

اسم الجامعة : الانبار  
اسم الكلية: كلية علوم الحاسوب وتكنولوجيا المعلومات / قسم أنظمة شبكات الحاسوب  
عدد الأقسام والفروع العلمية في الكلية : 3  
تاريخ ملء الملف : 2021/4/18

اسم مدير شعبة ضمان الجودة والأداء الجامعي  
نواف احمد عرسا

اسم عميد الكلية  
أ.د. ملائكة عواد سلمان

التوقيع  
2021 / 4 / 18 التاريخ

مدير ضمان الجودة والأداء الجامعي  
التاريخ / / 2021

## نموذج وصف البرنامج الأكاديمي

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

يوفر وصف البرنامج الأكاديمي هذا ايجازاً مقتضياً لأهم خصائص البرنامج ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهنأ عما إذا كان قد حقق الاستفادة القصوى من الفرص المتاحة .  
ويصاحبه وصف لكل مقرر ضمن البرنامج

1. المؤسسة التعليمية	جامعة الانبار
2. القسم الجامعي / المركز	كلية علوم الحاسوب وتكنولوجيا المعلومات / قسم أنظمة شبكات الحاسوب
3. اسم البرنامج الأكاديمي	أنظمة شبكات الحاسوب
4. اسم الشهادة النهائية	بكالوريوس أنظمة شبكات الحاسوب
5. النظام الدراسي	فصلي
6. برنامج الاعتماد المعتمد	ABET
7. المؤثرات الخارجية الأخرى	
8. تاريخ إعداد الوصف	2021/4/18
9. أهداف البرنامج الأكاديمي	

### 10. مخرجات التعلم المطلوبة وطرائق التعليم والتعلم والتقييم

1. المعرفة والفهم:  
يكون للطالب القدرة على المعرفة والفهم للمبادئ والنظريات والاساسيات في أنظمة شبكات الحاسوب .  
يكون للطالب القدرة على فهم المواضيع العلمية الحديثة والمتقدمة في اختصاص الشبكات .  
يكون الطالب قادر على فهم اللغات البرمجية الخاصة بدراسة اختصاصه .  
يكون الطالب قادر على حل المشاكل واسس تطبيقاتها .  
يكون الطالب قادر على فهم اسس عمل الاجهزة المختبرية التي تستخدم في مجال اختصاصه .

ب. المهارات الخاصة بالموضوع

12. الشهادات والساعات المعتمدة	11. بنية البرنامج 11.1 السنة الدراسية الاولى			
	المستوى / السنة	رمز المقرر أو المساق	اسم المقرر أو المساق	الساعات والوحدات المعتمدة
4	فصلي	CSIT107	البرمجة بلغة 1 C++	3
3	فصلي	CSIT110	أساسيات تكنولوجيا المعلومات 1	2
3	فصلي	CSIT109	التصميم المنطقي 1	2
3	فصلي	ISDC115	الرياضيات 1	3
2	فصلي	UOA140	اللغة الانكليزية	2
1	فصلي	UOA135	الحريات وحقوق الإنسان	1
4	فصلي	CSIT108	البرمجة بلغة 2 C++	3
3	فصلي	CSIT112	أساسيات تكنولوجيا المعلومات 2	2
3	فصلي	CSIT117	مبادئ نظم المعلومات	3
3	فصلي	CSIT111	التصميم المنطقي 2	2
3	فصلي	ISDC116	الرياضيات 2	3
1	فصلي	UOA137	اللغة العربية	1
33	عدد الوحدات الكلية			
				26

14. الشهادات والساعات المعتمدة	13. بنية البرنامج 11.1 السنة الدراسية الثانية			
	المستوى / السنة	رمز المقرر أو المساق	اسم المقرر أو المساق	الساعات والوحدات المعتمدة
4	فصلي	ISDC201	هياكل البيانات	3
2	فصلي	ISDE203	الرياضيات المتقدمة	2

2	2	النظرية الاحتمالية 1	ISDC215	فصلي
2	2	تحليل وتصميم نظم المعلومات	ISDC202	فصلي
3	2	تفاعل الإنسان مع الحاسوب	ISDC204	فصلي
4	3	البرمجة الكيانية 1	ISDC207	فصلي
1	1	الحريه و الديمقراطية	UOA201	فصلي
4	3	الخوارزميات	ISDE317	فصلي
3	2	التحليل العددي	ISDC303	فصلي
2	2	النظرية الاحتمالية 2	ISDE218	فصلي
3	2	تحليل وتصميم قواعد البيانات	ISDC205	فصلي
3	2	تصميم صفحات الانترنت	ISDE219	فصلي
4	3	البرمجة الكيانية 2	ISDE211	فصلي
2	2	اللغة الانكليزية	UOA240	فصلي
39	31	عدد الوحدات الكلية		
16.الشهادات والساعات المعتمدة	15.بنية البرنامج			
	11.1 السنة الدراسة الثالثة			
	الساعات والوحدات المعتمدة	اسم المقرر أو المساق	رمز المقرر أو المساق	المستوى / السنة
3	2	البرمجة المرئية ب( C# Net) 1	ISDC308	فصلي
2	2	إدارة المشاريع	ISDC307	فصلي
3	2	نظم إدارة قواعد البيانات 1	ISDC306	فصلي
3	2	شبكات الحاسبة 1	ISDC305	فصلي
3	2	المترجمات 1	ISDE321	فصلي
2	2	انكليزي	UOA340	فصلي
2	2	نظم ادارة المعلومات	ISDC327	فصلي
2	2	هندسة البرامجيات	ISDC309	فصلي
3	2	البرمجة المرئية ب( C# Net) 2	ISDE323	فصلي
2	2	قواعد بيانات موزعه	ISDE414	فصلي
3	2	شبكات الحاسبة 2	ISDE325	فصلي
3	2	المترجمات 2	ISDE324	فصلي
2	2	نظم دعم القرار		فصلي
34	26	عدد الوحدات الكلية		

18.الشهادات والساعات المعتمدة	17.بنية البرنامج 11.1 السنة الدراسة الرابعة
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المستوى / السنة	رمز المقرر أو المساق	اسم المقرر أو المساق	الساعات والوحدات المعتمدة	
فصلي	CSIT402	حوسبة الوسائط المتعدد 1	2	3
فصلي	ISDC406	أمنية نظم المعلومات 1	2	2
فصلي	ISDC405	الذكاء الاصطناعي 1	2	3
فصلي	ISDE422	تطوير تطبيقات الانترنت 1	2	3
فصلي	ISDC403	مستودع البيانات	2	2
فصلي	ISDE414	استرجاع المعلومات ومحركات البحث	2	2
فصلي	CSDE423	منهج البحث	2	2
فصلي	ISDE427	حوسبة الوسائط المتعدد 2	2	3
فصلي	ISDE425	أمنية نظم المعلومات 2	2	2
فصلي	ISDE429	الذكاء الاصطناعي 2	2	3
فصلي	ISDE313	تجارة الكترونيه	2	3
فصلي	ISDC404	تنقيب البيانات	2	2
فصلي	UOA440	انكليزي	2	2
فصلي	ISDE419	برمجة تطبيقات الموبايل 2	2	3
فصلي	ISDC407	مشروع في نظم المعلومات	12	6
عدد الوحدات الكلية			40	41

#### 19. التخطيط للتطور الشخصي

20. معيار القبول (وضع الأنظمة المتعلقة بالالتحاق بالكلية أو المعهد)
- . اعتماد شروط القبول للطلاب وفق لوائح وزارة التعليم العالي والبحث العلمي (القبول المركزي)
  - . المقابلة الشخصية للقسم.
  - . ان يكون لائق بالفحص الطبي
  - . معدل الثانوية العامة .
  - . الطاقة الاستيعابية .

#### 21. أهم مصادر المعلومات عن البرنامج

- . احتياجات السوق
- . التوجهات المحلية للمحافظة .
- . الدراسات والاستبيانات.

## مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج																المرحلة الاولى			
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				أساسي أم اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
د4	د3	د2	د1	ج4	ج3	ج2	ج1	ب4	ب3	ب2	ب1	أ4	أ3	أ2	أ1				
							√				√			√	√		البرمجة بلغة C++ 1	CSIT 107	فصلي
							√				√			√	√		أساسيات تكنولوجيا المعلومات 1	CSIT 110	فصلي
							√				√			√	√		التصميم المنطقي 1	CSIT 109	فصلي
							√				√			√	√		الرياضيات 1	ISDC 115	فصلي
							√				√			√	√		اللغة الانكليزية	UOA 140	فصلي
							√				√			√	√		الحريات وحقوق الإنسان	UOA 135	فصلي
							√				√			√	√		البرمجة بلغة C++ 2	CSIT 108	فصلي

							√				√			√	√		أساسيات تكنولوجيا المعلومات 2	CSIT 112	
							√				√				√		مبادئ نظم المعلومات	CSIT 117	فصلي
							√				√				√		التصميم المنطقي 2	CSIT 111	
							√			√	√				√		الرياضيات 2	ISDC 117	فصلي
							√			√	√				√		اللغة العربية	UOA 137	
مخطط مهارات المنهج																			
يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم																			
مخرجات التعلم المطلوبة من البرنامج																المرحلة الثانية			
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				أساسي أم اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
د4	د3	د2	د1	ج4	ج3	ج2	ج1	ب4	ب3	ب2	ب1	أ4	أ3	أ2	أ1				
							√			√	√				√		هياكل البيانات	ISDC	

																		201	
						√	√			√	√				√			الرياضيات المتقدمة	ISD E203
							√			√	√				√			النظرية الاحتمالية 1	ISDC 215
						√	√			√	√				√			تحليل وتصميم نظم المعلومات	ISDC 202
							√			√	√				√			تفاعل الإنسان مع الحاسوب	ISDC 204
							√		√	√	√				√			البرمجة الكيانية 1	ISDC 207
						√	√				√				√			الحريه و الديمقراطية	UOA 201
							√			√	√				√			الخوارزميات	ISDE 317
							√			√	√			√	√			التحليل العددي	ISDC 303
							√			√	√			√	√			النظرية الاحتمالية 2	ISDE 218
							√			√	√		√	√				تحليل وتصميم قواعد البيانات	ISDC 205
						√	√			√	√		√	√				تصميم صفحات الانترنت	ISDE 219
						√	√		√	√	√		√	√	√			البرمجة الكيانية 2	ISDE 211

						✓	✓				✓				✓		اللغة الانكليزية	UOA 240	
مخطط مهارات المنهج																			
يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم																			
مخرجات التعلم المطلوبة من البرنامج										المرحلة الثالثة									
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				أساسي أم اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
د4	د3	د2	د1	ج4	ج3	ج2	ج1	ب4	ب3	ب2	ب1	أ4	أ3	أ2	أ1				
							✓		✓	✓	✓		✓	✓	✓		البرمجة المرئية بـ (C# Net) 1	ISD C308	
							✓			✓	✓			✓	✓		إدارة المشاريع	ISD C307	
							✓			✓	✓			✓	✓		نظم إدارة قواعد البيانات 1	ISD C306	
							✓		✓	✓	✓			✓	✓		شبكات الحاسبة 1	ISD C305	
							✓			✓	✓				✓		المتجمات 1	ISD E321	
							✓			✓	✓				✓		انكليزي	UOA 340	

							√			√	√		√	√	√		نظم ادارة المعلومات	ISDC 327	
						√	√		√	√	√				√		هندسة البرامجيات	ISD C309	
						√	√		√	√	√				√		البرمجة المرئية ب (C# Net) 2	ISD E323	
						√	√		√	√	√				√		قواعد بيانات موزعه	ISD E326	
							√			√	√		√	√	√		نظم دعم القرارات		

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج																المرحلة الرابعة			
المهارات العامة والمنقولة (أو) المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي				مهارات التفكير				المهارات الخاصة بالموضوع				المعرفة والفهم				أساسي أم اختياري	اسم المقرر	رمز المقرر	السنة / المستوى
د	د3	د2	د1	ج4	ج3	ج2	ج1	ب4	ب3	ب2	ب1	أ4	أ3	أ2	أ1				
4							√				√				√		حوسبة الوسائط المتعدد 1	CSIT 402	
							√				√				√		أمنية نظم المعلومات 1	ISDC 406	
							√				√				√		الذكاء الاصطناعي 1	ISDC 405	
							√				√				√		برمجة تطبيقات الويب 1	ISD04 314	
							√				√				√		مستودع البيانات	ISDC 403	
							√				√		√	√	√		استرجاع المعلومات ومحركات البحث	ISDE 414	
						√	√			√	√		√	√			منهج البحث	CSDE 423	
						√	√				√			√	√		حوسبة الوسائط المتعدد 2	ISDE 427	
					√	√	√				√				√		أمنية نظم المعلومات 2	ISDE 425	
							√			√	√			√	√		الذكاء الاصطناعي 2	ISDE 429	

						√				√				√		تجارة الكترونيه	<b>ISDE 313</b>	
						√				√				√		تنقيب البيانات	<b>ISDC 404</b>	
						√				√			√	√		انكليزي	<b>UOA 440</b>	
						√							√	√		برمجة تطبيقات الموبايل 2	<b>ISDE 419</b>	



# 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	College of computer science and information technology Information System Department
3. Course title/code	Structure Programming (C++) I
4. Programme(s) to which it contributes	First stage
5. Modes of Attendance offered	Theoretical and practical
6. Semester/Year	First Semester 2022\2021
7. Number of hours tuition (total)	3 h. theoretical 2 h. practical per week
8. Date of production/revision of this specification	
9. Aims of the Course	
Learn how to use the algorithms	
How to draw a flowcharts	
The main principles of programming and the development of programming languages	
Learn the principles of Structure programming	
Learn How to programming with C++	

## 11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First Week	3 h.	Program ming principle s	Overview to Programming Language	Explain Menu, Getting Started with C++.	
Second Week	3 h.	Algorith ms	Algorithms and Flow Charts	Algorithms and Flow Charts	
Third Week	3 h.	C++ program ming	Character set Identifiers Getting Started with C++. Variables Declaration	Character set Identifiers Getting Started with C++. Variables Declaration	Quiz
Fourth Week	3 h.	Variables in C++	Variables Constants Arithmetic Operations The “math.h” Library Unary Minus Increment and /decrement Operators.	In program Explain Variables Constants Program of Arithmetic Operations The “math.h” Library	
Fifth Week	3 h.	Unary Operator s	Unary Minus Increment and /decrement Operators.	Program of Unary Minus Increment and /decrement Operators.	
Sixth Week	3 h.	Operatio nal Operator s	Operational Assignment Operators Relational Logical Operators. Bitwise Operator Logical Operators. Bitwise Operator	Program Operational Assignment Operators Relational Logical Operators. Bitwise Operator	Quiz
Seventh Week	3 h.	Selection Statemen ts	Selection Statements the Single. The Switch Selection Statement (Selector	Programs in Lectures	
Eighth Week	3 h.	If Statemen ts	Nested If and If/else Statements If Statement Structure Conditional Statement	Programs in Lectures	
Ninth Week	3 h.	To evaluate the students	Monthly exam		By exam
Tenth Week	3 h.	Switch Statemen ts	The Switch Selection Statement	Programs in Lectures	
Eleventh Week	3 h.	Loop Statemen ts	While Repetition Structure. Do/While Statement for Statement	Programs in Lectures	
Twelfth Week	3 h.	Do/Whil e Statemen t	Do/While Statement for Statement	Programs in Lectures	

Thirteenth Week	3 h.	For Statement	For Statement	Programs in Lectures	
Fourteenth Week	3 h.	Nested loop	Break and Continue Control Statements Nested Loops	Programs in Lectures	
Fifteenth Week	3 h.	To evaluate the students	Monthly exam		By exam

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Mastering C++, shomme's series
Special requirements (include for example workshops, periodicals, IT software, websites)	<a href="https://www.learncpp.com/">https://www.learncpp.com/</a> <a href="https://www.w3schools.com/CPP/default.asp">https://www.w3schools.com/CPP/default.asp</a>
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	25-30
Maximum number of students	50-60

## 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 program specification.

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of Computer Science and Information Technology – Information System Department
3. Course title/code	Information Technology Principles
4. Program (s) to which it contributes	Bachelors of Information System
5. Modes of Attendance offered	Attendance
6. Semester/Year	First semester 2022-2021
7. Number of hours tuition (total)	48
8. Date of production/revision of this Specification	
9. Aims of the Course	
	- Provide a basic knowledge of computer hardware and software
	- Introduce the business areas to which computers may be applied.
	- Provide an introduction to business organization and information systems.
	- Develop the skills in network & communication , which play an important part in business computing and information processing.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2 Theory + 2 Practical		Introduction of Computers and Programming		
2	2 Theory + 2 Practical		Brief history of computer		
3	2 Theory + 2 Practical		Generation of Computers & Computer hierarchy		
4	2 Theory + 2 Practical		Basic Computer Components		
5	2 Theory + 2 Practical		Computer function (fetch cycle, interrupt cycle, I/O function		
6	2 Theory + 2 Practical		Semiconductor main memory (RAM, ROM, CACHE)		
7	2 Theory + 2 Practical		Computer Software(application software)		
8	2 Theory + 2 Practical		External & Internal memory		
9			First Exam		
10	2 Theory + 2 Practical		Telecommunications system & Network		
11	2 Theory + 2 Practical		Topology of a network		
12	2 Theory + 2 Practical		Layering model		
13	2 Theory + 2 Practical		Protocols		
14	2 Theory + 2 Practical		addressing communications		
15			Final Exam		
16					

**Dr. Mohanad Abdulsalam Youns**



# Course Weekly Outline

**Course Name:**

<b>Course Instructor</b>	SAIF SAAD HAMEED				
<b>E-mail</b>	Dove_white84@uoanbar.edu.iq				
<b>Title</b>	Digital Circuits				
<b>Course Coordinator</b>					
<b>Course Objective</b>	Understand the basics of semiconductors. Understand the theory and stats of PN junction diode. Understanding of small and large signal and diode signal models and the ability to analyze diode circuits. Understand the theory and models of DC, and the biasing of bipolar junction transistors. Understand the theory and models of DC, and clamping effect transistors.				
<b>Course Description</b>	To familiarize the student with the principles and techniques of electronic circuits To understand how electronic circuits work That the student understand how to flow and control electronic circuits				
<b>Textbook</b>	Electronic Circuits				
<b>References</b>	Authors- L.K. MAHESWARI, M.M.S.ANAND. 2009 Author – Jacob Millman. Christos C. Halkias				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	25 %	15 %	5 %	5 %	50 %
<b>General Notes</b>	-				



Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	Week 1	Diode Applications: ( Load-Line Analysis Diode Approximations Series Diode Configurations with DC Inputs		
2	Week 2	Parallel and Series-Parallel Configurations , Sinusoidal Inputs ; Half-Wave Rectification		
3	Week3	Full-Wave Rectification , Zener Diodes		
4	Week4	Clampers , Clippers		
5	Week5	Transistor Construction , Transistor Operation		
6	Week6	Common-Base Configuration , Common-Emitter Configuration <b>Common-Collector Configuration</b>		
7	Week7	operating Point , Fixed-Bias Circuit , Emitter-Stabilized Bias Circuit		
8	Week8	Voltage-Divider Bias , DC Bias with Voltage Feedback , PNP Transistors		
9	Week9	Construction and characteristics of JFETs , Depletion-Type MOSFET		
10	Week10	Enhancement-Type MOSFET , VMOS and CMOS		
11	Week11	Transition and Diffusion Capacitance , Reverse Recovery Time		
12	Week12	Diode Equivalent Circuit , Extrinsic Materials n- and p-Type		
13	Week13	Energy levels ,		
14	Week14	Amplification in AC Domain		
15	Week15	BJT Transistor Modeling		

**Instructor Signature:**

**Dean Signature:**



# Course Weekly Outline

Course Name : التصميم المنطقي 1

<b>Course Instructor</b>	د عبد الكريم عبد الحميد				
<b>E-mail</b>	Abdulkareem.alaloosy@uoanbar.edu.iq				
<b>Title</b>	استاذ مساعد				
<b>Course Coordinator</b>	د عبد الكريم عبد الحميد				
<b>Course Objective</b>	<p>أ. أن يفهم الطالب أنظمة الاعداد والشفرات وطرق التحويل بينهم.</p> <p>ب. أن يعرف الطالب نظريات الجبر البوليني وكيفية تطبيقها.</p> <p>ج. أن يميز الطالب بين انواع البوابات المنطقية المختلفة وكيفية استخدامها.</p> <p>د. كيفية تصميم دائرة منطقية بنوع معين من البوابات المنطقية.</p> <p>هـ. كيفية استخدام مخططات كارنوف لاغراض التبسيط.</p>				
<b>Course Description</b>	<p>التمييز بين انواع أنظمة الاعداد والشفرات المختلفة.</p> <p>التمييز بين انواع البوابات المنطقية واستخداماتها</p> <p>تطبيق نظريات الجبر البوليني.</p> <p>تصميم دائرة منطقية وفهمها.</p> <p>استخدام مخططات كارنوف.</p>				
<b>Textbook</b>	Digital fundamentals 10 <sup>th</sup> edition				
<b>References</b>	An Introduction to Logic Technology Fundamentals of logic design				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30%	15%	5%		50%
<b>General Notes</b>					





Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	الاسبوع الاول	مقدمة لمادة المنطق والتعريف بمختبرها		
2	الاسبوع الثاني	مقدمة في نظام الإعداد		
3	الاسبوع الثالث	التحويل بين الأنظمة 1		
4	الاسبوع الرابع	التحويل بين الأنظمة 2		
5	الاسبوع الخامس	نظام الشفرات والتحويل بينهم		
6	الاسبوع السادس	نظريات الجبر البوليني		
7	الاسبوع السابع	امتحان الشهر الاول		
8	الاسبوع الثامن	البوابات المنطقية		
9	الاسبوع التاسع	تصميم البوابات المنطقية		
10	الاسبوع العاشر	بوابات NAND المنطقية		
11	الاسبوع 11	بوابات NOR المنطقية		
12	الاسبوع 12	امتحان الشهر الثاني		
13	الاسبوع 13	صيغة SOP		

بوابات ننن

## Course Weekly Outline

14	الاسبوع 14	صيغة POS		
15	الاسبوع 15	مخططات كارنوف		

**Instructor Signature:**

**Dean Signature:**



# Course Weekly Outline

**Course Name: Math**

<b>Course Instructor</b>	Mr.Oday Abid Hazzam				
<b>E-mail</b>	Oda.abid@uoanbar.edu.iq				
<b>Title</b>	Web Application Development				
<b>Course Coordinator</b>	1st				
<b>Course Objective</b>	Study of derivatives, their methods and applications, and their relationship to real problems. Teaching training students to deal with the rules and laws of derivatives and apply them in the future in a logical and correct manner.				
<b>Course Description</b>					
<b>Textbook</b>					
<b>References</b>	1- Book " Thomas Calculas Lecture Notes				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	0%	15%	15%	60%
<b>General Notes</b>	-				



## Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		The Definition of the Derivative		
2		Interpretation of the Derivative		
3		Properties of Derivative , Some laws of derivatives		
4		Properties of Derivative , Some laws of derivatives		
5		Derivatives of the six trig functions		
6		Exponential Functions, Logarithm Functions		
7		Inverse Sine, Inverse cosine, Inverse tangent, Alternate Notation		
8		Inverse Sine, Inverse cosine, Inverse tangent, Alternate Notation		
9		These are the six hyperbolic trig		
10		Functions .and They are defined as		
11		There are two forms of the chain rule		
12		Defined , formula, and used the chain rule		
13		first derivative, second derivative, third derivative.		
14		the properties of		
15		logarithms		

**Instructor Signature:**

**Dean Signature:**

## نموذج وصف المقرر

### وصف المقرر

يوفر وصف المقرر هذا إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهنناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولا بد 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	حقوق الانسان
4. أشكال الحضور المتاحة	دوام رسمي
5. الفصل / السنة	2022-2021
6. عدد الساعات الدراسية (الكلي)	15
7. تاريخ إعداد هذا الوصف	
8. أهداف المقرر	
أ. تعليم الطلبة على أساسيات حقوق الإنسان وقوانينها .	
ب. التعرف على الحقوق وأهم الإشكاليات والتحديات التي تواجهها .	

10. بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / أو الموضوع	طريقة التعليم	طريقة التقييم
الأول	1		تعريف الحقوق	نظري	التحضير وأسئلة ومناقشة
الثاني	1		أنواع حقوق الانسان	نظري	التحضير وأسئلة ومناقشة
الثالث	1		الحقوق لأساسية وغير الأساسية	نظري	التحضير وأسئلة ومناقشة
الرابع	1		الحقوق المدنية	نظري	التحضير وأسئلة ومناقشة
الخامس	1		الحقوق السياسية	نظري	التحضير وأسئلة ومناقشة
السادس	1		الحقوق الاقتصادية والاجتماعية والثقافية	نظري	التحضير وأسئلة ومناقشة
السابع	1		الحقوق الفردية والحقوق الجماعية	نظري	التحضير وأسئلة ومناقشة
الثامن	1		طائفة الحقوق الجديدة	نظري	التحضير وأسئلة ومناقشة
التاسع	1		حقوق الانسان والقانون الدولي الانساني	نظري	التحضير وأسئلة ومناقشة
العاشر	1		العلاقة بين حقوق الانسان والقانون الدولي الانساني	نظري	التحضير وأسئلة ومناقشة
الحادي عشر	1		أوجه الشبه والاختلاف بين حقوق الانسان والقانون الدولي الانساني	نظري	التحضير وأسئلة ومناقشة
الثاني عشر	1		المراحل التي مرت بها حقوق الانسان	نظري	التحضير وأسئلة ومناقشة
الثالث عشر	1		الاهتمام الدولي والاقليمي بحقوق الانسان	نظري	التحضير وأسئلة ومناقشة
الرابع عشر	1		مصادر حقوق الانسان	نظري	التحضير وأسئلة ومناقشة
الخامس عشر				نظري	امتحان شهري

11. البنية التحتية	
1- الكتب المقررة المطلوبة	
2- المراجع الرئيسية (المصادر)	الفصل الأول – التعريف بحقوق الإنسان _ موقع الانترنت
ا- الكتب والمراجع التي يوصى بها ( المجلات العلمية , التقارير , .... )	
ب - المراجع الالكترونية, مواقع الانترنت ....	الفصل الأول – التعريف بحقوق الإنسان _ موقع الانترنت

12. خطة تطوير المقرر الدراسي	

# 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	College of computer science and information technology- Information systems Department
3. Course title/code	Structure Programming (C++) II
4. Programme(s) to which it contributes	First Stage
5. Modes of Attendance offered	Theoretical and practical
6. Semester/Year	Second Semester 2021\2022
7. Number of hours tuition (total)	3 h. theoretical 2 h. practical per week
8. Date of production/revision of this specification	
9. Aims of the Course	
Learn how to use the Advanced Tools	
helps programmers write fast, portable programs	
The main principles of programming and the development of programming languages	
Learn the principles of Structure programming	



11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First Week	3 h.		Function	Programs in Lectures	
Second Week	3 h.		Passing Parameters. Passing by Value. Passing by Reference.	Program and example Passing Parameters. Passing by Value. Passing by Reference.	
Third Week	3 h.		Pointers	Pointers	Quiz
Fourth Week	3 h.		Arrays. Array of One Dimension: Declaration of Arrays.	Program and example Arrays. Array of One Dimension: Declaration of Arrays.	
Fifth Week	3 h.		Initializing Array Elements	Program and example Initializing Array Elements	
Sixth Week	3 h.		Accessing Array Elements.	Program and example Accessing Array Elements.	Quiz
Seventh Week	3 h.		Read / Write / Process Array Elements.	Program and example Read / Write / Process Array	
Eighth Week	3 h.		Array of Two Dimension: Declaration of 2D-Arrays.	Program and example Array of Two Dimension: Declaration of 2D-Arrays.	
Ninth Week	3 h.	To evaluate the students	Monthly exam		By exam
Tenth Week	3 h.		Read / Write / Process Array Elements.	Program and example Read / Write / Process Array Elements.	
Eleventh Week	3 h.		Member Function of String stdlib Library.	Program and example Member Function of String.	
Twelfth Week	3 h.		Structures. The Three Ways for Declare the Structure.	Program and example Structures. The Three Ways for Declare the Structure.	
Thirteenth Week	3 h.		Array of Structures.	Program and example Array of Structures.	
Fourteenth Week	3 h.		The Files	Program and example of files	
Fifteenth Week	3 h.	To evaluate the students	Monthly exam		By exam

# 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	College of Computer Science and Information Technology – Information System Department
3. Course title/code	Information System Fundamentals
4. Programme(s) to which it contributes	Bachelors of computer networking system
5. Modes of Attendance offered	attendance
6. Semester/Year	second semester 2022-2021
7. Number of hours tuition (total)	32
8. Date of production/revision of this specification	
9. Aims of the Course	
- Describe the concepts of organizational structure and culture	
- Identify the framework and boundaries of information systems in the global environment.	
- Apply appropriate systems analysis and design methods, tools and techniques in solving business problems.	
- Developing the communication skills needed to collaborate with others.	

## 10. Learning Outcomes, Teaching ,Learning and Assessment Method

### A Knowledge and Understanding

- A1. Students will be introduced to information systems for the purpose of processing data into information
- A2. Students will be introduced to the use of productivity computer software programs and their relevance to problem-solving and communication
- A3. Students will be introduced to the concept and analysis of information requirements of problem-solving.
- A4. The student should understand the data communications devices , networks and protocols .
- A5.

### B. Subject-specific skills

- B1.
- B2.
- B3.

### Teaching and Learning Methods

-

### Assessment methods

Notes	Date	%	Assessment	
<input type="checkbox"/>	6 <sup>th</sup> week <input type="checkbox"/>	%10 <input type="checkbox"/>	First Month exam	1
<input type="checkbox"/>	10 <sup>th</sup> week <input type="checkbox"/>	%10 <input type="checkbox"/>	Second Month exam	2
<input type="checkbox"/>	16 <sup>th</sup> week <input type="checkbox"/>	%10 <input type="checkbox"/>	Third Month exam	3
<input type="checkbox"/>	All weeks <input type="checkbox"/>	%10 <input type="checkbox"/>	Attendance and HW	4
<input type="checkbox"/>	At end of each experiment <input type="checkbox"/>			5
<input type="checkbox"/>	End of semester <input type="checkbox"/>	%60 <input type="checkbox"/>	Final exam	6
<input type="checkbox"/>	<input type="checkbox"/>	% 100 <input type="checkbox"/>	Sum	

### C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

### Teaching and Learning Methods

### Assessment methods

--

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

D1.  
D2.  
D3.  
D4.

## 11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2 Theory		An Introduction to Information Systems		
2	2 Theory		Information Systems in Organizations		
3	2 Theory		Hardware: Input, Processing, and Output Devices		
4	2 Theory		Software: Systems and Application Software		
5	2 Theory		Database Systems and Business		
6	2 Theory		Telecommunications and Networks		
7	2 Theory		The Internet, Intranets, and Extranets		
8	2 Theory		Topology of a network		
9			First Exam		
10	2 Theory		Data communications systems		
11	2 Theory		Layering model		
12	2 Theory		Protocols Layering		
13	2 Theory		Addressing communications		
14	2 Theory		Transmission Media		
15			Final Exam		
16					

## 12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	- Lectures - Home works
Special requirements (include for example workshops, periodicals, IT software, websites)	1. Ralph M. Stair & George W. Reynolds" Principles of Information Systems" Ninth Edition.2010 2. Data Communications and Networking, Fourth Edition by Behrouz A. Forouzan, McGraw-Hill ,2007
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Fundamental of English .
Minimum number of students	25
Maximum number of students	40

**Fouad hammadi awad**



# Course Weekly Outline

**Course Name: Networking Principles**

<b>Course Instructor</b>	Muntaha Kamal Chyad				
<b>E-mail</b>	muntahakamal2019@gmail.com				
<b>Title</b>	Assistant Instructor				
<b>Course Coordinator</b>					
<b>Course Objective</b>	Its vocabulary tends to introduce simple general concepts about networks, their types, and the common means of communication at the present time				
<b>Course Description</b>	Introduction to Computer Networks, The dvantages and disadvantages of computer networks, Network Components: Switch, Repeater HUB, Bridge, Router, GATEWAY and Data Flow, Network Classification, LAN the advantages and disadvantages of each topology. Networking Model: OSI Network Model and TCP/IP Model. Classification of transmission Media these are guided and unguided media. Network Types (LAN: Their size, Their Transmission Technology, .....), WAN AND MAN.				
<b>Textbook</b>	Book: "DATA COMMUNICATIONS AND NETWORKING" Fourth Edition, Behrouz A. Forouzan, DeAnza.				
<b>References</b>					
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	% 30		% 10		% 60
<b>General Notes</b>	-				



Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	20/3/2023	Introduction to Computer Networks, The dvantages and disadvantages of computer networks		
2	27/3/2023	Network Components: Switch, Repeater HUB, Bridge, Router,GATEWAY,Modem, and Data Flow		
3	3/4/2023	Network Classification,LAN,MAN and WAN		
4	10/4/2023	Network topologies: Mesh, Star, Bus and Ring, the advantages and disadvantages of each topology.		
5	17/4/2023	Networking Model: OSI Network Model and TCP/IP Model		
6	24/4/2023	Transmission Media: Classification of transmission Media these are guided and unguided media		

## Course Weekly Outline



7	1/5/2023	Network Types(LAN: Their size, Their Transmission Technology,.....), WAN AND MAN	Stage: Instructor name Academic status:		
8			Qualification:		
9			Place of work:	University of Anbar	
10					
11					
12					
13					
14					
15					

**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	University of Anbar
2. University Department/Centre	Computer science
3. Course title/code	Discrete mathematics
4. Programme(s) to which it contributes	At class
5. Modes of Attendance offered	Attendance
6. Semester/Year	2 <sup>nd</sup> / 2021-2022
7. Number of hours tuition (total)	45
8. Date of production/revision of this specification	1/4/2022
9. Aims of the Course	
1- To Describe the aim of study discrete mathematics	
2- To Understand what difference between ordinary math and discrete math.	
3- To Understand what the relation between computer science and math	
4- To Learn the operation between the difference objects of math.	
5- To Apply the relation between this objects	

10· Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <p>A1. Understand the concept of ordinary and partial</p> <p>A2. Understand the set theory</p> <p>A3. Understand the logic math</p> <p>A4. Understand the relation of two sets</p> <p>A5. Understand the graph theory</p>
<p>B. Subject-specific skills</p> <p>B1. Summer Training</p> <p>B2. Fourth year projects</p> <p>B3. Scientific projects</p>
Teaching and Learning Methods
<ul style="list-style-type: none"> <li>- By solving many exercises</li> <li>- Daily and weekly quizzes.</li> <li>- Guiding the student to some electronic websites.</li> </ul>
Assessment methods
<p>10% homework</p> <p>20% quiz</p> <p>10% oral exam</p> <p>20% mid exam</p> <p>40% final exam</p>

### C. Thinking Skills

- C1. Develop the student's ability to work and provide homework in a timely manner.
- C2. Analyze the problem and find the solution based on the methods used in the various derivatives
- C 3. To develop the student's ability to debate.

Teaching and Learning Methods
<ul style="list-style-type: none"> <li>- Managing the lecture to deal with the real problem that attracts the student to the topic of the lesson.</li> <li>- Assigning groups of students with some activities.</li> <li>- Make part of the grades for the assignments.</li> </ul>
Assessment methods

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

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

D1. Developing the student's ability to deal with technical methods.

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

D3. Developing the student's ability to deal with multi media.

D4. Developing the student's ability to discuss real problems.

## 11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3		Abstract of discrete mathematics		
2	3		Set theory		
3	3		Solve some example		
4	3		Logic		
5	3		Solve some example		
6	3		Functions		
7	3		Relation		
8	3		Some examples		
9	3		Graph theory		
10	3		Some example		
11	3		Tree		
12	3		Solve example		
13	3		Mid exam		
14	3		Review		
15	3		Final exam		

## 12. Infrastructure

Required reading:	Lecture notes of Discrete mathematics , by Makarim alturky
· CORE TEXTS	
· COURSE MATERIALS	
· OTHER	

13. Admissions	
Pre-requisites	
Minimum number of students	20
Maximum number of students	40



# Course Weekly Outline

**Course Name: Logic Design 2**

<b>Course Instructor</b>	د عبد الكريم عبد الحميد الالوسي				
<b>E-mail</b>	Abdulkareem.alaloosy@uoanbar.edu.iq				
<b>Title</b>	استاذ مساعد				
<b>Course Coordinator</b>	د عبد اتلكريم عبد الحميد و م م ختام عبد الباسط				
<b>Course Objective</b>	<p>ا. أن يفهم الطالب انظمة منطقية وكيفية عملها.</p> <p>ب. أن يعرف الطالب كيف يتم جمع الاعداد بالاجهزة الرقمية.</p> <p>ج. أن يتعرف على كيفية السيطرة وطريقة اختيار طرق نقل المعلومة.</p> <p>د. التعرف على النطاطات ( flip flop ) وكيفية عملها</p> <p>هـ. التعرف على تصميم المسجلات وطريقة عملها</p>				
<b>Course Description</b>	<p>several types of combinational logic functions are introduced including adders, comparators, decoders, encoders, code converters, multiplexers (data selectors), demultiplexers, and begins a study of the fundamentals of sequential logic. Bistable, monostable, and astable logic devices called <i>multivibrators</i> are covered.</p>				
<b>Textbook</b>	Digital fundamentals 11 <sup>th</sup> edition				
<b>References</b>	An Introduction to Logic Technology And Fundamentals of logic design				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30	10	5	5	50
<b>General Notes</b>	-				



Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Parallel Binary Adders		
2		Comparators , Decoders Encoders		
3		Code Converters . Multiplexers (Data Selectors). Demultiplexers		
4		Parity Generators/Checkers . Troubleshooting		
5		امتحان الشهر الاول		
6		Latches		
7		Flip-Flops Flip-Flop Operating Characteristics		
8		Flip-Flop Applications . One-Shots		
9		The Astable Multivibrator		
10		Applied Logic		
11		امتحان الشهر الثاني		
12		Types of Shift Register Data I/Os		
13		Bidirectional Shift Registers		
14		Shift Register Counters		
15		Shift Register Applications		

### Course Weekly Outline

Instructor Signature:

Dean Signature:



## **Course Weekly Outline**

Course Instructor	Mr.Oday Abid Hazzam				
E_mail	Oda.abid@uoanbar.edu.iq				
Title	Web Application Development				
Course Coordinator	2st				
Course Objective	Study of Integration, their methods and applications, and their relationship to real problems. Teaching training students to deal with the rules and laws of derivatives and apply them in the future in a logical and correct manner.				
Textbook					
References	1- Book " Thomas Calculas Lecture Notes				
Course Assessment	<b>TermTests</b>	<b>Laboratory</b>	<b>Quizzes</b>	<b>Project</b>	<b>Final Exam</b>
	20%	0%	15%	15%	50%

**Republic of Iraq  
The Ministry of Higher  
Education & Scientific  
Research**



**University: Anbar  
College: Computer Sceice & Information  
Technology  
Department: Computer Networks Systems  
st2Stage:  
Lecturer Name: Oday Abid Hazzam  
:Academic Status  
Qualification: Master degree  
Place of Work: College of Computer  
Sceice & Information Technology**

week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		Integration, The indefinite integral.		
2		Integral curves and direction fields, Integration by substitution.		
3		The definite integral, The fundamental theorem of calculus.		
4		Evaluating definite integrals by substitution.		
5		Inverse functions.		
6		Exponential and Logarithmic functions.		
7		Derivatives and integrals involving Logarithmic and Exponential functions.		
8		Graphs and applications involving Logarithmic and exponential functions.		
9		Logarithmic functions from the integral point of view.		
10		Derivatives and integrals involving inverse trigonometric functions.		
11		An overview of integration methods.		
12		Integration by parts.		
13		Trigonometric integrals.		
14		Trigonometric substitutions.		
15		Integrating rational functions by partial fractions.		
16				

**Instructor Signature:**

**Dean Signature:**





## 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 مبرهنًا عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولابد من الربط بينها وبين وصف البرنامج.

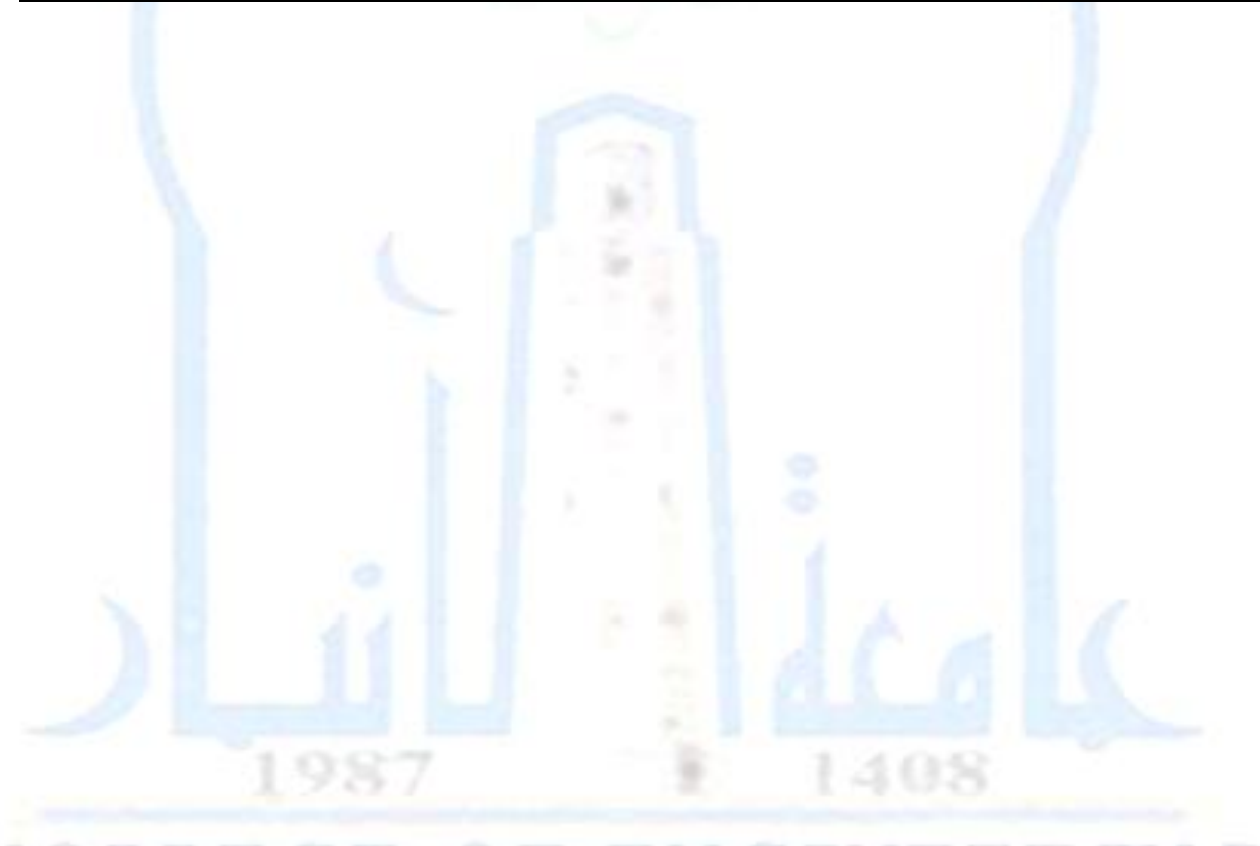
1. المؤسسة التعليمية	جامعة الانبار / كلية علوم الحاسوب وتكنولوجيا المعلومات
2. القسم الجامعي / المركز	أنظمة شبكات الحاسوب
3. اسم / رمز المقرر	اللغة العربية
4. البرامج التي يدخل فيها	
5. أشكال الحضور المتاحة	دوام رسمي
6. الفصل / السنة	الفصل الثاني / 2021-2022
7. عدد الساعات الدراسية (الكلي)	15
8. تاريخ إعداد هذا الوصف	
9. أهداف المقرر :	
أ. تعليم الطلبة على أساسيات اللغة العربية وقواعدها	
ب. تعليم الطلبة على كيفية الأعراب	


10. مخرجات التعلم وطرائق التعليم والتعلم والتقييم
أ. المعرفة والفهم :
1. أن يتعرف الطالب على قواعد اللغة العربية
2. أن يعرف الطالب كيفية بناء الجمل واستخراجها للعنوان المطلوب
ب. المهارات الذهنية :
1. القدرة على استعمال العبارات الصحيحة
2. القدرة على مشاركة الآخرين في الحوار الصحيح
طرائق التعليم والتعلم
1. المشاركة بالتحضير في قاعة الدرس
2. طريقة الأسئلة والأجوبة في قاعة الدرس
طرائق التقييم
1. المشاركة في قاعة الدرس
2. اختبارات فصلية ونهائية
ج- مهارات التفكير
1. تطوير قدرة الطالب على الحوار والمناقشة
2. تطوير قدرات الطالب في القيام بالأنشطة اللغوية والأدبية
طرائق التعليم والتعلم
1. إدارة المحاضرة على نحو تطبيقي مرتبط بواقع الحياة اليومية
2. تكليف الطالب ببعض الأنشطة والواجبات



وزارة التعليم العالي والبحث العلمي  
جهاز الإشراف والتقويم العلمي  
دائرة ضمان الجودة والاعتماد الأكاديمي  
قسم الاعتماد الدولي

طرائق التقييم
<ol style="list-style-type: none"><li>المشاركة الفاعلة في قاعة الدرس دليل التزام الطالب وتحمله المسؤولية .</li><li>الالتزام بالموعد المحدد في تقديم الواجبات والبحث .</li><li>الاختبارات الفصلية والنهائية تعبر عن الالتزام والتحصيل المعرفي .</li></ol>
<p>د - المهارات العامة والمنقولة ( المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي ).</p> <ol style="list-style-type: none"><li>تنمية قدرات الطالب على التعامل مع الكتب الرسمية والمخاطبات باللغة السليمة .</li><li>تنمية قدرة الطالب على الحوار والمناقشة في الأمور العامة والخاصة .</li></ol>



الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / المساق أو الموضوع	طريقة التعليم	طريقة التقييم
الأول	1		العدد تذكره وتأتيته	نظري	التحضير وأسئلة ومناقشة
الثاني	1		المعدود	نظري	التحضير وأسئلة ومناقشة
الثالث	1		نماذج فصيحة عن استعمال العدد	نظري	التحضير وأسئلة ومناقشة
الرابع	1		الفرق بين ( أما و إما ) - ( إن وأن ) - ( أم وأو ) <input type="checkbox"/> ( لو وإن )	نظري	التحضير وأسئلة ومناقشة
الخامس	1		كتابة الهمزة المتوسطة على الألف والمفردة على السطر	نظري	التحضير وأسئلة ومناقشة
السادس	1		زيادة بعض الأحرف	نظري	التحضير وأسئلة ومناقشة
السابع	1		وجوه ما	نظري	التحضير وأسئلة ومناقشة



وزارة التعليم العالي والبحث العلمي  
جهاز الإشراف والتقويم العلمي  
دائرة ضمان الجودة والاعتماد الأكاديمي  
قسم الاعتماد الدولي

التحضير وأسئلة ومناقشة	نظري	الفرق بين الضاد والظاء		1	الثامن
التحضير وأسئلة ومناقشة	نظري	مخارج الحروف		1	التاسع
التحضير وأسئلة ومناقشة	نظري	التاء المربوطة والمبسوطة		1	العاشر
التحضير وأسئلة ومناقشة	نظري	أوجه من و أي		1	الحادي عشر
التحضير وأسئلة ومناقشة	نظري	أوجه أن و إن		1	الثاني عشر
التحضير وأسئلة ومناقشة	نظري	أوجه حتى و رويد		1	الثالث عشر
التحضير وأسئلة عامة ومناقشة	نظري	الهاءات – الياءات		1	الرابع عشر
امتحان شهري	نظري			1	الخامس عشر



12. البنية التحتية	
<p>1- الكتاب : قواعد اللغة العربية ، أ. يوسف الصيداوي</p> <p>2- الكتاب : رسالتان في اللغة ، أبو الحسن علي بن عيسى بن علي بن عبد الله الرماني ، دار الفكر للنشر والتوزيع - عمان ، 1984م ، تحقيق : إبراهيم السامرائي .</p>	<p>القراءات المطلوبة :</p> <ul style="list-style-type: none"> <li>▪ كتب المقرر</li> <li>▪ أخرى</li> </ul>
	متطلبات خاصة
	الخدمات الاجتماعية ( وتشمل على سبيل المثال محاضرات الضيوف والتدريب المهني والدراسات الميدانية )

13. القبول	
لا توجد	المتطلبات السابقة
10	أقل عدد من الطلبة
40	أكبر عدد من الطلبة



# Course Weekly Outline

## Course Name: Data Structures

<b>Course Instructor</b>	Maha Mahmood				
<b>E-mail</b>	<a href="mailto:Maha-mahmood@uoanbar.edu.iq">Maha-mahmood@uoanbar.edu.iq</a>				
<b>Title</b>	Teacher				
<b>Course Coordinator</b>	Maha Mahmood				
<b>Course Objective</b>	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.				
<b>Course Description</b>	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.				
<b>Textbook</b>	Introduction to Algorithm, third Edition, Thomas H. Cormen Algorithms, fourth edition, Robert Sedgewick and Kevin Wayne				
<b>References</b>	Introduction to Algorithm, third Edition, Thomas H. Cormen Algorithms, fourth edition, Robert Sedgewick and Kevin Wayne				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	% 20	% 10	% 5	% 15	% 50
<b>General Notes</b>					



## 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

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Computer Networks Systems Department



كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْاَنْبَارِ

كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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, 5<sup>th</sup> Edition, Addison Wesley, 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
	<b>Midterm Exam</b>
Week 9	Non Exact Differential Equation
Week 10	Homogeneous and Non Homogeneous DE

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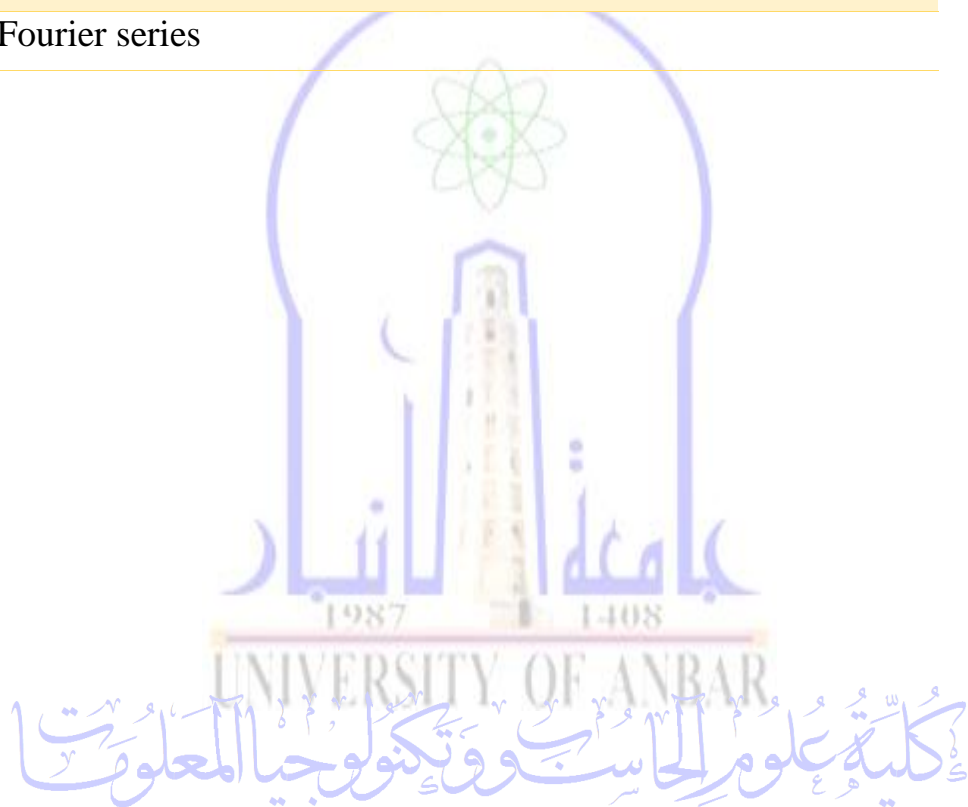
Computer Networks Systems Department



وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ  
جَامِعَةُ الْأَنْبَارِ  
كُلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ  
قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

كُلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

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





# Course Weekly Outline

**Course Name: Digital Electronics**

<b>Course Instructor</b>	Hussam Jasim Ali				
<b>E-mail</b>	hssjali@uoanbar.edu.iq				
<b>Title</b>	Assistant Lecturer				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>					
<b>Textbook</b>	Digital Electronics Principles, Devices and Applications (Anil K. Maini)				
<b>References</b>	Digital electronics : principles, devices, and applications / Anil Kumar Maini. ISBN 978-0-470-03214-5				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	30	15	5		50
<b>General Notes</b>	-				



## 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:

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College of Computer Science  
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Computer Networks Systems Department



كلية علوم الحاسوب وتكنولوجيا المعلومات

وزارة التعليم العالي والبحث العلمي

جامعة الأنبار

كلية علوم الحاسوب وتكنولوجيا المعلومات

قسم أنظمة شبكات الحاسوب

## Department of Computer Networks Systems

### Course Description Form

Course Title: Microprocessors.

Course Code:

Semester: I

Level: B.Sc.

Class: 2<sup>nd</sup>

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



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College of Computer Science  
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Computer Networks Systems Department



كلية علوم الحاسوب وتكنولوجيا المعلومات

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كُلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُوجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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 .
	<b>Midterm Exam</b>
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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College of Computer Science  
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وزارة التعليم العالي والبحث العلمي

جامعة الأنبار

كلية علوم الحاسوب وتكنولوجيا المعلومات

قسم أنظمة شبكات الحاسوب

## 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	<ul style="list-style-type: none"> <li>Data Communications: overview</li> </ul>
Week 2	<ul style="list-style-type: none"> <li>Characteristics of Data Communication</li> <li>Data of Representation</li> <li>Data Flow</li> </ul>
Week 3	<ul style="list-style-type: none"> <li>Data Representation</li> </ul>
Week 4	<ul style="list-style-type: none"> <li>Data and Signals</li> <li>Periodic &amp; Non Periodic Signals</li> <li>Relation between Frequency &amp; Period</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>Digital Signals</li> <li>Baud Rate</li> <li>Types of Channels</li> </ul>
Week 6	<ul style="list-style-type: none"> <li>Bandwidth</li> <li>Bandwidth of A Signal</li> <li>Bandwidth of A Channel</li> <li>Shannon Capacity</li> </ul>
Week 7	<ul style="list-style-type: none"> <li>Time Domain and Frequency domain representation of signals</li> </ul>
Week 8	<ul style="list-style-type: none"> <li>Transmission Media</li> </ul>
<b>Midterm Exam</b>	
Week 9	<ul style="list-style-type: none"> <li>Computer Networks</li> <li>Criteria for Network</li> </ul>
Week 10	<ul style="list-style-type: none"> <li>Physical Structures for Network</li> <li>Networks Topologies</li> </ul>
Week 11	<ul style="list-style-type: none"> <li>OSI Model</li> </ul>
Week 12	<ul style="list-style-type: none"> <li>TCP/IP Model</li> </ul>
Week 13	<ul style="list-style-type: none"> <li>Comparison of the OSI and TCP Reference Models</li> </ul>
Week 14	<ul style="list-style-type: none"> <li>Standards-based internetworking methods I</li> </ul>
Week 15	<ul style="list-style-type: none"> <li>Standards-based internetworking methods II</li> </ul>

Ministry of Higher Education & Scientific Research

University of Anbar

College of Computer Science  
and Information Technology

Computer Networks Systems Department



كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُوجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُوجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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

Ministry of Higher Education & Scientific Research

University of Anbar

College of Computer Science  
and Information Technology

Computer Networks Systems Department



كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْاَنْبَارِ

كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ انْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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 مبرهنناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولا بد 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	2021-2022 الفصل 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	1 <sup>st</sup>
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: <ul style="list-style-type: none"> <li>· CORE TEXTS</li> <li>· COURSE MATERIALS</li> <li>· OTHER</li> </ul>	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)	<b>Error control coding fundamental and applications.</b>
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  <a href="http://www.careerride.com/mcq-tag-wise.aspx?Key=Information%20Theory&amp;Id=21">http://www.careerride.com/mcq-tag-wise.aspx?Key=Information%20Theory&amp;Id=21</a> <a href="http://www.gatestudy.com/wp-content/uploads/2015/09/Information-Theory-Coding.pdf">http://www.gatestudy.com/wp-content/uploads/2015/09/Information-Theory-Coding.pdf</a>

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





# Course Weekly Outline

**Course Name: Computer Algorithm**

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



### Course Weekly Outline

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

**Instructor Signature:**  
**Eman T. Mahdi**

**Dean Signature:**



# Course Weekly Outline

**Course Name: Numerical Analysis**

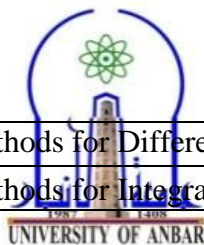
<b>Course Instructor</b>					
<b>E-mail</b>	taiseer.a.yaseen.uoanbar.edu.iq				
<b>Title</b>					
<b>Course Coordinator</b>					
<b>Course Objective</b>					
<b>Course Description</b>	Numerical Analysis for 2 <sup>nd</sup> Stage				
<b>Textbook</b>	Richard L. Burden and etc." Numerical Analysis ", 9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



## 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				

Republic of Iraq  
The Ministry of Higher Education



University: Anbar  
College:  
Department: Computer network system  
Stage: 2nd

13	Scientific Research	Numerical Analysis Methods for Differential Equation	Instructor name	
14		Numerical Analysis Methods for Integral Equation	Academic status:	
15		Final Exam	Qualification:	
			Place of work:	University of Anbar

**Instructor Signature:**

**Dean Signature:**



# Course Weekly Outline

**Course Name: Computer Architecture**

<b>Course Instructor</b>	Dr. Omar Munthir Al Okashi				
<b>E-mail</b>	<a href="mailto:Omar.alokashi@uoanabr.edu.iq">Omar.alokashi@uoanabr.edu.iq</a>				
<b>Title</b>	Ass. Prof				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>	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.				
<b>Textbook</b>	The essential of computer architecture and organization, 8 <sup>th</sup> edition, Linda Null				
<b>References</b>	The essential of computer architecture and organization, 8 <sup>th</sup> edition, Linda Null				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	٣٥	-	٥	-	٦٠
<b>General Notes</b>	-				



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:**



# Course Weekly Outline

**Course Name: Computer Networks**

<b>Course Instructor</b>	SAIF SAAD HAMEED				
<b>E-mail</b>	dove_white84@uoanbar.edu.iq				
<b>Title</b>					
<b>Course Coordinator</b>	SAIF SAAD HAMEED				
<b>Course Objective</b>	<p>The article aims to explain the means and methods contained in the computer network, where the article deals with</p> <p>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</p>				
<b>Course Description</b>					
<b>Textbook</b>	Data Communications & Networking, 4th Edition, Behrouz A. Forouzan				
<b>References</b>	Computer Networks, 5th Edition, Tanenbaum. Routing and Switching Essentials, 6 <sup>th</sup> Edition, CISCO Press <a href="http://www.cisco.com">www.cisco.com</a>				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20	15	5	10	50
<b>General Notes</b>	-				





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:**



# Course Weekly Outline

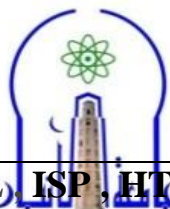
**Course Name:**

<b>Course Instructor</b>	Khitam Abdul_Basit Mohammad				
<b>E-mail</b>	Khitam.abdulbasit@uoanbar.edu.iq				
<b>Title</b>	<b>Web Design</b>				
<b>Course Coordinator</b>					
<b>Course Objective</b>	<ul style="list-style-type: none"> <li>- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.</li> <li>- Develop skills in analyzing the usability of a web site.</li> <li>- Understand how to plan and conduct user research related to web usability.</li> <li>- Learn the language of the web: HTML.</li> <li>- Learn techniques of responsive web design, including media queries.</li> </ul>				
<b>Course Description</b>	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.				
<b>Textbook</b>	“ <b>Learning Web Design</b> ”, Jennifer Niederst Robbins , Copyright © 2012 Littlechair, Inc , ISBN: 978-1-449-31927-4				
<b>References</b>	“ <b>Learning Web Design</b> ”, Jennifer Niederst Robbins , Copyright © 2012 Littlechair, Inc , ISBN: 978-1-449-31927-4				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
<b>General Notes</b>	-				



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

## Course Weekly Outline



		<b>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</b>	Web location: Place of work: University of Anbar	
2	Week 2	<b>HTML, What is an html File?, HTML structure, HTML Elements, HTML Backgrounds, image Background, HTML Colors</b>		
3	Week 3	<b>HTML Character Entities, HTML Lists</b>		
4	Week 4	<b>HTML Links, HTML Images</b>		
5	Week 5	<b>Tables, Frame tag and attributes</b>		
6	Week 6	<b>Exam</b>		
7	Week 7	<b>Password Box, checkbox, Radio Button</b>		
8	Week 8	<b>Submit Button, Reset Button,</b>		
9	Week 9	<b>Cascading Style Sheets, Internal CSS, External Style Sheet</b>		
10	Week 10	<b>JavaScript Introduction, JavaScript Statements</b>		
11	Week 11	<b>Creating JavaScript Variables, JavaScript Arithmetic Operators</b>		
12	Week 12	<b>Adding Strings and Numbers, JavaScript Comparison and Logical Operators</b>		
13	Week 13	<b>Conditional Statements</b>		
14	Week 14	<b>JavaScript Popup Boxes</b>		
15	Week 15			

**Instructor Signature:**

**Dean Signature:**

Ministry of Higher Education & Scientific Research

University of Anbar

College of Computer Science  
and Information Technology

Computer Networks Systems Department



كلية علوم الحاسوب وتكنولوجيا المعلومات

وزارة التعليم العالي والبحث العلمي

جامعة الأنبار

كلية علوم الحاسوب وتكنولوجيا المعلومات

قسم أنظمة شبكات الحاسوب

## 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

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

## 4. Recommended Text Books and References:

- Textbook:** Object-Oriented Programming in Python Documentation, Release 1, University of Cape Town and individual contributors, Nov 15, 2017
- Other References:** pdf files lectures , Internet Recources.

Ministry of Higher Education & Scientific Research

University of Anbar

College of Computer Science  
and Information Technology

Computer Networks Systems Department



كلية علوم الحاسوب وتكنولوجيا المعلومات

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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: Hierarchical and Hybrid Inheritance
Week 14	Python - Object Oriented Programming: Polymorphism
Week 15	Python - Object Oriented Programming: Final Exam



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وزارة التعليم العالي والبحث العلمي

جامعة الأنبار

كلية علوم الحاسوب وتكنولوجيا المعلومات

قسم أنظمة 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

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كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْاَنْبَارِ

كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ انْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## Objectives:

- 1- Demonstrate an understanding of the objectives and difficulties of English language.
- 2- Demonstrate an understanding of its 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 %

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Total	100 %
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## Recommended Text Books and References:

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جَامِعَةُ الْأَنْبَارِ

كُلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

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

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قسم أنظمة 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:**

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كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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	<b>Midterm Exam</b>
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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## Department of Computer Networks Systems

### Course Description Form

Course Title: Database Management Systems (DBMSs)

Course Code:

Semester: I

Level: B.Sc.

Class: 3<sup>rd</sup>

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

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قسم أنظمة شبكات الحاسوب

## 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
	<b>Midterm Exam</b>
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 الأكاديمي

### 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/IP واهم 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 أنظمة 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

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جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتِكْنُولُوجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## Lecture Schedule:

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



# Course Weekly Outline

**Course Name: Digital Signal Processing**

<b>Course Instructor</b>	Dr. Omar Munthir Al Okashi				
<b>E-mail</b>	<a href="mailto:Omar.alokashi@uoanabr.edu.iq">Omar.alokashi@uoanabr.edu.iq</a>				
<b>Title</b>	Ass. Prof				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>	This course introduce the main concepts of signal processing starting from conversion to digital and arriving to filtering.				
<b>Textbook</b>	Digital Signal Processing Fundamentals and Applications, Li Tan				
<b>References</b>	The scientist and engineer's guide to Digital Signal Processing, Steven W. Smith				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
<b>General Notes</b>	-				



## 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:**

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قسم أنظمة شبكات الحاسوب

## 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](mailto:co.wesam.jasim@uoanbar.edu.iq)

Mobile Number: 07824026570



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جَامِعَةُ الْأَنْبَارِ

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قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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
	<b>Midterm Exam</b>
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



# Course Weekly Outline

**Course Name:**

<b>Course Instructor</b>	Assist.prof.Dr. Ahmed N. Rashid				
<b>E-mail</b>	rashidisgr@uoanbar.edu.iq				
<b>Title</b>	Software Engineering				
<b>Course Coordinator</b>					
<b>Course Objective</b>	Software engineering learning, student learning, learning education while teaching prospective work procedures to the labor market with continuous employment				
<b>Course Description</b>	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				
<b>Textbook</b>					
<b>References</b>					
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
<b>General Notes</b>	-				





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 1, 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:**



# Course Weekly Outline

**Course Name: Semester Two**

<b>Course Instructor</b>	Ismail Taha Ahmed				
<b>E-mail</b>	Ismail.taha@uoanbar.edu.iq				
<b>Title</b>	Visual Programming C# II				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>	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.				
<b>Textbook</b>	-Paul J. Deitel and Harvey Deitel. 2016. C# 6 for Programmers (6th Edition) (6th. ed.). Prentice Hall Press, USA.				
<b>References</b>	C# 6 for Programmers  C# 7.0 in a Nutshell  Rob Miles, # Programming Yellow Book , “Cheese” Edition 8.1 December 2019.				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	25%	15%	5%	5%	50%
<b>General Notes</b>	-				



## 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 paragraph 10	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



# Course Weekly Outline

**Course Name: Distributed Data Base Management Systems**

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



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

### Course Weekly Outline

**Instructor Signature:**  
**Eman T. Mahdi**

**Dean Signature:**



# Course Weekly Outline

**Course Name: Network Programming**

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





## Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1		<b>Introduction</b> <ul style="list-style-type: none"> <li>Brief history of the net</li> <li>Motivation and implication</li> <li>Network Programing Features and Scope</li> <li>An overview of Python networking</li> </ul>		
2		<b>Network and Web Basics</b> <ul style="list-style-type: none"> <li>Network, hosts and addresses</li> <li>Network types</li> <li>Internet and World Wide Web</li> <li>Network Models and Layering</li> <li>OSI Reference Model</li> <li>Network protocols</li> <li>Network standards</li> </ul>		
3		<b>Python Crash Course</b> <ul style="list-style-type: none"> <li>Introduction to Python</li> <li>Python data types</li> <li>Working with lists</li> <li>Dictionaries Input/Output</li> <li>Functions</li> <li>Classes and OOP</li> <li>Files and exceptions</li> </ul>		
4		<b>Overview of Python Networking</b> <ul style="list-style-type: none"> <li>Python networking support</li> <li>Python networking libraries</li> </ul>		
5		<b>Addressing, Naming and DNS</b> <ul style="list-style-type: none"> <li>Handling IPv4 addresses</li> <li>Handing domain names</li> <li>Handing IPv6 addresses</li> </ul>		
6		<b>Socket Programming</b> <ul style="list-style-type: none"> <li>Socket concepts</li> <li>Sending/receiving data over a socket</li> <li>Buffer size and timeout</li> <li>Blocking/non-blocking mode</li> </ul>		



7		<b>TCP Programming</b> <ul style="list-style-type: none"> <li>• TCP concepts</li> <li>• TCP protocol and message format</li> </ul> A simple TCP echo client-server application		
8		<b>UDP Programming</b> <ul style="list-style-type: none"> <li>• UDP concepts</li> <li>• UDP protocol and message format</li> </ul> A simple UDP echo client-server application		
9		<b>Midterm Exam</b>		
10		<b>Python GUI Programming</b> <ul style="list-style-type: none"> <li>• Python GUI frameworks</li> <li>• Tkinter, wxPython, Kivy, PyQt</li> <li>• GUI and networking in Python</li> </ul>		
11		<b>Programming with HTTP for the Internet</b> <ul style="list-style-type: none"> <li>• HTTP protocol</li> <li>• Sending/receiving HTTP requests/responses</li> <li>• Serving HTTP requests and preparing/sending HTTP responses</li> <li>• Handling forms</li> <li>• Processing cookie information</li> </ul>		
12		<b>Processing Emails</b> <ul style="list-style-type: none"> <li>• Email protocols and handling</li> <li>• SMTP(Simple Mail Transfer Protocol) programming</li> <li>• POP3(Post Office Protocol - Version 3) programming</li> <li>• IMAP(Internet Message Access Protocol) programming</li> <li>• Work with Google Gmail</li> </ul>		
13		<b>Programming Across Machine Boundaries</b> <ul style="list-style-type: none"> <li>• Telnet and remote access</li> <li>• FTP and SFTP</li> <li>• Transferring files with FTP</li> <li>• Secure file transfer with SFTP</li> </ul>		



14		<b>Data/Messages Exchange</b> <ul style="list-style-type: none"> <li>• XML, JSON and CSV data formats</li> <li>• Working with XML/JSON/CSV data in Python</li> </ul> <b>Multithreading and Multiprocessing</b> <ul style="list-style-type: none"> <li>• Multithreading and multiprocessing concepts</li> <li>• Multithreading and multiprocessing in Pythonc</li> <li>• Multithread servers and clients</li> </ul>		
15		<b>Event-driven Programming**</b> <ul style="list-style-type: none"> <li>• What is event-driven programming?</li> <li>• Event detection and handling</li> <li>• Event-driven network programming</li> </ul>		
16		<b>Web Services**</b> <ul style="list-style-type: none"> <li>• Introducing Web services</li> <li>• REST and SOAP</li> <li>• Web services in Python</li> </ul> <b>Web Applications**</b> <ul style="list-style-type: none"> <li>• Web applications and frameworks</li> <li>• Django, Web2py, Flask, Bottle</li> <li>• Python Web development</li> <li>• </li> </ul>		

**Instructor Signature:**

**Dean Signature:**



# Course Weekly Outline

**Course Name: Digital Signal Processing II**

<b>Course Instructor</b>	Dr. Omar Munthir Al Okashi				
<b>E-mail</b>	<a href="mailto:Omar.alokashi@uoanabr.edu.iq">Omar.alokashi@uoanabr.edu.iq</a>				
<b>Title</b>	Ass. Prof				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>	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.				
<b>Textbook</b>	The essential of computer architecture and organization, 5 <sup>th</sup> edition, Linda Null				
<b>References</b>	The essential of computer architecture and organization, 5 <sup>th</sup> edition, Linda Null				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
<b>General Notes</b>	-				



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:**

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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](mailto:ahmed.abdalkafor@uoanbar.edu.iq)

Mobile Number: 07834120596

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قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## Lecture Schedule:

Weeks	Topics
Week 1	<ul style="list-style-type: none"><li>• Network and Protocol: Definition and Overview</li></ul>
Week 2	<ul style="list-style-type: none"><li>• Protocols &amp; Services</li></ul>
Week 3	<ul style="list-style-type: none"><li>• OSI Network Architecture Seven Layers Model</li><li>• TCP/IP Four Layers Architecture Model</li><li>• Network Architecture Models: IBM SNA</li></ul>
Week 4	<ul style="list-style-type: none"><li>• Application Layer Protocols</li><li>• BOOTP: Bootstrap Protocol</li><li>• DHCP: Dynamic Host Configuration Protocol</li></ul>
Week 5	<ul style="list-style-type: none"><li>• DNS: Domain Name System (Service) protocol</li><li>• FTP: File Transfer Protocol</li><li>• HTTP: Hypertext Transfer Protocol</li></ul>
Week 6	<ul style="list-style-type: none"><li>• NTP: Network Time Protocol</li><li>• RMON: Remote Monitoring MIBs (RMON1 and RMON2)</li><li>• SMTP: Simple Mail Transfer Protocol</li></ul>
Week 7	<ul style="list-style-type: none"><li>• Presentation Layer Protocols</li><li>• LPP: Lightweight Presentation Protocol</li></ul>
Week 8	<ul style="list-style-type: none"><li>• Session Layer Protocols</li><li>• RPC: Remote Procedure Call protocol</li></ul>
	<b>Midterm Exam</b>
Week 9	<ul style="list-style-type: none"><li>• Transport Layer Protocols</li><li>• RDP: Reliable Data Protocol</li></ul>
Week 10	<ul style="list-style-type: none"><li>• TCP: Transmission Control Protocol</li><li>• UDP: User Datagram Protocol</li></ul>
Week 11	<ul style="list-style-type: none"><li>• Network Layer Protocols</li><li>• IP: Internet Protocol (IPv4)</li></ul>



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Week 12	<ul style="list-style-type: none"><li>• Pv6: Internet Protocol version 6</li><li>• Mobile IP: IP Mobility Support Protocol for IPv4 &amp; IPv6</li></ul>
Week 13	<ul style="list-style-type: none"><li>• OSPF: Open Shortest Path First protocol</li><li>• RIP: Routing Information Protocol (RIP2)</li></ul>
Week 14	<ul style="list-style-type: none"><li>• Data Link Layer Protocols</li><li>• ARP and InARP: Address Resolution Protocol and Inverse ARP</li><li>• IPCP and IPv6CP: IP Control Protocol and IPv6 Control Protocol</li></ul>
Week 15	<ul style="list-style-type: none"><li>• ARP: Reverse Address Resolution Protocol</li><li>• SLIP: Serial Line IP Protocol</li></ul>

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## Department of Computer Networks Systems

### Course Description Form

Course Title: Information Security

Course Code:

Semester: I

Level: B.Sc.

Class: 4<sup>th</sup>

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](mailto:sufyan.aljanabi@uoanbar.edu.iq)

Mobile Number: 07808655508

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## 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-World Systems
Week 15	Modes of Operation



# Course Weekly Outline

**Course Name: Artificial Intelligence I**

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



## 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 Propositional 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:

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قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## Department of Computer Networks Systems

### Course Description Form

**Course Title: Web Application Development I**

**Course Code:**

**Semester: I**

**Level: B.Sc.**

**Class: 4<sup>th</sup>**

**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 Calendar Control TreeView Control
Week 9	Midterm Exam
Week 10	ASP.NET Statements 1:



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



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## 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

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وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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
	<b>Midterm Exam</b>
Week 9	Process Management: Deadlocks
Week 10	Memory Management
Week 11	<b>Second Month Exam</b>
Week 12	Memory Management: Segmentation
Week 13	Memory Management: Paging
Week 14	Memory Management: Virtual Memory
Week 15	File System



# Course Weekly Outline

**Course Name:** Research methodology

<b>Course Instructor</b>	Dr.Ahmed Noori				
<b>E-mail</b>					
<b>Title</b>	Research methodology				
<b>Course Coordinator</b>	Dr.Ahmed Noori				
<b>Course Objective</b>	<p>-Studies with this object in view are termed as exploratory or formative research studies</p> <p>-Studies with this object in view are known as descriptive research studies</p> <p>-Studies with this object in view are known as diagnostic research studies</p>				
<b>Course Description</b>	<p>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 توحى بأن هناك أكثر من نوع ضمن هذا المصطلح العام</p>				
<b>Textbook</b>	<p>RESEARCH METHODOLOGY: TOOLS AND TECHNIQUES</p> <p>ISBN 978-606-93502-7-0</p> <p>Buzau, Al. Marghiloman 245 bis, 120082</p>				
<b>References</b>	<p>RESEARCH METHODOLOGY: TOOLS AND TECHNIQUES</p> <p>ISBN 978-606-93502-7-0</p> <p>Buzau, Al. Marghiloman 245 bis, 120082</p>				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	10%	5%	50%
<b>General Notes</b>	-				

Republic of Iraq  
The Ministry of Higher Education  
& Scientific Research



University: Anbar  
College: CS & IT  
Department: computer network system department  
Stage: 4<sup>th</sup> 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		الامتحان 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:  
Signature:

Dean



# Course Weekly Outline

**Course Name: English**

<b>Course Instructor</b>	Dr. Omar Munthir Al Okashi				
<b>E-mail</b>	<a href="mailto:Omar.alokashi@uoanabr.edu.iq">Omar.alokashi@uoanabr.edu.iq</a>				
<b>Title</b>	Ass. Prof				
<b>Course Coordinator</b>					
<b>Course Objective</b>	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.				
<b>Course Description</b>	This course is composed of eleven different units that cover different English skills such as reading, writing, grammars and vocabulary.				
<b>Textbook</b>	New Headway Plus (Upper Intermediate)				
<b>References</b>	Different English lectures and lessons.				
<b>Course Assessments</b>	Term Tests	Laboratory	Quizzes	Project	Final Exam
	35	-	5	-	60
<b>General Notes</b>	-				



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:**



## MODULE DESCRIPTION FORM

### نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Network Switching and Routing		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> 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

<p><b>Module Aims</b></p> <p>أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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).</li> <li>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.</li> </ol>
<p><b>Module Learning Outcomes</b></p> <p>مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ol>





	<ol style="list-style-type: none"> <li>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.</li> <li>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).</li> <li>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.</li> </ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<ol style="list-style-type: none"> <li>1. Introduction to Network Switching and Routing: <ul style="list-style-type: none"> <li>• Overview of network switching and routing concepts</li> <li>• Network topologies and architectures</li> <li>• OSI and TCP/IP network models</li> </ul> </li> <li>2. Network Switching Technologies: <ul style="list-style-type: none"> <li>• Ethernet fundamentals and switching operation</li> <li>• Virtual LANs (VLANs) and VLAN trunking</li> <li>• Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP)</li> <li>• Inter-VLAN routing and Layer 3 switching</li> </ul> </li> <li>3. Routing Concepts: <ul style="list-style-type: none"> <li>• Routing fundamentals and packet forwarding</li> <li>• Routing tables and routing protocols</li> <li>• Distance Vector Routing Protocols (e.g., RIP)</li> <li>• Link-State Routing Protocols (e.g., OSPF)</li> <li>• Border Gateway Protocol (BGP) and external routing</li> </ul> </li> <li>4. Routing Protocol Configuration and Management: <ul style="list-style-type: none"> <li>• Configuring and managing static routing</li> <li>• Configuring and managing dynamic routing protocols</li> <li>• Route redistribution and route filtering</li> <li>• Routing protocol convergence and troubleshooting</li> </ul> </li> <li>5. Advanced Routing Concepts: <ul style="list-style-type: none"> <li>• Multicast routing and multicast protocols</li> <li>• IPv6 addressing and routing</li> <li>• Traffic engineering and Quality of Service (QoS)</li> <li>• Virtual Private Networks (VPNs) and tunneling protocols</li> </ul> </li> <li>6. Network Switching and Routing Security:</li> </ol>



	<ul style="list-style-type: none"> <li>• Network device security best practices</li> <li>• Access control and authentication mechanisms</li> <li>• Securing routing protocols and routing updates</li> <li>• Network threat mitigation and defense techniques</li> </ul>
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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 أسبوعياً	6,2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	32	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	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 10



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

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
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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.

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جامعة الأنبار

كلية علوم الحاسوب وتكنولوجيا المعلومات

قسم أنظمة شبكات الحاسوب

## Department of Computer Networks Systems

### Course Description Form

Course Title: Network Security

Course Code:

Semester: II

Level: B.Sc.

Class: 4<sup>th</sup>

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](mailto:sufyan.aljanabi@uoanbar.edu.iq)

Mobile Number: 07808655508

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كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْاَنْبَارِ

كَلِيَّةُ عُلُومِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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



# Course Weekly Outline

**Course Name: Artificial Intelligence II**

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





## 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:

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وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَالْبَحْثِ الْعِلْمِيِّ

جَامِعَةُ الْأَنْبَارِ

كَلِيَّةُ عِلْمِ الْحَاسِبِ وَتَكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## Department of Computer Networks Systems

### Course Description Form

**Course Title: Web Application Development II**

**Course Code:**

**Semester: II**

**Level: B.Sc.**

**Class: 4<sup>th</sup>**

**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:

- 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



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

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قسم أنظمة شبكات الحاسوب

## 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



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جَامِعَةُ الْأَنْبَارِ

كُلِيَّةُ عِلْمِ الْحَاسِبِ وَتِكْنُولُجِيَا الْمَعْلُومَاتِ

قِسْمُ أَنْظِمَةِ شَبَكَاتِ الْحَاسِبِ

## 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
	<b>Midterm Exam</b>
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



وزارة التعليم العالي والبحث العلمي  
جهاز الإشراف والتقويم العلمي  
دائرة ضمان الجودة والاعتماد الأكاديمي  
قسم الاعتماد الدولي

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  
مبرهنأ 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