=	=

30.	2		Verbal activities	lecture	=
31.			Non-verbal activities	=	=
32.		Second-semester exam	Second-semester exam	=	=
Course Evaluation					
- Monthly written tests, oral questions, reports, and quarterly tests Observing the performance of applications while working in educational techniques and educational technology in the Department of Computer					
1. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			No specific curricular books Handbook of educational techniques and educational technology, prepared by A.M.D. Tamadur Hamid Al-Fayad 2023-2024		
Main references (sources)			Educational Technology and Teaching Aids, Muhammad Al-Sayyid Ali, 2002, Dar Al-Fikr Al-Arabi Cairo. 2- Technology in the learning and teaching process, Bashir Abdul Rahim Al-Kalloub, 1988, Dar Al-Shorouk, Amman. 3- Teaching and learning advice for male and female teachers, Saad Ali Zayer, 2014, Dar Al-Mawdhiyya, Amman.		
Recommended books and references (scientific journals, reports...)			Educational Technologies / Ed Khudair Abbas Jari 2019 - Research the role of educational technologies in improving academic achievement Shadia bint Najib		

	Introduction to educational technology / Dr. Ghaleb Abdel Muti Al-Farijayat
Electronic References, Websites	The official website of the General Directorate of Curricula on the Internet www.manahj.edu.iq Follow educational channels for teaching computers on YouTube, as well as read e-books related to this online

Course Description Form

19.Course Name: Computer Security
18.Course Code: 436 CSoC
18.Semester / Year:2023-2024
18.Description Preparation Date: 12/10/2022
18.Available Attendance Forms: Full year
18.Number of Credit Hours (Total) / Number of Units (Total)
128

19.Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Iman M.G. Alwan Email: ainms_66@coeduw.uobaghdad.edu.iq					
18.Course Objectives					
Course Objectives				TO explain the principle of data security and the encryption and decryption methods	
18.Teaching and Learning Strategies					
Strategy	1. Using books and manuals 2. Using electronic classrooms to present boosting lessons to the students				
18.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	Implementatio n of algorithm	Introduction. Attacks, Security and Mechanisms.	Theoretical And practical	exams	4
2	Implementatio n of algorithm	A model for network Security. Network Access Security Model.	Theoretical And practical	exams	4
3	Implementatio n of algorithm	2.1 Cryptography Classification 2.2 Classical Encryption techniques (Symmetric Cipher Model)	Theoretical And practical	exams	4
4	Implementatio n of algorithm	2.2.1 Substitution Techniques	Theoretical And practical	exams	4
5	Implementatio n of algorithm	1-1-Caesar Cipher. 2- Monoalphabetic	Theoretical And practical	exams	4

6	Implementatio n of algorithm	3- Playfair Cipher. 4- Hill Cipher. 5- Polyalphabet Cipher)	Theoretical And practical	exams	4
7	Implementatio n of algorithm	Transposition Techniques. 1- Rail fence Cipher.	Theoretical And practical	exams	4
8	Implementatio n of algorithm	2- Matrix transposition Cipher. 3-Code Book.	Theoretical And practical	exams	4
9	Implementatio n of algorithm	Modern Encryption Techniques	Theoretical And practical	exams	4
10	Implementatio n of algorithm	exam	Theoretical And practical	exams	4
11	Implementatio n of algorithm	3.1 Simplified Data Encryption Standard (DES)	Theoretical And practical	exams	4
12	Implementatio n of algorithm	) Block Cipher Principle.	Theoretical And practical	exams	4
13	Implementatio n of algorithm	Public key Cryptography Introduction .	Theoretical And practical	exams	4
14	Implementatio n of algorithm	Principle of Public Key Encryption.	Theoretical And practical	exams	4
15	Implementatio n of algorithm	Symmetric Versus Public Key Encryption.	Theoretical And practical	exams	4
16		تطبيق		exams	4
17		تطبيق		exams	4
18		تطبيق		exams	4
19		تطبيق		exams	4
20		تطبيق		exams	4
21		تطبيق		exams	4
22		تطبيق		exams	4
23	Implementatio n of algorithm	EXAM	Theoretical And practical	exams	4
24	Implementatio n of algorithm	Application of Public-Key Encryption.	Theoretical And practical	exams	4

25	Implementation of algorithm	RSA Algorithm. Simple RSA Implementation examples.	Theoretical And practical	exams	4
26	Implementation of algorithm	Application of Public-Key Encryption.	Theoretical And practical	exams	4
27	Implementation of algorithm	RSA Algorithm. Simple RSA Implementation examples.	Theoretical And practical	exams	4
28	Implementation of algorithm	Security of RSA.	Theoretical And practical	exams	4
29	Implementation of algorithm	Message Authentication.	Theoretical And practical	exams	4
30	Implementation of algorithm	EXAM	Theoretical And practical	exams	4
31	Implementation of algorithm	Information hiding	Theoretical And practical	exams	4
32	Implementation of algorithm	watermarking	Theoretical And practical	exams	4

19.Course Evaluation

Theoretical test (35 M)

Practical test (15 M)

19.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer Security, Principals, and Practice, 5 th edition By William Stalling and Lawrie Brown
Main references (sources)	Computer Security, Principals and Practice, 5 th edition By William Stalling and Lawrie Brown
Recommended books and references (scientific journals, reports...)	

Electronic References, Websites	YouTube channels and electronic lectures uploaded to electronic classroom, electronic interactive classes http://williamstallings.com/ComputerSecurity http://www.computersciencestudent.com
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Course Description Form

20. Course Name:	Multimedia
19. Course Code:	434 CMM
19. Semester / Year:	fourth
19. Description Preparation Date:	28/4/2024
19. Available Attendance Forms:	Annual
19. Number of Credit Hours (Total) / Number of Units (Total)	128
20. Course administrator's name (mention all, if more than one name)	Name: Nashwan Alsalam Ali Email: nashwan_alsalam60@coeduw.uobaghdad.iq

19. Course Objectives					
Course Objectives				To learning how different types of media such as text, image, audio, and video processing and manupluations.	
19. Teaching and Learning Strategies					
Strategy					
19. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to Multimedia			
2	4	Media Basics	Introduction	Theoretical and	
3	4	Image representation	PHOTOSHOP	lab	the exams
4		Image formation	Functions in Photosho		
5	4	Image smoothing	Read Images from file	theoretical and	the exams
6	4	Audio formats	Image enhancement	lab	
7	4	Audio waves	Image enhancement		the exams
8	4	Introduction to Data compression	Audio format	Theoretical and	
9	4	RLE algorithm	Audio format	lab	the exams
10	4	Need for compression in Multimedia	Data compression		
11	4	Examination	Data compression	theoretical and	the exams
12	4	Image compression fundamentals and	Examination	lab	
13	4	Standards	Huffman algorithm		the exams
14	4	Audio compression	Huffman algorithm		
15	4	Video compression	Shannon Algorithm		
16	4	Multimedia System Architecture	RLE algorithm		
17	4	Examination	Examination		
18	4	تطبيق			
19	4	Multimedia OS			
		Multimedia communication Systems			
		Multimedia Database Systems			
		Multimedia Database Systems			
		Synchronization			
		Application architecture			the exams
		Future Directions	تطبيق		
		Future Directions			

					the exams
					the exams
					the exams
20. Course Evaluation					
50 semester grades + 50 final exam grades = 100 college grades					
20. Learning and Teaching Resources					
Fundamentals of Multimedia Ze-Nian Li & Mark S. Drew, Pearson Education, 2004					
Multimedia BASICS Susanne Weixel & Jennifer Fulton, 2nd Edition, 2010					
Data compression the complete reference David Salmon, 3ed edition, 2001					
The same previous sources					
YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.					

Course Description Form

21.Course Name: Smart applications

20.Course Code: 438CSA					
20.Semester / Year:2023-2024					
20.Description Preparation Date: 15/9/2022					
20.Available Attendance Forms: Full year					
20.Number of Credit Hours (Total) / Number of Units (Total)					
40					
21.Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Asmaa Abdulrazaq Alqaisi Email: asma_72@coeduw.uobaghdad.edu.iq					
20.Course Objectives					
Course Objectives			teach the basics and principles of artificial intelligence and learn the necessary methods and algorithms.		
20.Teaching and Learning Strategies					
Strategy	Giving students an idea about 1-data mining and data warehouses 2-Artificial intelligent agent 3-genetic algorithm 4-Neural Network 5-fuzzy logic				
20.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	Data Mining	(Principal)	Theoretical	exams	4

2	Data Mining	Techniques	Theoretical	exams	4
3	Data Warehouse	Principals	Theoretical	exams	4
4	Implementation of algorithm	algorithm	Theoretical	exams	4
5	Implementation of algorithm	algorithm	Theoretical	exams	4
6	Association Rule	Principal	Theoretical	exams	4
7	Implementation of algorithm	A priori algorithm	Theoretical	exams	4
8	Implementation of algorithm	FP growth	Theoretical	exams	4
9	Artificial Intelligent Agent	Methods and Application	Theoretical	exams	4
10	exam	exam	Theoretical	exams	4
11	Genetic Algorithm	Algorithm	Theoretical	exams	4
12	Genetic Algorithm	Algorithm	Theoretical	exams	4
13	Machine Learning	Techniques.	Theoretical	exams	4
14	Classification	Algorithm	Theoretical	exams	4
15	Classification	Algorithm	Theoretical	exams	4
16	Artificial Neural Network	Single layer perceptron	Theoretical	exams	4
17	Artificial Neural Network	Multilayer perceptron	Theoretical	exams	4
18	Artificial Neural Network	Backpropagation Algorithm	Theoretical	exams	4
19	Fuzzy Logic	Methods	Theoretical	exams	4
21.Course Evaluation					

Theoretical test (50 M)	
21.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Data mining, Principals, , 5 th edition
Main references (sources)	Data mining, Principals,, 5 th edition
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	YouTube channels and electronic lectures uploaded to electronic classrooms, electronic interactive classes

Course Description Form

22. Course Name:	
	Operating Systems
21. Course Code:	
	435 COS
21. Semester / Year:	
	Fourth
21. Description Preparation Date:	
	30/4/2024
21.Available Attendance Forms:	

Annual					
21.Number of Credit Hours (Total) / Number of Units (Total)					
2 hour lecture and 2 hour lab per week/ 6 units					
22. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Ayad A. Abdulsalam Email: ydsalam@coeduw.uobaghdad.edu.iq					
21. Course Objectives					
Course Objectives The course gives an introduction to operating systems. The central focus is on how an operating system, in an efficient or fair way, provides an abstracted interface to the hardware resources for programs. The course consist of theoretical aspects of operating systems and practical experience in using C programming and shell scripting.					
21. Teaching and Learning Strategies					
Strategy	Teaching operating systems topics with many exercises and clarifications, many homework assignments by google classroom, involving student to solve some class exercises.				
21. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to Operating Systems	Introduction to OS, objective, history	Theoretical and Lab.	Student activity
2	4	OS Structure	OS structures, mission and hierarchy.	Theoretical and Lab.	Student activity
3	4	Component of OS	Operation Management, Memory management, File management	Theoretical and Lab.	assignment
4	4	OS types	Batch system, Time sharing system, Parallel System, Real time system, Distributed system	Theoretical and Lab.	Student activity

5	4	processes	Process definition, process life cycle, PCB structure	Theoretical and Lab.	quiz
6	4	Process types	Dependent and Independent processes, and threads concept.	Theoretical and Lab.	assignment
7	4	CPU scheduling	Concept of scheduling, and criteria.	Theoretical and Lab.	Oral test
8	4	Scheduling algorithms	FCFS, and Shortest Job first algorithms	Theoretical and Lab.	assignment
9	4	Scheduling algorithms	SJF and Priority algorithms	Theoretical and Lab.	Class activity
10	4	Scheduling algorithms	Round Robin & MLFBQ algorithms	Theoretical and Lab.	assignment
11	4	Scheduling criteria	Criteria of evaluation the scheduling algorithms	Theoretical and Lab.	Student activity
12	4	examination		Theoretical and Lab.	
13	4	Deadlock	Definition of deadlock and concept with life examples, Deadlock conditions.	Theoretical and Lab.	Oral test
14	4	Deadlock Handling	Deadlock preventions algorithms.	Theoretical and Lab.	quiz
15	4	Deadlock safe states	Deadlock avoidance algorithms	Theoretical and Lab.	assignment
16	4	Deadlock detection	Algorithms of deadlock detection and recovery.	Theoretical and Lab.	Oral test
17	4	Examination		Theoretical and Lab.	
18	4	Memory management	Logical and physical addresses relationships.	Theoretical and Lab.	quiz
19	4	Memory management	Paging & Structure of the Page Table	Theoretical and Lab.	assignment
20	4	Memory management	Segmentation and Table Structure	Theoretical and Lab.	Student activity
21-26		In the secondary schools application for 6 weeks			

27	4	File management	File types and structures	Theoretical and Lab.	Student activity
28		File management	File allocation tables	Theoretical and Lab.	quiz
29		File management	File storage and fragmentation strategies.	Theoretical and Lab.	Oral test
30		Review		Theoretical and Lab.	

22. Course Evaluation

35 semester grades + 15 lab grades+ 50 final exam grades = 100 college grades

22. Learning and Teaching Resources

- 1- Operating system concepts ABRAHAM SILBERSCHATZ, 2011 John Wiley & Sons, Inc.
- 2- Introduction to Operating System

The same previous sources

YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons.

Course Description Form

23. Course Name:
Practical education
22. Course Code:
CAP 440
22. Semester / Year:
fourth grade (2023-2024)

22. Description Preparation Date:	
12/10/2023	
22.Available Attendance Forms:	
Academic year	
22.Number of Credit Hours (Total) / Number of Units (Total)	
120 hours	
23. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Hanan Hassan Majeed Email: hanan.majeed@coeduw.uobaghdad.edu.iq	
22. Course Objectives	
Objectives of the study material	According to the objectives of teaching practical education (observation and application) for the sciences departments/curriculum development project/Ministry of Higher Education and Scientific Research (2019) which are: 1-Providing the student/teacher with job information that facilitates his understanding of the meaning, importance and goals of practical education Its foundations are in teacher preparation curricula 2 - Helping the student/teacher in clarifying and consolidating theoretical principles in educational and psychological sciences and academic courses. And cultural, which he studies in the College of Education and puts it for experimentation through practical education to judge its suitability For practical reality 3 - Helping the student/teacher to understand his educational role gradually through the individual observation and application stage And collective application 4 - Providing the student/teacher with general directions and instructions regarding the teacher's various roles and the tasks assigned to him within the school.
22. Teaching and Learning Strategies	

Strategy	1 - Lecture, interrogation and discussion to teach theoretical material 2 - Classroom observations in Baghdad city schools 3 - Individual classroom application (micro-teaching) 4 - Collective application in schools in Baghdad and the governorates 5 - Writing reports on the collective application and discussing them
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22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Define the concept of practical education and explain its importance, multiple goals, and foundations	Practical education its concept Its importance, goals foundations	lecture	Achievement tests
1	4	Explains professional ethics. There are many characteristics of a good teacher	It explains professional ethics and the many characteristics of a good teacher	Discussion	Achievement tests
4	16	Apply teaching skills	Teaching skills Academic and professional	Teaching Mini	Feedback form
2	8	Write a daily teaching plan	Practical applications for preparation Daily teaching plan	Discussion	practical test
3	12	She writes her notes about Teaching	Classroom observations	Observation in Baghdad schools	Viewing forms
4	16	Applying the steps of micro-teaching	Microteaching	Individual application	Feedback form
6	24	Use teaching skills	Group application	Group application In Baghdad schools And provinces	Feedback form
2	8	Write a report about the application Collective	Collective application report	Discussion and questioning	Reports preparation
7	28	Application reports are discussed Collective	Discuss application reports	Discussion	Discuss reports

23. Course Evaluation					
1 - Recording observations about classroom teaching (observation) (5 marks) 2- Writing a daily teaching plan (5 marks) 3 - Individual application in class (10 marks) 4 - Collective application in schools (60 marks) 5 - Discussing the collective application report (5 marks) 6 - Practical education test (10 marks) 7 - Extracurricular activities (5 marks) Total (100 marks)					
23. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Principles of Practical Education, Magda Ibrahim Al-Bawi, College of Education for Science Pure/Ibn al-Haytham,2014		
Main references (sources)			According to the sources of practical education vocabulary of the Ministry of Higher Education and Scientific Research) 2016		
Recommended books and references (scientific journals, reports...)			- Mandatory practical education, prepared Prof. Dr. Hanan Hassan Majeed 2023 2 Teaching competencies and teaching technique (2011).		
Electronic References, Websites			The official website of the General Directorate Curricula on the Internet www.manahj.edu.iq		

Course Description Form

1. Course Name:
General English Language
2. Course Code:

442 CEL	
3. Semester / Year:	
2023/ 2024/ annual	
4. Description Preparation Date:	
1/4 / 2024	
5. Available Attendance Forms:	
Attendance	
6. Number of Credit Hours (80) / Number of Units (2)	
7. Course administrator's name (mention all, if more than one name)	
Name: Israa Amer Mahmood Email: israa.amer@coeduw.uobaghdad.edu.iq	
8. Course Objectives	
Course Objectives	1- The aim of teaching general English to non-specialized departments are to develop language skills English as a foreign language for fourth-stage female students and developing the student's ability to speak the English language Fluently. 2- Introducing the student to the rules of the English language through: explaining the rules and solving the book's exercises. 3- Understanding and clarifying the pieces and knowing their meanings. 4- Developing the ability to formulate sentences in English.
9. Teaching and Learning Strategies	
Strategy	1-Through careful explanation of the text in its form and content, as well explaining the rules of the English language. 2- Communicate and speak using the English language.

		3- Listening to the English language constantly to develop the linguistic aspect and correct pronunciation 4- Through write continuously. 5- Continuous reading and ensuring students' active participation discussion and clarification			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	1	Chapter One	No Place Like Home	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
3-4	1	Chapter Two	Been there, done that	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
5-6	1	Chapter Three	What a story!	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
7-8	1	Chapter Four	Nothing but the truth	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
9	1	An exam	An exam		
10-11	1	Chapter Five	An eye to the future	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written

12-13	1	Chapter Six	Making it big	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
14-15	1	Chapter Seven	Getting on together	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
16-17	1	Chapter Eight	Going to extremes	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
18	1	An exam	An exam		
19-20	1	Chapter Nine	Things aren't what They used to be	Reading and General discussion about the unit.	Participate in the discussion and cond daily and monthly examinations -Oral and written
21-22	1	Chapter Ten	Risking life and limb	Reading and General discussion about the unit..	Participate in the discussion and cond daily and monthly examinations -Oral and written
23-24	1	Chapter Eleven	In your dreams	Reading and General discussion about the unit..	Participate in the discussion and cond daily and monthly examinations -Oral and written
25-26	1	Chapter Twelve	It's never too late	Reading and General discussion about the unit..	Participate in the discussion and cond daily and monthly examinations -Oral written
27	1	An exam	An 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 Upper-Intermediate. Editors: Liz and John Soars Oxford Press.
Main references (sources)	1-English Grammar in Use, R. Murphy (Cambridge) 2-The Elements of Style by Strunk & White. 3- Word Power Made Easy by Norman Lewis.
Recommended books and references (scientific journals, reports...)	1-Developing listening and speaking Skills. 2-conversations and communication book. 3-every day conversation book. 4-English conversation book
Electronic References, Website	1-BBC Learning Channels & websites http://www.bbc.co.uk/learningenglish/ 2-English Language Learning and resources http://www.bbc.co.uk/learning/ 3- https://www.engvid.com/ 4- https://www.merriam-webster.com/ 5- http://www.grammar-monster.com