Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Academic Program Specification Form For The Colleges for the Academic Year 2023-2024 Stages (Second + Third + Fourth)

University: Anbar
College : Computer Science and Information Technology
Department : Computer Networks Systems
Date Of Form Completion : 6/3/2024

S.A

Dean's Name
Date :/ /
Signature

Dean's Assistant For Scientific Affairs
Date : / /
Signature

Head of Department of Quality Assurance and Academic
Date : / /
Signature

Quality Assurance And University Performance
ManagerDate :/ /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of Computer Science and Information Technology/Department of Computer Network Systems
3. Programme Title	Computer network systems
4. Title of Final Award	Bachelor of Computer Networks Systems
5. Modes of Attendance offered	Semester
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	1 / 3 / 2024
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1. The student should possess the ability to comprehend the principles, theories, and fundamentals of computer network systems.

A2The student should be capable of understanding modern and advanced scientific topics in the field of computer network systems.

A3.The student should be proficient in understanding programming languages relevant to their specialization.

A4.The student should be capable of problem-solving and implementing applications based on foundational principles.

The student should have an understanding of the operational principles of laboratory equipment used in their field of specialization.

B. Subject-specific skills

11. Programme Structure

11.1 Second academic year:

12. Awards and Credits

Level/Year	Course or Module Code	Course or ModuleTitle	Credit rating	
Semester	**CN2201**	Data Structures	**5**	**4**
Semester	**CN2202**	Advanced Mathematics	**2**	**2**
Semester	**CN3203**	Digital Electronics	**4**	**3**
Semester	**CN3204**	Microprocessing	**4**	**3**
Semester	**CN3205**	Data Transmission	**3**	**3**
Semester	**CN3206**	Object-Oriented Programming 1	**5**	**4**
Semester	**CN1207**	Democracy	**1**	**1**
Semester	**CN1208**	English Language	**1**	**1**
Semester	**CN2209**	Algorithms	**5**	**4**

Semester	**CN2210**	Numerical Analysis	**4**	**3**
Semester	**CN3211**	Computer Architecture	**2**	**2**
Semester	**CN3212**	Computer Networks	**5**	**4**
Semester	**CN3213**	Internet Page Design	**4**	**3**
Semester	**CN3214**	Object-Oriented Programming 2	**5**	**4**
Semester	**CN3215**	Information Theory and Coding	**2**	**2**
	Total		**52**	**43**

13 Programme Structure 11.1 Third academic year:				14. Awards and Credits
Level/Year	**Course or Module Code**	**Course or ModuleTitle**	**Credit rating**	
Semester	**CN3301**	Visual Programming 1	**4**	**3**
Semester	**CN3302**	Project Management	**2**	**2**
Semester	**CN3303**	Database Management Systems 1	**4**	**3**
Semester	**CN3304**	Wireless Networks	**4**	**3**
Semester	**CN3305**	Internet Page Programming	**4**	**3**
Semester	**CN3306**	Digital Signal Processing 1	**2**	**2**
Semester	**CN1307**	English Language	**1**	**1**
Semester	**CN2308**	Software Engineering	**2**	**2**
Semester	**CN3309**	Visual Programming 2	**4**	**3**
Semester	**CN3310**	Multimedia	**4**	**3**
Semester	**CN3311**	Distributed Database	**4**	**3**
Semester	**CN3312**	Network Programming	**4**	**3**
Semester	**CN3313**	Digital Signal Processing 2	**2**	**2**
	Total		**41**	**33**

15. Programme Structure 11.1 Fourth academic year:				16. Awards and Credits
Level/Year	Course or Module Code	Course or ModuleTitle	Credit rating	
Semester	**CN3401**	Network Protocols and Services	**4**	**3**
Semester	**CN3402**	Information Security	**2**	**2**
Semester	**CN3403**	Artificial Intelligence 1	**4**	**3**
Semester	**CN3404**	Internet Application Development 1	**4**	**3**
Semester	**CN3405**	Network Management and Software-Defined Networking	**4**	**3**
Semester	**CN3406**	Operating Systems 1	**4**	**3**
Semester	**CN1407**	Research Methodology	**1**	**1**
Semester	**CN1408**	English Language	**1**	**1**
Semester	**CN3409**	Network Switching and Routing	**4**	**3**
Semester	**CN3410**	Network Security	**2**	**2**
Semester	**CN3411**	Artificial Intelligence 2	**4**	**3**
Semester	**CN3412**	Internet Application Development 2	**4**	**3**
Semester	**CN3413**	Mobile Computing	**4**	**3**
Semester	**CN3414**	Operating Systems 2	**4**	**3**
Semester	**CN3415**	Computer Network Systems Project	**12**	**6**
	Total		**58**	**42**

17. Personal Development Planning
18. Admission criteria .
• Compliance with admission requirements set by the Ministry of Higher Education and Scientific Research (Centralized Admission) • Personal interview conducted by the department • Medical fitness examination • High school GPA • Capacity of enrollment
19. Key sources of information about the programme

Republic of Iraq
The Ministry of Higher Education &
Scientific Research

University: Anbar
College: CS & IT
Department: Computer networks systems
Stage: 2
Instructor name:
Academic status:
Qualification:
Place of work:

Course Weekly Outline

Course Name: Data Structures

Course Instructor	Maha Mahmood				
E-mail	Maha-mahmood@uoanbar.edu.iq				
Title	Teacher				
Course Coordinator	Maha Mahmood				
Course Objective	1- Learning different data structures 2- Understand why this data structure is better than the other one. 3- Learning how to choose the best data structure for your algorithm. 4- learn how to deal with your problem, building its algorithm and fitting the best data structures to it.				
Course Description	This course covers all data structure types. It starts with defining algorithms and their complexity from the time and space prospection. Then, a list of data structure and their description is presented. The course describes every data structure in detail. In addition to that, it gives the reason to why we need this data structure and where to use it. This course includes many projects that give more understanding to the data structure studied. These projects talks about real life problems that we ask student to use one of the data structure that has been presented in the course to solve it.				
Textbook	Introduction to Algorithm, third Edition, Thomas H. Cormen Algorithms, fourth edition, Robert Sedgewick and Kevin Wayne				
References	Introduction to Algorithm, third Edition, Thomas H. Cormen Algorithms, fourth edition, Robert Sedgewick and Kevin Wayne				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	%20	%10	%5	%15	%50
General Notes					

Republic of Iraq
The Ministry of Higher Education &
Scientific Research

University: Anbar
College: CS & IT
Department: computer networks system department
Stage:second
Instructor name:
Academic status:
Qualification:
Place of work:

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Introduction for data structure Introduction		
2		Learn the basic principles		
3		Learn the array in different domination Array Data structure	Accountant application using arrays	
4		Learn stack and its operation		
5		Learn one of the stack application	Student information system using stack	
6		Learn Queue and its operation		
7		. Learn circular Queue and its operation		
8		Review for Pointer &Structure		
9		exam		
10		Learn Linked list representation		
11		Learn Linked list operations		
12		Learn Doubly Linked list representation		
13		Learn Doubly Linked list operations		
14		second semester exam		
15		review		

Instructor Signature:

Dean Signature:

Ministry of Higher Education & Scientific Research
University of Anbar
College of Computer Science
and Information Technology
Computer Networks Systems Department

وزارة التعليم العالي والبحث العلمي
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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Practical Course Description

Course Title: Advance mathematics

Course Code:

Semester: 1 st semester

Level: B.Sc.

Class: 2 nd

Academic Year: 2022/2021

Course Instructor: Learning Outcomes, Teaching ,Learning and Assessment Method

Academic status: Assistant teacher

Place of work: Computer Networks systems Department

Credit Hours: 45

Instructor Office Hours:

E-mail (Official): taiseer.a.yaseen@uoanbar.edu.iq

Mobile Number: 07903468936

Objectives:

1. **Course Description:**
2. **Methods of Teaching:** Teaching and Learning Methods By Solving many exercises
3. **Assessment Method:** 5% homework, 10% oral exam, 5% quiz, 20 mid exam, 60% final exam
4. **Recommended Text Books and References:** Thomas, G. Calculus and Analytic Geometry, 5th Edition, Addison Wesly, 1999.

A. **Textbook:**

B. **Other References:**

Lecture Schedule:

Weeks	Topics
Week 1	Introduction to differential equation
Week 2	Types of differential equation
Week 3	Linear and Nonlinear DE
Week 4	Types of First Order and First Degree
Week 5	Variable Separable Equation
Week 6	Leibnitz's (linear) Equation
Week 7	Bernoulli's Differential Equation
Week 8	Exact Differential Equation
	Midterm Exam
Week 9	Non Exact Differential Equation
Week 10	Homogeneous and Non Homogeneous DE

Week 11	Second order differential equation with constant coefficient
Week 12	Laplace transform
Week 13	Laplace Invers transform
Week 14	Power series
Week 15	Fourier series

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University: Anbar
College:
Department: Computer networks systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Digital Electronics

Course Instructor	Hussam Jasim Ali				
E-mail	hssjali@uoanbar.edu.iq				
Title	Assistant Lecturer				
Course Coordinator					
Course Objective	After the students complete the course they will be able to realize the digital system principles, design, simplify, and analyze combinational logic circuits, and also Design and analyze sequential logic circuits, counters, and shifting logic circuits.				
Course Description					
Textbook	Digital Electronics Principles, Devices and Applications (Anil K. Maini)				
References	Digital electronics : principles, devices, and applications / Anil Kumar Maini. ISBN 978-0-470-03214-5				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30	15	5		50
General Notes	-				

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University: Anbar
College:
Department: Computer networks systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Analog ,Digital, Analog vs Digital, Electronics Components (Resistor, Diode, Transistor, Capacitor, Relay, Led), Number systems (decimal, binary, octal, hexadecimal) , Logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR), Binary Codes (Binary Coded Decimal, Gray Code, Alphanumeric Codes), Logic Families	Define Logic gates	
2		Boolean,Demorgan's theorem , Simplification Techniques	Design	
3		Karnaugh maps (2-variables, 3-variables, 4-variables)	Design	
4		Arithmetic operations (adder, parallel binary adder, Subtractor, decoder, encoder, multiplexer, DEmultiplexer, comparator, cod, conversion)	Implement Arithmetic Circuits	
5		Arithmetic operations (adder, parallel binary adder, Subtractor, decoder, encoder, multiplexer, DEmultiplexer, comparator, cod, conversion)	Implement Arithmetic Circuits	
6		Flip-flops(SR latch, D latch,T-latch,J-K F.F, edge triggered, conversion from one type to another)	Implement Circuits	
7		Counters (asynchronous, synchronous, decade, up/down, cascade, counter decoding)	Implement Counters	
8		Counters (asynchronous, synchronous, decade, up/down, cascade, counter decoding)	Implement Counters	
9		Shift-registers (serial in/serial out, serial in/parallel out, parallel in/serial out, parallel in/parallel out, bidirectional , shift register counter (Johnson counter, Ring counter))	Implement Counters	
10		Multivibrators (definition, astable, bistable, monostable, 555 timer)	Design Timer	
11		A / D and D/A convertors (R /2 R DAC, R/2n R DAC, flash ADC, tacking ADC, slope ADC, successive approximation ADC, digital ramp ADC, delta sigma ADC)	Design Converter	
12		A / D and D/A convertors (R /2 R DAC, R/2n R DAC, flash ADC, tacking ADC, slope ADC, successive approximation ADC, digital ramp ADC, delta sigma ADC)	Design Converter	
13		Microcontrollers atmega , introduction to arduino		
14		Arduino programming		
15		Arduino programming		

Instructor Signature: Hussam Jasim Ali **Dean Signature:**

Ministry of Higher Education & Scientific Research
University of Anbar
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Computer Networks Systems Department

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قسم انظمة شبكات الحاسوب

كلية علوم الحاسوب وتكنولوجيا المعلومات

Department of Computer Networks Systems

Course Description Form

Course Title: Microprocessors.

Course Code:

Semester: I

Level: B.Sc.

Class: 2nd

Academic Year: 2022/2021

Course Instructor: Fouad H. Awad

Academic status: Teacher

Place of work: college of computer science and information technology

Credit Hours: Sunday (8:30- 10:30) and Thursday (11:30 – 2:00)

Instructor Office Hours: Sunday and Thursday.

E-mail (Official): Fouad.hammadi@uoanbar.edu.iq

Mobile Number:07813533384

Lecture Schedule:

Weeks	Topics
Week 1	Introduction to computer system ,Von Neumann and Harvard architectures , comparison between Microprocessor and Microcontroller .
Week 2	Memory hierarchy ,cache memory principle ,Locality of references ,types of locality .
Week 3	Cache and main memory organizations , Memory performance measures , Relation between cache memory and active program portion .
Week 4	Memory management unit , Replacement process , Cache mapping techniques , Direct mapping , Fully associative mapping , Set associative mapping .
Week 5	Comparison between cache memory mapping techniques , Effect of cache on overall performance , Main and cache memory hardware types(DRAM,SRAM)
Week 6	Virtual memory aim , page table , Virtual address to physical address translation technique with examples , TLB .
Week 7	Architecture of 80386 , signals description of 80386 , Buses masters and slaves , 80386 memory model spaces , Logical and physical addresses with paging .
Week 8	Hardware organization of memory address space , 8086 registers overview , Real mode and Protected mode in 80286 , Segment selector .
	Midterm Exam
Week 9	Offset memory address , Instruction pointer register , Real mode address generation .
Week 10	Calculation of physical address .
Week 11	Protected mode address generation , segment register , Segment selectors and descriptors .
Week 12	
Week 13	Descriptors (Local ,global , number of it) , Protection of OS authorization using RPL register , 80386\80486 and Pentium Processors Program Invisible Registers .
Week 14	Bus cycles of 80386 , 80386 bus states , Pipelined and non pipelined machine bus cycles .
Week 15	BIU ,EU ,Coprocessor , Operand storing locations , addressing modes .

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Computer Networks Systems Department

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كلية علوم الحاسوب وتكنولوجيا المعلومات

Department of Computer Networks Systems

Course Description Form

Course Title: Data Communication

Course Code:

Semester: I

Level: B.Sc.

Class: 2

Academic Year: 2022/2021

Course Instructor: Assist. Prof. Dr. Ahmed Subhi Abdalkafor

Academic status: Assist Professor

Place of work: Career Development Center, University of Anbar

Credit Hours: 2 Hours

Instructor Office Hours:

E-mail (Official): ahmed.abdalkafor@uoanbar.edu.iq

Mobile Number: 07834120596

Lecture Schedule:

Weeks	Topics
Week 1	• Data Communications: overview
Week 2	• Characteristics of Data Communication • Data of Representation • Data Flow
Week 3	• Data Representation
Week 4	• Data and Signals • Periodic & Non Periodic Signals • Relation between Frequency & Period
Week 5	• Digital Signals • Baud Rate • Types of Channels
Week 6	• Bandwidth • Bandwidth of A Signal • Bandwidth of A Channel • Shannon Capacity
Week 7	• Time Domain and Frequency domain representation of signals
Week 8	• Transmission Media
	Midterm Exam
Week 9	• Computer Networks • Criteria for Network
Week 10	• Physical Structures for Network • Networks Topologies
Week 11	• OSI Model
Week 12	• TCP/IP Model
Week 13	• Comparison of the OSI and TCP Reference Models
Week 14	• Standards-based internetworking methods **I**
Week 15	• Standards-based internetworking methods **II**

Ministry of Higher Education & Scientific Research
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College of Computer Science
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Computer Networks Systems Department

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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Object Oriented Program 1

Course Code:

Semester: I

Level: B.Sc.

Class: Second

Academic Year: 2022/2021

Course Instructor: Dr. Sumaya Abdulla Hamad

Academic status: Instructor

Place of work: College of Computer Science/ Computer Networks System Department

Credit Hours: Seven (7)

Instructor Office Hours: Ten (10)

E-mail (Official): sumayah.hamad@uoanbar.edu.iq

Mobile Number: 07807987722

Lecture Schedule:

Weeks	Topics
Week 1	Python Fundamental: Introduction, Variables, Comments, Python Data Types
Week 2	Python Fundamental: Operators, Python Conditions and If statements, Python Loops
Week 3	Python Fundamental: Functions, Arrays
Week 4	Python - Object Oriented Programming: Introduction to Class Fundamentals
Week 5	Python - Object Oriented Programming: Closer Look at Class Member Access
Week 6	Python - Object Oriented Programming: Constructors and Destructors
Week 7	Python - Object Oriented Programming: Creating Inline Functions Inside a Class (Lambda)
Week 8	Python - Object Oriented Programming: Arrays of Objects (Classes)
	Midterm Exam
Week 9	Python - Object Oriented Programming: Pointers to Objects (Classes)
Week 10	Python - Object Oriented Programming: Friend Functions
Week 11	Python - Object Oriented Programming: Overloading Constructors
Week 12	Python - Object Oriented Programming: Passing Objects (Classes) to Functions
Week 13	Python - Object Oriented Programming: Returning Objects (classes) From Functions
Week 14	Python - Object Oriented Programming: Extra Examples
Week 15	Python - Object Oriented Programming: Final Exam

نموذج وصف المقرر

وصف المقرر

يوفر وصف المقرر هذا إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولابد من الربط بينها وبين وصف البرنامج.؛

1. المؤسسة التعليمية	جامعة الانبار / كلية علوم الحاسوب وتكنولوجيا المعلومات
2. القسم العلمي / المركز	أنظمة شبكات الحاسوب
3. اسم / رمز المقرر	الديمقراطية
4. أشكال الحضور المتاحة	دوام رسمي
5. الفصل / السنة	2021-2022الفصل الأول /
6. عدد الساعات الدراسية (الكلي)	15
7. تاريخ إعداد هذا الوصف	
8. أهداف المقرر	
أ . تعليم الطلبة على أساسيات الديمقراطية وقوانينها .	
ب. تعليم الطلبة على كيفية حل المشكلات باستخدام الديمقراطية .	

10. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / أو الموضوع	طريقة التعليم	طريقة التقييم
الأول	1		مفهوم الديمقراطية	نظري	التحضير وأسئلة ومناقشة
الثاني	1		مميزات الديمقراطية	نظري	التحضير وأسئلة ومناقشة
الثالث	1		أنواع الديمقراطية	نظري	التحضير وأسئلة ومناقشة
الرابع	1		الديمقراطية المباشرة	نظري	التحضير وأسئلة ومناقشة
الخامس	1		الديمقراطية التمثيلية	نظري	التحضير وأسئلة ومناقشة
السادس	1		الديمقراطية شبه المباشرة	نظري	التحضير وأسئلة ومناقشة
السابع	1		الديمقراطية غير المباشرة	نظري	التحضير وأسئلة ومناقشة
الثامن	1		الحرية ، الكرامة الإنسانية	نظري	التحضير وأسئلة ومناقشة
التاسع	1		المساواة والعدالة ، المشاركة السياسية	نظري	التحضير وأسئلة ومناقشة
العاشر	1		التعددية السياسية ، الانتخابات	نظري	التحضير وأسئلة ومناقشة
الحادي عشر	1		حق الأكثرية وحماية حقوق الأقلية ، تداول السلطة سلميا	نظري	التحضير وأسئلة ومناقشة
الثاني عشر	1		الفصل بين السلطات ، الشفافية والمساءلة	نظري	التحضير وأسئلة ومناقشة
الثالث عشر	1		القواعد والمبادئ العامة للديمقراطية	نظري	التحضير وأسئلة ومناقشة
الرابع عشر	1		الآليات العامة للديمقراطية	نظري	التحضير وأسئلة ومناقشة
الخامس عشر				نظري	امتحان شهري

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Anbar
2. University Department/Centre	University of Anbar / Computer Networks System
3. Course title/code	1st
4. Programme(s) to which it contributes	Information theory and coding
5. Modes of Attendance offered	The electronic attendance of the theoretical side
6. Semester/Year	2021-2022
7. Number of hours tuition (total)	2 for theoretical in week
8. Date of production/revision of this specification	
9. Aims of the Course	
Providing the student with basic information about the applications of information theory Studying the relationship between probability theory and information theory Studying how to measure the amount of information in the information carrier Studying how to compress the volume of information Studying how to protect information during its transmission Studying the channel capacity calculations that carry information Studying how to distinguish between regular and irregular symbols Studying ways to correct erroneous information during transmission at the receiving end	

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	The relationship of probability to information theory	probability	Theoretical lectures	Daily exams, surprise exams, documented exams, semester exams, final exams, oral questions and discussions during lectures, homework
2	2	Distinguish between types of information sources	Information Sources		
3	2	Learn the best ways to compress information	Encryption methods for information sources		
4	2	Distinguish between the types of information transmission channels	information channels		
5	2	Knowing the channel capacity and how it is calculated	channel capacity		
6	2	Knowing the methods of sending information after changing its codes	Encryption of information channels		
7	2	Knowing the methods of retrieving information through the encryption method	Recover one-mistake information		
8	2	Knowing the methods of retrieving information through the encryption method	Multiple Error Information Recovery		
9	2	Advanced methods for recovering false information	Wrong information recovery		

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Essential of information theory- P.G. Farrell Modern digital and analog communication systems-B.P. Lathi

Special requirements (include for example workshops, periodicals, IT software, websites)	**Error control coding fundamental and applications.**
Community-based facilities (include for example, guest Lectures , internship , field studies)	Elements of Information Theory 2nd Edition (Wiley Series) Information Theory and Statistical Mechanics. II http://www.careerride.com/mcq-tag-wise.aspx?Key=Information%20Theory&Id=21 http://www.gatestudy.com/wp-content/uploads/2015/09/Information-Theory-Coding.pdf

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College: Computer Science and information technology
Department: Computer Networks
Stage:2nd
Instructor name: Eman Turki Mahdi
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Computer Algorithm

Course Instructor	Eman Turki Mahdi				
E-mail	maymoonat@uoanbar.edu.iq				
Title	Computer Algorithms				
Course Coordinator					
Course Objective					
Course Description					
Textbook					
References	Introduction to Algorithms Second Edition				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes	-				

Republic of Iraq
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& Scientific Research

University: Anbar
College: Computer Science and information technology
Department: Computer Networks
Stage:2nd
Instructor name: Eman Turki Mahdi
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	1st week	Basic Concepts in Algorithmic Analysis		
2	2nd week	Introduction to Algorithm		
3	3rd week	The Big-O Notation		
4	4th week	Linear Search Problem		
5	5th week	Binary Search Problem		
6	6th week	Sorting & Searching , Goal of Sorting , Sorting Steps		
7	7th week	Bubble Sort		
8	8th week	Quick Sort, Merge Sort		
9	9th week	Exam		
10	10th week	Insertion Sort		
11	11th week	Selection Sort		
12	12th week	Graph Algorithms		
13	13th week	Searching Graphs		
14	14th week	Depth first search		
15	15th week	Exam		

Instructor Signature:
Eman T. Mahdi

Dean Signature:

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University: Anbar
College:
Department: Computer network system
Stage: 2nd
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Numerical Analysis

Course Instructor					
E-mail	taiseer.a.yaseen.uoanbar.edu.iq				
Title					
Course Coordinator					
Course Objective					
Course Description	Numerical Analysis for 2nd Stage				
Textbook	Richard L. Burden and etc." Numerical Analysis ", 9th edition, 2014				
References					
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	25%	15%	5%	5%	50%
General Notes	-				

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University: Anbar
College:
Department: Computer network system
Stage: 2nd
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Direct methods for solving linear system of equation		
2		Simple Gaussian elimination method, gauss elimination method with partial pivoting,		
3		determinant evaluation, gauss Jordan method,		
4		L U decompositions Doolittle's LU decomposition, Doolittle's method with row interchange		
5		Finding Matrix Inverse		
6		Iterative methods for solving linear systems of equations		
7		Jacobin iteration, gauss – seidel method,		
8		Successive over relaxation method (sort method)		
9		Mid-term Exam		
10		Newton-Raphson Method		
11		Runge-kutta Method		
12				

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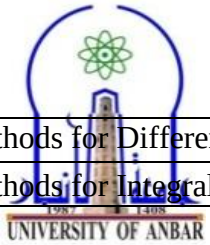

University: Anbar
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Department: Computer network system
Stage: 2nd
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

13		Numerical Analysis Methods for Differential Equation			
14		Numerical Analysis Methods for Integral Equation			
15		Final Exam			

Instructor Signature: **Dean Signature:**

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University: Anbar
College:
Department: Computer Network
Stage: Second
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Computer Architecture

Course Instructor	Dr. Omar Munthir Al Okashi				
E-mail	Omar.alokashi@uoanabr.edu.iq				
Title	Ass. Prof				
Course Coordinator					
Course Objective	The purpose of the course is to introduce principles of computer organization and the basic architectural concepts. It begins with basic organization, design, of a simple digital computer and introduces simple register transfer language to specify various computer operations.				
Course Description	This course aims to provide a strong foundation for students to understand the modern eras of computer architecture. The course is structured around different main subject of computer architecture. Those subjects include different parts of computer such as memory, CPU and input output devices.				
Textbook	The essential of computer architecture and organization, ٥th edition, Linda Null				
References	The essential of computer architecture and organization, ٥th edition, Linda Null				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	٣٥	-	٥	-	٦٠
General Notes	-				

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College:
Department: Computer Network
Stage: Second
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
١	٢١-٠٢	Introduction to computer components and historical review		
٢	٢٨-٠٢	Data representation in computer system		
٣	٠٧-٠٣	Error detection and correction		
٤	١٤-٠٣	Boolean algebra and digital logic		
٥	٢١-٠٣	Exam		
٦	٢٨-٠٣	MARIE: an introduction to simple computer		
٧	٠٤-٠٤	Instruction Set Architecture		
٨	١١-٠٤	Memory (١)		
٩	١٨-٠٤	Memory (٢)		
١٠	٢٥-٠٤	Exam		
١١	٠٢-٠٥	Input/output storage system		
١٢	٠٩-٠٥	System Software		
١٣	١٦-٠٥	Performance Measurement and Analysis		
١٤	٢٣-٠٥	Embedded System		
١٥	٣٠-٠٥	Exam		

Course Weekly Outline

Instructor Signature: **Dean Signature:**

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College:
Department: Computer Networks systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Computer Networks

Course Instructor	SAIF SAAD HAMEED				
E-mail	dove_white84@uoanbar.edu.iq				
Title					
Course Coordinator	SAIF SAAD HAMEED				
Course Objective	The article aims to explain the means and methods contained in the computer network, where the article deals with To explain the means of communication and indicate their quality and efficiency, ways to improve their performance and the influencing factors On the other hand, it is recognized how data is transmitted within a computer network and the methods and the protocols used to transfer this data				
Course Description					
Textbook	Data Communications & Networking, 4th Edition, Behrouz A. Forouzan				
References	Computer Networks, 5th Edition, Tanenbaum. Routimg and Switching Essentials, 6th Edition, CISCO Press www.cisco.com				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20	15	5	10	50
General Notes	-				

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College:
Department: Computer Networks systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1, 2		Introduction and classify the computer network		
3,4		The IOS reference model		
5,6, 7		TCP/IP reference model		
8,9		Data link layer design issues		
10, 11		Framing ,error control, Flow control		
12, 13, 14		Network Protocols		

Course Weekly Outline

Instructor Signature: **Dean Signature:**

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University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name:

Course Instructor	Khitam Abdul_Basit Mohammad
E-mail	Khitam.abdulbasit@uoanbar.edu.iq
Title	**Web Design**
Course Coordinator	
Course Objective	- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture. - Develop skills in analyzing the usability of a web site. - Understand how to plan and conduct user research related to web usability. - Learn the language of the web: HTML. - Learn techniques of responsive web design, including media queries.
Course Description	Web designers plan, create and code internet sites and web pages, many of which combine text with sounds, pictures, graphics and video clips. A web designer is responsible for creating the design and layout of a website or web pages. It and can mean working on a brand new website or updating an already existing site.
Textbook	"Learning Web Design" , Jennifer Niederst Robbins , Copyright © 2012 Littlechair, Inc , ISBN: 978-1-449-31927-4
References	"Learning Web Design" , Jennifer Niederst Robbins , Copyright © 2012 Littlechair, Inc , ISBN: 978-1-449-31927-4
Course Assessments	Term Tests | Laboratory | Quizzes | Project | Final Exam | | | |
General Notes	-

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Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	Week 1	**Introduction , Internet,Web server, Client,**		

Course Weekly Outline

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Academic status:
Qualification:
Place of work: University of Anbar

		Web Browsing, URL , ISP , HTTP , Web application , The Web Concepts , Web Page , web Site , Classifying the Web Sites , Environment , The General Approach, Classify in terms of Range of Complexity		
2	Week 2	**HTML , What is an html File? , HTML structure , HTML Elements , HTML Backgrounds , image Background , HTML Colors**		
3	Week 3	**HTML Character Entities , HTML Lists**		
4	Week 4	**HTML Links , HTML Images**		
5	Week 5	**Tables , Frame tag and attributes**		
6	Week 6	Exam		
7	Week 7	**Password Box , checkbox , Radio Button**		
8	Week 8	**Submit Button , Reset Button ,**		
9	Week 9	Cascading Style Sheets , **Internal CSS , External Style Sheet**		
10	Week 10	**JavaScript Introduction , JavaScript Statements**		
11	Week 11	**Creating JavaScript Variables , JavaScript Arithmetic Operators**		
12	Week 12	**Adding Strings and Numbers , JavaScript Comparison and Logical Operators**		
13	Week 13	**Conditional Statements**		
14	Week 14	**JavaScript Popup Boxes**		
15	Week 15			

Instructor Signature: **Dean Signature:**

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جامعة الأنبار
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قسم انظمة شبكات الحاسوب

كلية علوم الحاسوب وتكنولوجيا المعلومات

Department of Computer Networks Systems

Course Description Form

Course Title: Object Oriented Program 2

Course Code:

Semester: II

Level: B.Sc.

Class: Second

Academic Year: 2022/2021

Course Instructor: Dr. Sumaya Abdulla Hamad

Academic status: Instructor

Place of work: College of Computer Science/ Computer Networks System Department

Credit Hours: Seven (7)

Instructor Office Hours: Ten (10)

E-mail (Official): sumayah.hamad@uoanbar.edu.iq

Mobile Number: 07807987722

Objectives:

- The student's acquisition of the concept of entity programming, classes, and objects, and how to deal with them**.**
- Clarify the concept of classes, what are the functions and properties of them, and the objects of each class**.**
- Giving the student experience in dealing with objects and classes and the distribution of properties and functions.
- The study of structured programming, entity programming and what is known as object-oriented programming, knowledge of injunctions and functions to prepare the student to know how to write a set of commands, knowing what are injunctions, how to build classes and objects, what the class has of properties and functions, how to build several classes and several objects, and how properties are inherited between them.

1. Course Description:

A: Knowledge and Understanding

A1. Gain the ability and skill to distinguish and deal with program instructions and functions of entity programming.

A2. Acquire the skill of distinguishing between objects, classes and functions and linking them.

A3. Dealing with the attributes and characteristics of each class and programming functions.

B. Subject-specific skills

B1. summer training

B2. Scientific Reports

C. Thinking Skills

C1. Develop the student's ability to work on the duties and deliver them on time.

C2. Programmatically analyze the problem and find solutions based on the expected results.

C3. Develop the student's ability to dialogue and discussion.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Develop the student's ability to deal with technical means.

D2. Develop the student's ability to deal with the Internet.

D3. Develop the student's ability to deal with multiple media.

D4. Develop the student's ability to dialogue and discussion.

2. Methods of Teaching:

- Management of the lecture in an applied manner linked to the reality of daily life to attract the student to the topic of the lesson without moving away from the core of the topic so that the material is flexible and capable of understanding and analysis.
- Assigning the student some group activities and duties.
- Allocating a percentage of the grade for daily assignments and tests.
- Sudden daily and continuous weekly tests.
- Exercises and activities in the classroom.
- Guide students to some websites to benefit from them.

3. Assessment Method:

- Active participation in the classroom is evidence of the student's commitment and responsibility.
- Commitment to the deadline in submitting assignments and research.
- The quarterly and final exams express commitment and cognitive and skill achievement.
- Presentation of activities

TermTests	Laboratory	Quizzes	Project / Activity	Final Exam
25 %	15 %	5 %	5 %	50 %

4. Recommended Text Books and References:

A. **Textbook:** Object-Oriented Programming in Python Documentation, Release 1, University of Cape Town and individual contributors, Nov 15, 2017

B. **Other References:** pdf files lectures , Internet Recources.

Lecture Schedule:

Weeks	Topics
Week 1	Python - Object Oriented Programming: Introduction to Operator Overloading
Week 2	Python - Object Oriented Programming: Operator Overloading Using Member Functions
Week 3	Python - Object Oriented Programming: Base Class Access Control
Week 4	Python - Object Oriented Programming: Using Public, Protected, Private Members
Week 5	Python - Object Oriented Programming: Introducing Inheritance
Week 6	Python - Object Oriented Programming: Inheriting Multiple Base Classes
Week 7	Python - Object Oriented Programming: Constructors, Destructors, and Inheritance
Week 8	Python - Object Oriented Programming: Passing Parameters to Base Class Constructors
	Midterm Exam
Week 9	Python - Object Oriented Programming: Using Public, Protected, Private Members of the Parent Class
Week 10	Python - Object Oriented Programming: Method Overriding in Python Inheritance
Week 11	Python - Object Oriented Programming: Composition in Python
Week 12	Python - Object Oriented Programming: Multilevel Inheritance
Week 13	Python - Object Oriented Programming: Hierarchal and Hybrid Inheritance
Week 14	Python - Object Oriented Programming: Polymorphism
Week 15	Python - Object Oriented Programming: Final Exam

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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: English Language

Course Code:

Semester: II

Level: B.Sc.

Class: Second Year

Academic Year: 2022/2021

Course Instructor: Dr. Wesam Mohammed Jasim

Academic status: Prof.

Place of work: Computer Science Department

Credit Hours: 2

Instructor Office Hours:

E-mail (Official): co.wesam.jasim@uoanbar.edu.iq

Mobile Number: 07824026570

Objectives:

1- **Demonstrate an understanding of the objectives and difficulties of English language.**
2- **Demonstrate an understanding of it is grammar.**
3- **Demonstrate an understanding of fundamental principles of using the types of verbs in sentences.**
4- **Demonstrate an understanding of English language writing.**
5- **Demonstrate an understanding of English language speaking.**

Course Description:

1. **Overview of English language.**
2. **Verb types of English language.**
3. **Used of verbs in English language.**
4. **Writing a short answers and sentences.**

Methods of Teaching:

1- **Lectures.**
2- **Assignments.**

Assessment Method:

Midterm Examination	20 %
Quizzes	10 %
Attendances	5 %
Course Work and Assignments	5 %
Final Examination	60 %
Total	100 %

Recommended Text Books and References:

A. **Textbook: New Head Way Pre-Intermediate Level; Liz and John Soars; OXFORD.**

B. **Other References:** CDs

Lecture Schedule:

Weeks	Topics
Week 1	Unit 1 ; Getting to Know you; Grammar
Week 2	Unit 1 ; Getting to Know you; Vocabulary; Everyday English
Week 3	Unit 2 ; The Way We Live; Grammar
Week 4	Unit 2 ; The Way We Live; Vocabulary; Everyday English
Week 5	Unit 3 ; It All Went Wrong; Grammar
Week 6	Unit 3 ; It All Went Wrong; Vocabulary; Everyday English
Week 7	Unit 4 ; Let Us Go Shopping; Grammar
Week 8	Unit 4 ; Let Us Go Shopping; Vocabulary; Everyday English
	Midterm Exam
Week 9	Unit 5 ; What Do You Want To Do; Grammar
Week 10	Unit 5 ; What Do You Want To Do; Vocabulary; Everyday English
Week 11	Unit 6 ; Tell Me What's it Like; Grammar
Week 12	Unit 6 ; Tell Me What's it Like; Vocabulary; Everyday English
Week 13	Unit 7 ; Famous Couples; Grammar
Week 14	Unit 7 ; Famous Couples; Vocabulary; Everyday English
Week 15	Unit 8 ; Do's and Don'ts; Grammar; Vocabulary; Everyday English

Ministry of Higher Education & Scientific Research
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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Visual Programming I

Course Code:

Semester: I

Level: B.Sc.

Class: Third

Academic Year: 2022/2021

Course Instructor: Ismail Taha Ahmed

Academic status: Dr.

Place of work: College of Computer Science & Information Technology

Credit Hours:

Instructor Office Hours:

E-mail (Official):

Mobile Number:

Lecture Schedule:

Weeks	Topics
Week 1	Chapter One: C# Overview
Week 2	Chapter One: C# Operations
Week 3	Chapter Two: Control Statements
Week 4	Chapter Two: Selection Statements
Week 5	Chapter Two: Repetition Statements
Week 6	Chapter Three: Methods
Week 7	Chapter Three: Methods Overloading
Week 8	Chapter Three: Methods Recursion
Week 9	**Midterm Exam**
Week 10	Chapter Four: Arrays
Week 11	Chapter Four: 1D Arrays
Week 12	Chapter Four: 2D Arrays
Week 13	Chapter Five: String
Week 14	Chapter Five: String Methods
Week 15	Final Exam

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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Database Management Systems (DBMSs)

Course Code:

Semester: I

Level: B.Sc.

Class: 3rd

Academic Year: 2022/2021

Course Instructor: Dr. Waleed Khalid Hassan

Academic status: Lecturer

Place of work: College of Computer Science and Information Technology – IS Dept.

Credit Hours: 2 hours

Instructor Office Hours: Monday

E-mail (Official): waleed.hassan@uoanbar.edu.iq

Mobile Number: 07827771143

Lecture Schedule:

Weeks	Topics
Week 1	Introduction to Database Management System
Week 2	View of Data, Data Abstraction, Instances and Schemas
Week 3	Data Models, Database Architecture
Week 4	Database Languages: DDl, DML
Week 5	Conceptual Database Design - Entity Relationship(ER) Modeling
Week 6	Relational Data Model, Type of Keys
Week 7	Relational Algebra
Week 8	Relational calculus, Tuple Relational Calculus, Examples
	Midterm Exam
Week 9	Domain Relational Calculus, Examples of DRC Queries
Week 10	SQL, the form of a basic SQL query + Examples (1)
Week 11	SQL, the form of a basic SQL query + Examples (2)
Week 12	Schema Refinement
Week 13	Decompositions
Week 14	Functional Dependencies
Week 15	Normalization

قسم ضمان الجودة والاعتماد الاكاديمي

ملف المقرر الدراسي

1. المؤسسة التعليمية	كلية الحاسوب – جامعة الانبار
2. القسم الجامعي / المركز	علوم الحاسبات
3. اسم / رمز المقرر	اتصالات وشبكات الحاسبة
4. البرامج التي يدخل فيها	بكالوريوس علوم حاسبات
5. أشكال الحضور المتاحة	حضور المحاضرة في القاعة الدراسية
6. الفصل / السنة	الفصل الثاني / 2021-2022
7. عدد الساعات الدراسية (الكلي)	45 ساعة (3 نظري اسبوعيا)
8. تاريخ إعداد هذا الوصف	
9. أهداف المقرر	

10. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / المساق أو الموضوع	طريقة التعليم	طريقة التقييم
1	3	التعرف الاهداف والتعاريف الاساسية والمصادر	General Definition and Resources Introduction / Definition and Objectives	محاضرة	امتحان قصير
2	3	التعرف على الاجزاء المادية للشبكات وتصنيفها	Network Hardware Classification of Networks	محاضرة	امتحان قصير
3	3	التعرف على شبكات البيانات العامة	Public Data Network	محاضرة	امتحان قصير
4	3	التعرف على طرق ربط الشبكات	Topology	محاضرة	امتحان قصير
5	3	الامتحان الشهري	Mid Term Exam	محاضرة	امتحان شهري
6	3	التعرف على الاجزاء البرمجية للشبكات	Network Software	محاضرة	امتحان قصير
7	3	التعرف على خدمات الربط الموجه وغير الموجه	Connection-oriented & Connectionless services	محاضرة	امتحان قصير
8	3	التعرف على نماذج الشبكات	Reference Models	محاضرة	امتحان قصير
9	3	التعرف على مستويات النموذج OSI واهم وظائفها	OSI reference model	محاضرة	امتحان شهري
10	3	التعرف على مستويات النموذج TCP/IPواهم وظائفها	TCP/IP reference Model	محاضرة	امتحان قصير
11	3	التعرف على وسائط النقل والاتصال	Transmission Media	محاضرة	امتحان قصير
12	3	التعرف على الوسائط الموجهة وغير الموجهة	Guided Media Unguided Media	محاضرة	امتحان قصير
13	3	التعرف على كيفية نقل البيانات	Transmission of Data	محاضرة	امتحان قصير
14	3	التعرف على خوارزميات المسارات	Routing Algorithm	محاضرة	امتحان قصير
15	3	امتحان شهري	Term Mid Exam	محاضرة	امتحان شهري

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قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Web Programming (Php)

Course Code:

Semester: I

Level: B.Sc.

Class: Third

Academic Year: 2022/2021

Course Instructor: Dr. Sumaya Abdulla Hamad

Academic status: Instructor

Place of work: College of Computer Science/ Computer Networks System Department

Credit Hours: Ten (10)

Instructor Office Hours: Eight (8)

E-mail (Official): sumayah.hamad@uoanbar.edu.iq

Mobile Number: 07807987722

Lecture Schedule:

Weeks	Topics
Week 1	PHP Fundamentals: What is PHP?, What is a Scripting Language?, PHP Syntax, Why use PHP?, What is PHP used for & Market share, PHP File Extensions,
Week 2	PHP Fundamentals: PHP Data Types, Variables, Constant, Operators, PHP Comments
Week 3	PHP Fundamentals: PHP Array: Associative, Multidimensional
Week 4	PHP Logic: PHP Control Structures: If else, Switch Case
Week 5	PHP Logic: PHP Loop: For, ForEach, While, Do While
Week 6	PHP Logic: PHP Strings: PHP String Functions Explained with Examples
Week 7	PHP Logic: PHP Function: Built in, String, Numeric with Examples
Week 8	PHP Advance: PHP Date() & Time Function: How to Get Current Timestamp?
	Midterm Exam
Week 9	PHP Logic: PHP preg_match(): Regular Expressions (Regex)
Week 10	PHP Logic: PHP Registration Form using GET, POST Methods with Example
Week 11	PHP Logic: PHP Session & PHP Cookies with Example
Week 12	PHP Logic: PHP File() Handling & Functions
Week 13	PHP Advance: How to Send Email using PHP mail() Function
Week 14	PHP Advance: PHP MySQLi Functions: mysqli_query, mysqli_connect, mysqli_fetch_array
Week 15	PHP Advance: PHP Object Oriented Programming (OOPs) concept Tutorial with Example

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University: Anbar
College:
Department: Computer Networks Systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Digital Signal Processing

Course Instructor	Dr. Omar Munthir Al Okashi				
E-mail	Omar.alokashi@uoanabr.edu.iq				
Title	Ass. Prof				
Course Coordinator					
Course Objective	The purpose of this course is to provide an overview of digital signal processing and describe the signal and converting from analog to digital. It will also provide knowledge of digital filter.				
Course Description	This course introduce the main concepts of signal processing starting from conversion to digital and arriving to filtering.				
Textbook	Digital Signal Processing Fundamentals and Applications, Li Tan				
References	The scientist and engineer's guide to Digital Signal Processing, Steven W. Smith				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
General Notes	-				

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University: Anbar
College:
Department: Computer Networks Systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	4-10	Introduction to DSP		
2	11-10	Signal sampling and quantization		
3	18-10	Conversion from digital to analog		
4	25-10	Digital signals and system		
5	1-11	Exam		
6	8-11	Linear Time-Invariant, Causal Systems		
7	15-11	Signal manipulation		
8	22-11	Format of difference equation		
9	29-11	Digital Convolution		
10	6-12	Exam		
11	13-12	Methods of Convolution		
12	20-12	Fourier Transform		
13	27-12	Fourier Transform		
14	3-01	Digital filters		
15	10-01	Exam		

Instructor Signature: **Dean Signature:**

Ministry of Higher Education & Scientific Research
University of Anbar
College of Computer Science
and Information Technology
Computer Networks Systems Department

وزارة التعليم العالي والبحث العلمي
جامعة الأنبار
كلية علوم الحاسوب وتكنولوجيا المعلومات
قسم انظمة شبكات الحاسوب

كلية علوم الحاسوب وتكنولوجيا المعلومات

Department of Computer Networks Systems

Course Description Form

Course Title: English Language

Course Code:

Semester: I

Level: B.Sc.

Class: Third Year

Academic Year: 2022/2021

Course Instructor: Dr. Wesam Mohammed Jasim

Academic status: Assist. Prof.

Place of work: Computer Science Department

Credit Hours: 2

Instructor Office Hours:

E-mail (Official): co.wesam.jasim@uoanbar.edu.iq

Mobile Number: 07824026570

Lecture Schedule:

Weeks	Topics
Week 1	Unit 1 ; It's a wonderful world; Grammar
Week 2	Unit 1 ; It's a wonderful world; Vocabulary; Everyday English
Week 3	Unit 2 ; Get Happy; Grammar
Week 4	Unit 2 ; Get Happy; Vocabulary; Everyday English
Week 5	Unit 3 ; Telling tales; Grammar
Week 6	Unit 3 ; Telling tales; Vocabulary; Everyday English
Week 7	Unit 4 ; Doing the right thing; Grammar
Week 8	Unit 4 ; Doing the right thing; Vocabulary; Everyday English
	Midterm Exam
Week 9	Unit 5 ; On the move; Grammar
Week 10	Unit 5 ; On the move; Vocabulary; Everyday English
Week 11	Unit 6 ; I just love it; Grammar
Week 12	Unit 6 ; I just love it; Vocabulary; Everyday English
Week 13	Unit 7 ; The world of work; Grammar
Week 14	Unit 7 ; The world of work; Vocabulary; Everyday English
Week 15	Unit 8 ; Just imagine; Grammar; Vocabulary; Everyday English

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name:

Course Instructor	Assist.prof.Dr. Ahmed N. Rashid				
E-mail	rashidisgr@uoanbar.edu.iq				
Title	Software Engineering				
Course Coordinator					
Course Objective	Software engineering learning, student learning, learning education while teaching prospective work procedures to the labor market with continuous employment				
Course Description	1.Enable the student to know and understand the methods of analyzing projects and software before building them 2.Enable the student to understand the planning methods that must be followed properly to build efficient projects 3. Enabling the student to address risks and problems and follow up on software performance and development				
Textbook					
References					
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes	-				

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& Scientific Research

University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Introduction to SW engineering, Computer software		
2		What is software engineering, the evolving role of software, software characteristics , software Engineering principles		
3		What is software engineering, the evolving role of software, software characteristics , software Engineering principles		
4		The characteristic of software engineer, software application, development, a crisis on the horizon		
5		Software engineering- layered technology, software process model, the waterfall model		
6		The prototype model l, evolutionary software process model		
7		incremental model, the spiral model, the win spiral model		
8		Introduction to software process and project metrics, measures, metrics and indicators		
9		MID EXAM		
10		Project domains, process metrics		
11		Metrics in the process		
12		Project metrics, software measurement		
13		Size oriented metrics, function oriented metrics		
14		Computing function point, software quality metrics, defect removal efficiency		
15		Integration metrics with software process		

Instructor Signature: **Dean Signature:**

Republic of Iraq
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& Scientific Research

University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Semester Two

Course Instructor	Ismail Taha Ahmed				
E-mail	Ismail.taha@uoanbar.edu.iq				
Title	Visual Programming C# II				
Course Coordinator					
Course Objective	This course is an introduction to computer programming for Windows. Emphasis will be on the fundamentals of structured design, development, testing, implementation, and documentation, including language syntax, data and file structures, input/output devices, files, and databases.				
Course Description	The student's acquisition of the fundamental of C# programming languages. Clarify the basics of C# language such as branching statements and control statement. Then, advanced topic different types of string, Regular expression, Struct, Enum, files, Windows Form Application.				
Textbook	-Paul J. Deitel and Harvey Deitel. 2016. C# 6 for Programmers (6th Edition) (6th. ed.). Prentice Hall Press, USA.				
References	C# 6 for Programmers C# 7.0 in a Nutshell Rob Miles,# Programming Yellow Book , “Cheese” Edition 8.1 December 2019.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	25%	15%	5%	5%	50%
General Notes	-				

Republic of Iraq
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University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Introduction to strings	Lecture Programs	
2		Search Methods	Lecture Programs	
3		Regular expression, Struct and Enum	Lecture Programs	
4		Collection	Lecture Programs	
5		Monthly Exam	Lecture Programs	
6		LINQ	Lecture Programs	
7		File Computer	Lecture Programs	
8		Methods	Lecture Programs	
9		Monthly Exam	-	
10		Windows Form Application	Lecture Programs	
11		Windows Form Application	Lecture Programs	
12		Adding controls to the forms	Lecture Programs	
13		Changing the properties of the forms	Lecture Programs	
14		Create an windows form project	Lecture Programs	
15		Final Exam	-	

Instructor Signature:

Dean Signature:

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Ministry of Higher Education and Scientific Research/University of Anbar
2. University Department/Centre	College of Computer Science and Information Technology
3. Course title/code	Multimedia Basics
4. Programme (s) to which it contributes	
5. Modes of Attendance offered	The electronic attendance of the theoretical side and the actual presence of the practical side
6. Semester/Year	Second Semester - Academic Year 2022/2021
7. Number of hours tuition (total)	45
8. Date of production/revision of this Specification	
9. Aims of the Course	
a. This course covers the theoretical basis for the Department of Computer Networks on the part of the media (text. draw. Image. audio and video) b. To know information about each type of media (input, processing, and output). c. To understand how to convert arguments from the entered form to the form that is processed by the computer, as well as the types of formulas in which it is stored in the computer. d. The student understands the foundations on which media is pressured and its benefits.	

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1.	2 hours of theory 2 hours of work	As mentioned in paragraph 10	Introduction to Multimedia computing	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
2.	2 hours of theory	As mentioned in paragraph 10	Multimedia Systems	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
3.	2 hours of work	As mentioned in paragraph 10	Components of a Multimedia System	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
4.	2 hours of theory	As mentioned in paragraph 10	Multimedia Data Basics	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
5.	2 hours of work	As mentioned in paragraph 10	Analog and Digital Signal Conversion	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
6.	2 hours of theory	As mentioned in paragraph 10	Presentation of text and graph	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
7.	2 hours of work	As mentioned in paragraph 10	Presentation of still image and digital audio	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
8.	2 hours of theory	As mentioned in paragraph 10	Presentation of video	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
9.	2 hours of work	As mentioned in paragraph 10	Digital Audio Synthesis	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
10.	2 hours of theory	As mentioned in paragraph 10	Graphic/Image Data Structures	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
11.	2 hours of work	As mentioned in paragraph10	Basics of Video	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
12.	2 hours of theory	As mentioned in paragraph 10	Spatial and Frequency Domain	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
13.	2 hours of work	As mentioned in paragraph 10	Image Compression	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions
14.	2 hours of theory	As mentioned in paragraph 10	Video compression Audio compression	theoretical + practical	Theoretical questions + theoretical programming questions + practical programming questions

Republic of Iraq
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University: Anbar
College: Computer network systems
Department: Computer Networks
Stage:3rd
Instructor name: Eman Turki Mahdi
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Distributed Data Base Management Systems

Course Instructor	Eman Turki Mahdi				
E-mail	maymoonat@uoanbar.edu.iq				
Title	Distributed Data Base Management Systems				
Course Coordinator					
Course Objective					
Course Description					
Textbook					
References	M. T. Özsu, P. Valduriez, Principles of Distributed Database Systems, Fourth Edition. Carlos Coronel, Steven Morris, DATABASE SYSTEMS Design, Implementation, and Management 13 Edition.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes	-				

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University: Anbar
College: Computer network systems
Department: Computer Networks
Stage:3rd
Instructor name: Eman Turki Mahdi
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	1st week	Introduction to DDB, The function ofD DBMS. -		
2	2nd week	DBA's responsibilities.DDB facilities.DDB limitations. Advantage of DDB and DDB.		
3	3rd week	Artecheture of DDB, and DDBMS Components		
4	4th week	Overview of DDB. and DDBMS		
5	5th week	Levels of Data and Process Distribution		
6	6th week	DDB integrity		
7	7th week	Distributed Database Transparency Features		
8	8th week	Exam		
9	9th week	Query cases		
10	10th week	Transaction Transparency		
11	11th week	The DO-UNDO-REDO protocol		
12	12th week	Distributed Database Design		
13	13th week	Data replication and Allocation		
14	14th week	Data Recovery		
15	15th weel	Exam		

Course Weekly Outline

Instructor Signature:
Eman T. Mahdi

Dean Signature:

Republic of Iraq
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University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Network Programming

Course Instructor					
E-mail					
Title	Network Programming				
Course Coordinator					
Course Objective					
Course Description					
Textbook	Network Programming in Python: The Basic: A Detailed Guide to Python 3 Network Programming and Management (English Edition) Python Network Programming Cookbook - Second Edition: Practical solutions to overcome real-world networking challenges 2nd Revised edition				
References	Kathiravelu, P. and Sarker, M.F., 2017. *Python Network Programming Cookbook*. Packt Publishing Ltd.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes	-				

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University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		**Introduction** • Brief history of the net • Motivation and implication • Network Programing Features and Scope • An overview of Python networking		
2		**Network and Web Basics** • Network, hosts and addresses • Network types • Internet and World Wide Web • Network Models and Layering • OSI Reference Model • Network protocols • Network standards		
3		**Python Crash Course** • Introduction to Python • Python data types • Working with lists • Dictionaries Input/Output • Functions • Classes and OOP • Files and exceptions		
4		**Overview of Python Networking** • Python networking support • Python networking libraries		
5		**Addressing, Naming and DNS** • Handling IPv4 addresses • Handing domain names • Handing IPv6 addresses		
6		**Socket Programming** • Socket concepts • Sending/receiving data over a socket • Buffer size and timeout • Blocking/non-blocking mode		

University: Anbar
College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

7		**TCP Programming** • TCP concepts • TCP protocol and message format A simple TCP echo client-server application		
8		**UDP Programming** • UDP concepts • UDP protocol and message format A simple UDP echo client-server application		
9		**Midterm Exam**		
10		**Python GUI Programming** • Python GUI frameworks • Tkinter, wxPython, Kivy, PyQT • GUI and networking in Python		
11		**Programming with HTTP for the Internet** • HTTP protocol • Sending/receiving HTTP requests/responses • Serving HTTP requests and preparing/sending HTTP responses • Handling forms • Processing cookie information		
12		**Processing Emails** • Email protocols and handling • SMTP(Simple Mail Transfer Protocol) programming • POP3(Post Office Protocol - Version 3) programming • IMAP(Internet Message Access Protocol) programming • Work with Google Gmail		
13		**Programming Across Machine Boundaries** • Telnet and remote access • FTP and SFTP • Transfering files with FTP • Secure file transfer with SFTP		

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College:
Department: Computer network systems
Stage:
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

14		**Data/Messages Exchange** • XML, JSON and CSV data formats • Working with XML/JSON/CSV data in Python **Multithreading and Multiprocessing** • Multithreading and multiprocessing concepts • Multithreading and multiprocessing in Pythonc • Multithread servers and clients		
15		**Event-driven Programming**** • What is event-driven programming? • Event detection and handling • Event-driven network programming		
16		**Web Services**** • Introducing Web services • REST and SOAP • Web services in Python **Web Applications**** • Web applications and frameworks • Django, Web2py, Flask, Bottle • Python Web development •		

Instructor Signature: **Dean Signature:**

Republic of Iraq
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University: Anbar
College:
Department: Computer Network
Stage: Second
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: Digital Signal Processing II

Course Instructor	Dr. Omar Munthir Al Okashi				
E-mail	Omar.alokashi@uoanabr.edu.iq				
Title	Ass. Prof				
Course Coordinator					
Course Objective	The purpose of the course is to introduce principles of computer organization and the basic architectural concepts. It begins with basic organization, design, of a simple digital computer and introduces simple register transfer language to specify various computer operations.				
Course Description	This course aims to provide a strong foundation for students to understand the modern eras of computer architecture. The course is structured around different main subject of computer architecture. Those subjects include different parts of computer such as memory, CPU and input output devices.				
Textbook	The essential of computer architecture and organization, 5th edition, Linda Null				
References	The essential of computer architecture and organization, 5th edition, Linda Null				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
General Notes	-				

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University: Anbar
College:
Department: Computer Network
Stage: Second
Instructor name
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	21-02	Introduction to computer components and historical review		
2	28-02	Data representation in computer system		
3	07-03	Error detection and correction		
4	14-03	Boolean algebra and digital logic		
5	21-03	Exam		
6	28-03	MARIE: an introduction to simple computer		
7	04-04	Instruction Set Architecture		
8	11-04	Memory (1)		
9	18-04	Memory (2)		
10	25-04	Exam		
11	02-05	Input/output storage system		
12	09-05	System Software		
13	16-05	Performance Measurement and Analysis		
14	23-05	Embedded System		
15	30-05	Exam		

Course Weekly Outline

Instructor Signature: **Dean Signature:**

Ministry of Higher Education & Scientific Research
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College of Computer Science
and Information Technology
Computer Networks Systems Department

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Department of Computer Networks Systems

Course Description Form

Course Title: Network Protocols & Services

Course Code:

Semester: I

Level: B.Sc.

Class: 4

Academic Year: 2022/2021

Course Instructor: Assist. Prof. Dr. Ahmed Subhi Abdalkafor

Academic status:

Place of work: Career Development Center, University of Anbar

Credit Hours:

Instructor Office Hours:

E-mail (Official): ahmed.abdalkafor@uoanbar.edu.iq

Mobile Number: 07834120596

Lecture Schedule:

Weeks	Topics
Week 1	• Network and Protocol: Definition and Overview
Week 2	• Protocols & Services
Week 3	• OSI Network Architecture Seven Layers Model • TCP/IP Four Layers Architecture Model • Network Architecture Models: IBM SNA
Week 4	• Application Layer Protocols • BOOTP: Bootstrap Protocol • DHCP: Dynamic Host Configuration Protocol
Week 5	• DNS: Domain Name System (Service) protocol • FTP: File Transfer Protocol • HTTP: Hypertext Transfer Protocol
Week 6	• NTP: Network Time Protocol • RMON: Remote Monitoring MIBs (RMON1 and RMON2) • SMTP: Simple Mail Transfer Protocol
Week 7	• Presentation Layer Protocols • LPP: Lightweight Presentation Protocol
Week 8	• Session Layer Protocols • RPC: Remote Procedure Call protocol
	Midterm Exam
Week 9	• Transport Layer Protocols • RDP: Reliable Data Protocol
Week 10	• TCP: Transmission Control Protocol • UDP: User Datagram Protocol
Week 11	• Network Layer Protocols • IP: Internet Protocol (IPv4)

Week 12	• Pv6: Internet Protocol version 6 • Mobile IP: IP Mobility Support Protocol for IPv4 & IPv6
Week 13	• OSPF: Open Shortest Path First protocol • RIP: Routing Information Protocol (RIP2)
Week 14	• Data Link Layer Protocols • ARP and InARP: Address Resolution Protocol and Inverse ARP • IPCP and IPv6CP: IP Control Protocol and IPv6 Control Protocol
Week 15	• ARP: Reverse Address Resolution Protocol • SLIP: Serial Line IP Protocol

Department of Computer Networks Systems

Course Description Form

Course Title: Information Security

Course Code:

Semester: I

Level: B.Sc.

Class: 4th

Academic Year: 2022/2021

Course Instructor: Dr. Sufyan T. Faraj Al-Janabi

Academic status: Professor

Place of work: CCS&IT, University of Anbar

Credit Hours: 2

Instructor Office Hours: Sunday & Wednesday [10 am-1pm]

E-mail (Official): *sufyan.aljanabi@uoanbar.edu.iq*

Mobile Number: 07808655508

2. Lecture Schedule:

Weeks	Topics
Week 1	Introduction
Week 2	Information Security Models
Week 3	Classical Encryption Techniques I
Week 4	Statistical Attacks
Week 5	Classical Encryption Techniques II
Week 6	Block Ciphers
Week 7	The Data Encryption Standard
Week 8	DES Security
	Midterm Exam
Week 9	Mathematical Foundation
Week 10	Group Theory
Week 11	Rings and Fields
Week 12	Modular Arithmetic
Week 13	Prime Finite Fields
Week 14	Using Block Ciphers in Real-Word Systems
Week 15	Modes of Operation

Republic of Iraq
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University: Anbar
College: CS & IT
Department: Computer Networks Systems
Stage: 4th Year
Instructor name: Dr. Belal Al-Khateeb
Academic status: Prof.
Qualification: PhD
Place of work: University of Anbar

Course Weekly Outline

Course Name: Artificial Intelligence I

Course Instructor	Dr. Belal Al-Khateeb				
E-mail	belal-alkhateeb@uoanbar.edu.iq				
Title	Prof.				
Course Coordinator	Dr. Belal Al-Khateeb				
Course Objective	1- Understanding of AI definitions, characteristics and types. 2- Distinguishing between AI search techniques. 3- Designing smart systems for solving daily life problems.				
Course Description	This course aims to make students know about AI and how to solve problems by using blind search techniques and resolution methods.				
Textbook	Artificial Intelligence: A Modern Approach, Stuart Russell and Peter Norvig, Pearson Education, 2020.				
References	Artificial Intelligence: Structures and Strategies for Complex Problem Solving, George F. Luger, Addison-Wesley, 2008				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	10%	5%	50%
General Notes	-				

Republic of Iraq
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University: Anbar
College: CS & IT
Department: Computer Networks Systems
Stage: 4th Year
Instructor name: Dr. Belal Al-Khateeb
Academic status: Prof.
Qualification: PhD
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		General Introduction.		
2		The History of AI.		
3		Systematic Search: Basic Graph Concepts; State Space Representation of Problems.		
4		Depth-First Search.		
5		Breadth-First search.		
6		Hybrid Search.		
7		Propositional Logic and Resolution in Proposional Logic;		
8		Predicate Logic: Basic Concepts and Definitions		
9		Predicate Logic: Examples		
10		Mid Term Exam		
11		Horn Clauses; Unification and Skolemization		
12		Clause Normal Form.		
13		Modus-Ponens and Resolution Inference Rules in Predicate Logic.		
14		Control Strategies for Resolution Inference (Problem Solving).		
15		Control Strategies for Resolution Inference (Problem Solving).		

Instructor Signature:  **Dean Signature:**

Ministry of Higher Education & Scientific Research
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Department of Computer Networks Systems

Course Description Form

Course Title: Web Application Development I

Course Code:

Semester: I

Level: B.Sc.

Class: 4th

Academic Year: 2022/2021

Course Instructor: Prof. Dr. Ali Makki Sagheer

Academic status: Professor

Place of work: College of Computer Science and Information Technology

Credit Hours: 3 hours

Instructor Office Hours: 3 hours

E-mail (Official): ali_makki@uoanbar.edu.iq

Mobile Number: +964(0)7700073940

Objectives:

1. Course Description:

2. ASP Net is a web application framework developed and marketed by Microsoft to enable developers to construct dynamic websites. It permits you to utilize a full-featured shows language such as C# or VB.NET to build internet applications easily. ASP.NET is a free web framework for developing Web sites and Web applications using HTML, CSS and JavaScript. Moreover, it is a technology for developing, deploying, and running Web applications. ASP.NET is a part of the Microsoft .NET Framework, so all .NET Framework features are available to ASP.NET applications. That means, when you developing ASP.NET applications you have access to classes in the .NET Framework.

3. Methods of Teaching:

Interaction lectures, presented slide show lectures and assignments.

4. Assessment Method:

Reports, activities and workshops.

5. Recommended Text Books and References:

A. Textbook: Beginning ASP.NET 4: in C# and VB, by Imar Spaanjaars

B. Other References:

1) Murach's ASP.NET 4.6 Web Programming with C# 2015, 6th Edition, by Anne Boehm, Mary Delamater.

2) Professional ASP.NET 4.5 in C# and VB, by Christian Wenz, Jason N. Gaylord, Pranav Rastogi, Scott Hanselman, Todd Miranda.

3) Lecture Schedule:

Weeks	Topics
Week 1	Introduction: Asp.Net Overview
Week 2	ASP.NET Configurations
Week 3	ASP.NET State Management 1: ASP.NET View State ASP.NET Session State
Week 4	ASP.NET State Management 2: ASP.NET Cookies ASP.NET Caching
Week 5	ASP.NET Web Controls 1: Label Control Button Control Textbox Control
Week 6	ASP.NET Web Controls 2: DropDownList Control Listbox Control
Week 7	ASP.NET Web Controls 3: Checkbox Control RadioButton Control LinkButton Control
Week 8	ASP.NET Web Controls 4: Image Control Calander Control Treeview Control
Week 9	Midterm Exam
Week 10	ASP.NET Statements 1:

	if else statements **switch case** **ASP.NET Exceptions**
Week 11	**ASP.NET Statements 2:** **for loop** **foreach loop** **while loop**
Week 12	**ASP.NET Collection 1:** **ASP.NET ArrayList** **ASP.NET HashTable**
Week 13	**ASP.NET Collection 2:** **ASP.NET Stack** **ASP.NET Queue**
Week 14	**ASP.NET Collection 3:** **ASP.NET Array** **ASP.NET List**
Week 15	**Application Project**
	Final Exam

Ministry of Higher Education & Scientific Research
University of Anbar
College of Computer Science
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Computer Networks Systems Department

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قسم انظمة شبكات الحاسوب

كلية علوم الحاسوب وتكنولوجيا المعلومات

Department of Computer Networks Systems

Course Description Form

Course Title: Operating System

Course Code:

Semester: I

Level: B.Sc.

Class: Fourth Class

Academic Year: 2022/2021

Course Instructor: Dr. Omar Munthir Al Okashi

Academic status: Lecturer

Place of work: Computer Networks System Department

Credit Hours: 4

Instructor Office Hours: Sunday: 12:30 – 01: 30, Tuesday: 10:30 - 12

E-mail (Official): omar.alokashi@uoanabr.edu.iq

Mobile Number: 07803387690

Lecture Schedule:

Weeks	Topics
Week 1	Introduction and main concepts of Operating Systems
Week 2	OS operations and Functions
Week 3	OS Structures
Week 4	Process Management 1
Week 5	First Month Exam
Week 6	Process Management : Threads
Week 7	Process Management: Synchronization
Week 8	Process Management: CPU Scheduling
	Midterm Exam
Week 9	Process Management: Deadlocks
Week 10	Memory Management
Week 11	**Second Month Exam**
Week 12	Memory Management: Segmentation
Week 13	Memory Management: Paging
Week 14	Memory Management: Virtual Memory
Week 15	**File System**

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College: CS & IT
Department: computer network system department
Stage: 4th Year
Instructor name: Dr. Ahmed Noori
Academic status: Asst. Prof.
Qualification: PhD
Place of work: University of Anbar

Course Weekly Outline

Course Name: Research methodology

Course Instructor	Dr.Ahmed Noori				
E-mail					
Title	Research methodology				
Course Coordinator	Dr.Ahmed Noori				
Course Objective	-Studies with this object in view are termed as exploratory or formative research studies -Studies with this object in view are known as descriptive research studies -Studies with this object in view are known as diagnostic research studies				
Course Description	منهج البحث يعني الاتباع، فالمنهج هو عبارة عن منظومة محددة يتم اتباعها لغرض معين، و كذلك مناهج البحث العلمي عبارة عن الطريق الذي سيسلكه الباحث او الطالب في جمع وترتيب المعلومات داخل دراسته وفقاً لمتطلبات الدراسة وطبيعة المعلومات. وتحمل أيضا كلمة مناهج صيغة الجمع التي توحي بأن هناك أكثر من نوع ضمن هذا المصطلح العام				
Textbook	RESEARCH METHODOLOGY: TOOLS AND TECHNIQUES ISBN 978-606-93502-7-0 Buzau, Al. Marghiloman 245 bis, 120082				
References	RESEARCH METHODOLOGY: TOOLS AND TECHNIQUES ISBN 978-606-93502-7-0 Buzau, Al. Marghiloman 245 bis, 120082				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	10%	5%	50%
General Notes	-				

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College: CS & IT
Department: computer network system department
Stage: 4th Year
Instructor name: Dr. Ahmed Noori
Academic status: Asst. Prof.
Qualification: PhD
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Definition of Research methodology		
2		Formulating the Research Problem		
3		Formulating the Research Objective		
4		Extensive Literature Survey		
5		Developing the Research Hypothesis		
6		Preparing the Research Design		
7		Determining the Research Design		
8		Collecting the Research Data		
9		الامتحـــــــــــان الشهري		
10		Analyzing the Research Data		
11		Execution of the Project		
12		Hypothesis Testing		
13		Generalization and Interpretation		
14		Analysis of Data		
15		Preparing of the Report or Presentation of the Result		

Course Weekly Outline

Instructor Signature: **Dean**
Signature:

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College:
Department: Computer Network System
Stage:
Instructor name Dr Omar Munthir Al Okashi
Academic status:
Qualification:
Place of work: University of Anbar

Course Weekly Outline

Course Name: English

Course Instructor	Dr. Omar Munthir Al Okashi				
E-mail	Omar.alokashi@uoanabr.edu.iq				
Title	Ass. Prof				
Course Coordinator					
Course Objective	This course aims to improve all four language skills, speaking, listening, reading and writing. In addition, it provides students with the confidence to communicate in English in a variety of different settings, for example social, professional and academic.				
Course Description	This course is composed of eleven different units that cover different English skills such as reading, writing, grammars and vocabulary.				
Textbook	New Headway Plus (Upper Intermediate)				
References	Different English lectures and lessons.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
General Notes	-				

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College:
Department: Computer Network System
Stage:
Instructor name Dr Omar Munthir Al Okashi
Academic status:
Qualification:
Place of work: University of Anbar

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	21-02	Tense system		
2	28-02	Present perfect- Hot verbs		
3	07-03	Reading and vocabulary		
4	14-03	Questions and negative- Prefixes and antonyms		
5	21-03	Exam		
6	28-03	Future forms		
7	04-04	Expressions of quantity		
8	11-04	Modals and related verbs		
9	18-04	Relative clauses- Participles		
10	25-04	Exam		
11	02-05	Expressing habit- used to		
12	09-05	Modals auxiliary verb 2		
13	16-05	Metaphors and idioms		
14	23-05	Hypothesizing		
15	30-05	Exam		

Course Weekly Outline

Instructor Signature: **Dean Signature:**

Ministry of Higher Education and Scientific Research
UNIVERSITY OF ANBAR
COLLEGE of COMPUTER SCIENCES AND INFORMATION TECHNOLOGY
DEPT. COMPUTER NETWORKS SYSTEMS

وزارة التعليم العالي والبحث العلمي
جامعة الأنبار
كلية علوم الحاسوب وتكنولوجيا المعلومات
قسم أنظمة شبكات الحاسوب

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Network Switching and Routing			**Module Delivery**	
Module Type	Core			☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	NSDC406				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	4		**Semester of Delivery**		
Administering Department	NSD		**College**	CSIT	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Understand Network Switching: The aim of this module is to provide students with a comprehensive understanding of network switching technologies, including the operation, configuration, and management of network switches. 2. Explore Routing Concepts: This module aims to introduce students to the fundamental concepts of network routing, including different routing protocols, routing algorithms, and the principles of efficient packet forwarding. 3. Develop Routing Skills: The module aims to develop practical skills in configuring and managing routing protocols, including static routing, dynamic routing protocols such as RIP, OSPF, and BGP, and the implementation of routing policies. 4. Study Network Switching Technologies: This module aims to explore various network switching technologies, including Ethernet, VLANs, Spanning Tree Protocol (STP), and Virtual Local Area Networks (VLANs), and their role in building scalable and resilient networks. 5. Analyze Network Performance: The aim of this module is to enable students to analyze and evaluate the performance of network switches and routers, including factors such as latency, throughput, packet loss, and quality of service (QoS). 6. Understand Network Security Considerations: This module aims to highlight the importance of network security in the context of switching and routing, including techniques for securing network devices, preventing unauthorized access, and mitigating common network attacks.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understand Network Switching: Students will be able to demonstrate a comprehensive understanding of network switching technologies, including the operation, configuration, and management of network switches. 2. Apply Routing Concepts: Students will be able to apply fundamental concepts of network routing, including different routing protocols, routing algorithms, and the principles of efficient packet forwarding. 3. Configure and Manage Routing Protocols: Students will gain practical skills in configuring and managing routing protocols, including static routing, dynamic routing protocols such as RIP, OSPF, and BGP, and the implementation of routing policies.

	4. Analyze Network Switching Technologies: Students will be able to analyze various network switching technologies, including Ethernet, VLANs, Spanning Tree Protocol (STP), and Virtual Local Area Networks (VLANs), and understand their role in building scalable and resilient networks. 5. Evaluate Network Performance: Students will be able to evaluate the performance of network switches and routers, including factors such as latency, throughput, packet loss, and quality of service (QoS). 6. Implement Network Security Measures: Students will understand the importance of network security in the context of switching and routing and be able to implement techniques for securing network devices, preventing unauthorized access, and mitigating common network attacks.
Indicative Contents المحتويات الإرشادية	1. Introduction to Network Switching and Routing: • Overview of network switching and routing concepts • Network topologies and architectures • OSI and TCP/IP network models 2. Network Switching Technologies: • Ethernet fundamentals and switching operation • Virtual LANs (VLANs) and VLAN trunking • Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP) • Inter-VLAN routing and Layer 3 switching 3. Routing Concepts: • Routing fundamentals and packet forwarding • Routing tables and routing protocols • Distance Vector Routing Protocols (e.g., RIP) • Link-State Routing Protocols (e.g., OSPF) • Border Gateway Protocol (BGP) and external routing 4. Routing Protocol Configuration and Management: • Configuring and managing static routing • Configuring and managing dynamic routing protocols • Route redistribution and route filtering • Routing protocol convergence and troubleshooting 5. Advanced Routing Concepts: • Multicast routing and multicast protocols • IPv6 addressing and routing • Traffic engineering and Quality of Service (QoS) • Virtual Private Networks (VPNs) and tunneling protocols 6. Network Switching and Routing Security:

	• Network device security best practices • Access control and authentication mechanisms • Securing routing protocols and routing updates • Network threat mitigation and defense techniques

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical Foundations Hands-on Practice Case Studies Collaborative Learning Assessment and Feedback

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6,2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	32	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5,10	LO #1,2, 3 and 5
	Assignments	2	10% (10)	2,12	LO # 3, 4 and 5
	Projects / Lab.	2	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5,8 and l0

Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Principles I: Benefits of Switching in Networks, Drawbacks of Switching in Networks, Benefits of Routing in Networks, Drawbacks of Routing in Networks, The Differences Between Switching and Routing in networks.
Week 2	Principles II: Why we use switching and routing, The internal structure of Switching, The internal structure of Routing, The work of Switching and Routing.
Week 3	Routing and Switching Strategies- Switching: Forwarding and Filtering Traffic.
Week 4	Routing and Switching Strategies- Forwarding Based on MAC Addresses.
Week 5	Routing: Finding Paths, Routing Devices, Static Routes, Default Routes, Dynamic Routes.
Week 6	Routing Protocols I: Single versus multipath, Interior versus exterior.
Week 7	Routing Protocols II: Flat versus hierarchical, Link state versus distance vector.
Week 8	Choosing or Installing a Route, Prefix length, Administrative distance Metric.
Week 9	Spanning Tree and Rapid Spanning Tree, the structure of spanning tree, Why Are Loops Bad? The Comparison Algorithm.
Week 10	Spanning Tree and Rapid Spanning Tree, Spanning Tree Addressing, Port States, Spanning Tree Timers
Week 11	Spanning Tree Messages, Problems with Spanning Tree, Switch to Switch: A Special Case.
Week 12	VLANs and Spanning Tree, The Rapid Spanning Tree Protocol.
Week 13	VLANs and Trunking: Big Broadcast Domains, What Is a VLAN? The Effect of VLANs
Week 14	Types of VLANs, VLANs Between Switches.
Week 15	What is a Trunk?, Trunking Protocol Standards Pruning, VLAN Design Consideration.
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered

Week 1	Introduction to Packet Tracer
Week 2	Switching in Packet Tracer
Week 3	Routing in Packet Tracer
Week 4	Network Address Translation (NAT) in Packet Tracer
Week 5	Quality of Service (QoS) in Packet Tracer
Week 6	Wide Area Networks (WANs) in Packet Tracer
Week 7	Dynamic Host Configuration Protocol (DHCP) in Packet Tracer

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Bruse Hartpence, Packet guide to Routing and Switching, O'Reilly Media, Inc., 2012. Cisco Networking Academy, Routing and Switching Essentials Companion Guide. Pearson Education, 2014.	
Recommended Texts		
Websites		

Grading Scheme
مخطط الدرجات

Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded

(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Ministry of Higher Education & Scientific Research
University of Anbar
College of Computer Science
and Information Technology
Computer Networks Systems Department

وزارة التعليم العالي والبحث العلمي
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كلية علوم الحاسوب وتكنولوجيا المعلومات
قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Network Security

Course Code:

Semester: II

Level: B.Sc.

Class: 4th

Academic Year: 2022/2021

Course Instructor: Dr. Sufyan T. Faraj Al-Janabi

Academic status: Professor

Place of work: CCS&IT, University of Anbar

Credit Hours: 2

Instructor Office Hours: Sunday & Wednesday [10 am-1pm]

E-mail (Official): *sufyan.aljanabi@uoanbar.edu.iq*

Mobile Number: 07808655508

1. Lecture Schedule:

Weeks	Topics
Week 1	Introduction to Network Security
Week 2	Public-Key Cryptography and PKI
Week 3	RSA
Week 4	Access Control I: Authentication
Week 5	Dictionary Attacks
Week 6	Access Control II: Authorization
Week 7	CAPTCHA
Week 8	Malware: Viruses and Worms
	Midterm Exam
Week 9	Stream Ciphers
Week 10	The RC4 Cipher
Week 11	Arithmetic in GF(2) and GF(2^n)
Week 12	The Advanced Encryption Standard
Week 13	Public-Key Cryptography for Exchanging Secret Session Keys
Week 14	Hashing for Message Authentication
Week 15	Web Security

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College: CS & IT
Department: Computer Networks Systems
Stage: 4th Year
Instructor name: Dr. Belal Al-Khateeb
Academic status: Prof.
Qualification: PhD
Place of work: University of Anbar

Course Weekly Outline

Course Name: Artificial Intelligence II

Course Instructor	Dr. Belal Al-Khateeb				
E-mail	belal-alkhateeb@uoanbar.edu.iq				
Title	Prof.				
Course Coordinator	Dr. Belal Al-Khateeb				
Course Objective	1- Understanding of AI definitions, characteristics and types. 2- Distinguishing between AI search techniques. 3- Designing smart systems for solving daily life problems.				
Course Description	This course aims to make students know about AI and how to solve problems by using blind search techniques and resolution methods.				
Textbook	Artificial Intelligence: A Modern Approach, Stuart Russell and Peter Norvig, Pearson Education 2020.				
References	Artificial Intelligence: Structures and Strategies for Complex Problem Solving, George F. Luger, Addison-Wesley, 2008				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	10%	5%	50%
General Notes	-				

Republic of Iraq
The Ministry of Higher Education
& Scientific Research

University: Anbar
College: CS & IT
Department: Computer Networks Systems
Stage: 4th Year
Instructor name: Dr. Belal Al-Khateeb
Academic status: Prof.
Qualification: PhD
Place of work: University of Anbar

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Heuristic Search: Heuristic Functions.		
2		Hill Climbing Algorithm.		
3		Best-First Search Algorithm.		
4		Cost Functions.		
5		A* Algorithm.		
6		Properties of Heuristic Functions.		
7		Search in Games: Introduction.		
8		Min-Max Algorithm.		
9		Mid Term Exam		
10		Alpha-Beta Search Procedure; Enhancement to Game Search.		
11		Expert Systems: Structure; Rule Based Expert Systems.		
12		Control Strategies in Rule Based Production Systems: Backward Chaining and its Implementation.		
13		Pure Forward Chaining and its Implementation; Rule-Cycle Hybrid Control Strategy and its Implementation.		
14		Uncertainty in Expert Systems: Representing Probabilities in Rules; Combining Evidence.		
15		Other Approaches to Expert System Design: Decision Lattices; And-Or-Not Lattices.		

Instructor Signature:  **Dean Signature:**

Ministry of Higher Education & Scientific Research
University of Anbar
College of Computer Science
and Information Technology
Computer Networks Systems Department

وزارة التعليم العالي والبحث العلمي
جامعة الأنبار
كلية علوم الحاسوب وتكنولوجيا المعلومات
قسم انظمة شبكات الحاسوب

Department of Computer Networks Systems

Course Description Form

Course Title: Web Application Development II

Course Code:

Semester: II

Level: B.Sc.

Class: 4th

Academic Year: 2022/2021

Course Instructor: Prof. Dr. Ali Makki Sagheer

Academic status: Professor

Place of work: College of Computer Science and Information Technology

Credit Hours: 3 hours

Instructor Office Hours: 3 hours

E-mail (Official): ali_makki@uoanbar.edu.iq

Mobile Number: +964(0)7700073940

Objectives:

1. Course Description:

2. ADO.NET allows you to implement data access in ASP.NET applications. The two key components of ADO.NET are Data Providers and DataSet . The Data Provider classes are meant to work with different kinds of data sources. They are used to perform all data-management operations on specific databases. DataSet provides a disconnected representation of result sets from the Data Source, and it is completely independent from the Data Source. From the following chapters you can learn some important database programming in ASP.NET applications.

3. Methods of Teaching:

Interaction lectures, presented slide show lectures and assignments.

4. Assessment Method:

Reports, activities and workshops.

5. Recommended Text Books and References:

A. Textbook: Beginning ASP.NET 4: in C# and VB, by Imar Spaanjaars

B. Other References:

1) Murach's ASP.NET 4.6 Web Programming with C# 2015, 6th Edition, by Anne Boehm, Mary Delamater.
2) Professional ASP.NET 4.5 in C# and VB, by Christian Wenz, Jason N. Gaylord, Pranav Rastogi, Scott Hanselman, Todd Miranda.

3) Lecture Schedule:

Weeks	Topics
Week 1	Introduction
Week 2	ASP.NET Data Access 1: ADO.NET Architecture Advantages of ADO.Net
Week 3	ASP.NET Data Access 2: Disconnected Data Access Architecture ASP.NET Connection String First ASP.NET Database Program
Week 4	ASP.NET Data Providers 1: ASP.NET Connection ASP.NET Sql Server Connection ASP.NET OLEDB Connection ASP.NET ODBC Connection
Week 5	ASP.NET Data Providers 2: ASP.NET Command ASP.NET ExecuteNonQuery ASP.NET ExecuteScalar ASP.NET ExecuteReader
Week 6	ASP.NET Data Providers 2: ASP.NET DataReader ASP.NET DataAdapter

	ASP.NET DataAdapter Commands
Week 7	**Midterm Exam**
Week 8	**ASP.NET Dataset**
Week 9	**ASP.NET Dataset 1:** **How to Asp.Net Dataset** **Find Tables in a Dataset**
Week 10	**ASP.NET Dataset 2:** **ASP.NET Dataset row count** **How to Asp.Net Dynamic Dataset** **Dataset Column Definition**
Week 11	**ASP.NET Database Programming**
Week 12	**ASP.NET Database Programming 1:** **ASP.NET DBNull Value** **ASP.NET single quotes**
Week 13	**ASP.NET Database Programming 2:** **ASP.NET Stored Procedures** **ASP.NET Procedure with Parameter**
Week 14	**ASP.NET Database Programming 3:** **Range of records from database** **ASP.NET Image to Database**
Week 15	**Application Project**
	Final Exam

Department of Computer Networks Systems

Course Description Form

Course Title: mobile computing

Course Code:

Semester: I

Level: B.Sc.

Class: 4th

Academic Year: 2022/2021

Course Instructor: Mr. Akeel Shaker mahmoud

Academic status: Teacher

Place of work: Computer center

Credit Hours:

Instructor Office Hours:

E-mail (Official): akeelab2000@uoanbar.edu.iq

Mobile Number: 07817149490

Lecture Schedule:

Weeks	Topics
Week 1	What is Mobile Computing. elements of mobile computing.
Week 2	Making communications wireless. duplexing techniques
Week 3	multiple access techniques Frequency division multiple access (FDMA) Time division multiple access (TDMA)
Week 4	GSM (Global System for Mobile Telecommunications)(2G)
Week 5	UMTS (Universal Mobile Telecommunications Systems)(3G)
Week 6	First Exam
Week 7	Universal Subscriber Identity Module, USIM:
Week 8	Radio Network Subsystem (RNS) UMTS radio access network, UTRAN
	Midterm Exam
Week 9	What is Radio Network Controller RNC
Week 10	What are the interfaces
Week 11	core network (CN)
Week 12	Protocol Stack
Week 13	Long-Term Evolution (LTE)(4G)
Week 14	Second Exam
Week 15	Final Exam

نموذج وصف المقرر

مراجعة أداء مؤسسات التعليم العالي ((مراجعة البرنامج الأكاديمي))

يوفر وصف المقرر هذا إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها
مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة .ولابد من الربط بينها وبين وصف
البرنامج.

1. المؤسسة التعليمية	وزارة التعليم العالي والبحث العلمي
2. القسم الجامعي / المركز	كلية الحاسوب /قسم الشبكات
3. اسم / رمز المقرر	
4. البرامج التي يدخل فيها	
5. أشكال الحضور المتاحة	
6. الفصل / السنة	الفصل الاول / 2021-2022
7. عدد الساعات الدراسية (الكلي)	30
8. تاريخ إعداد هذا الوصف	

9. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / المساق أو الموضوع	طريقة التعليم	طريقة التقييم
1	2	**التحدث والاستماع والقراءة والكتابة**	Hallo!	محاضرات	امتحان+نشاط
2	2		Your World	محاضرات	امتحان+نشاط
3	2		All about You	محاضرات	امتحان+نشاط
4	2		Family and Friends	محاضرات	امتحان+نشاط
5	2		The Way I live	محاضرات	امتحان+نشاط
6	2		Every day	محاضرات	امتحان+نشاط
7	2		My favorites	محاضرات	امتحان+نشاط
8	2		Where I live	محاضرات	امتحان+نشاط
9	2		Times Past	محاضرات	امتحان+نشاط
10	2		10. We had a great time!	محاضرات	امتحان+نشاط
11	2		11. I can do that!	محاضرات	امتحان+نشاط
12	2		12. Please and thank you	محاضرات	امتحان+نشاط
13	2		Here and now	محاضرات	امتحان+نشاط
14	2		It's time to go!	محاضرات	امتحان+نشاط
15	2		Examination	محاضرات	امتحان+نشاط