وَزَارَةُ التَّعْلِيمِ العَالِي وَالبَحْثِ العِلْمِيِّ

جَامِعَةُ الأَنبَار

كُلِّيَّةِ عُلُومِ الحَاسُوبِ وتَكنُولُوجِيَا المَعلُومَات

قِسـمِ الذَّكَاءِ الأَصْطِنَاعِي

Higher Education & Scientific Research

University Of Anbar

College of Computer Science and Information Technology

Artificial Intelligence Department

دليل وصف المادة الدراسية

2023–2024

MODULE DESCRIPTION FORM
2023-2024

MODULE DESCRIPTION FORM

Module Information				
Module Title	**Computer Technology**		**Module Delivery**	
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	**AIDC113**			
ECTS Credits	**5**			
SWL (hr/sem)	**125**			
Module Level		1	**Semester of Delivery**	1
Administering Department		AI	**College**	Type College Code
Module Leader	Name		**e-mail**	E-mail
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail
Peer Reviewer Name		Name	**e-mail**	E-mail
Scientific Committee Approval Date		01/06/2023	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	- 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
Module Learning Outcomes	- The student should understand the architecture of any IT systems. - The student should understand the parts of hardware. - The student should understand the system software. - The student should understand the architecture of networks, protocols and communications devices.

Indicative Contents	Data Conversion · D/A converters · A/D converters · Sample and Hold circuits Digital Component Operations · Multiplexing · Data storage · Integrated Circuits Digital Technology · Memory Technology · Circuit Board Technology · Nano-Technology

Learning and Teaching Strategies

Strategies	- The student should use utilities in the lab to apply scientific experiment - The ability to execute the applications software.

Student Workload (SWL)

Structured SWL (h/sem)	78	Structured SWL (h/w)	5
Unstructured SWL (h/sem)	47	Unstructured SWL (h/w)	3
Total SWL (h/sem)		125	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

	Delivery Plan (Weekly Syllabus)
	Material Covered
Week 1	Introduction of Computers and Programming
Week 2	Brief history of computer
Week 3	Generation of Computers & Computer hierarchy
Week 4	Basic Computer Components
Week 5	Computer function (fetch cycle, interrupt cycle, I/O function
Week 6	Semiconductor main memory (RAM, ROM, CACHE)
Week 7	Midterm Exam
Week 8	Computer Software(application software)
Week 9	External & Internal memory
Week 10	Telecommunications system & Network
Week 11	Topology of a network and layering
Week 12	data representation
Week 13	Multimedia
Week 14	Computer Security
Week 15	All Topics
Week 16	**Preparatory week before the final Exam**

	Delivery Plan (Weekly Lab. Syllabus)
	Material Covered
Week 1	Basic Computer Components
Week 2	Computer function (fetch cycle, interrupt cycle, I/O function
Week 3	Computer function (fetch cycle, interrupt cycle, I/O function
Week 4	Semiconductor main memory (RAM, ROM, CACHE)
Week 5	Computer Software(application software)
Week 6	Computer Software(application software)
Week 7	External & Internal memory
Week 8	External & Internal memory
Week 9	Telecommunications system & Network
Week 10	Topology of a network

Week 11	Topology of a network
Week 12	Layering model
Week 13	Layering model
Week 14	Protocols
Week 15	addressing communications

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	1.Computing Essentials Making IT work for you 2017 by Timothy J. O'Leary. 2.Computer Organization and Architecture Designing for Performance (8th Edition).	No
Recommended Texts		No
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

MODULE DESCRIPTION FORM

Module Information

Module Title	**Programming Basics**		Module Delivery	
Module Type	C		☒ Theory	
Module Code	AIDC112		☐ Lecture	
ECTS Credits	**9**		☒ Lab	
SWL (hr/sem)	**225**		☒ Tutorial ☒ Practical ☐ Seminar	

Module Level	1	Semester of Delivery	1
Administering Department	AI	**College**	Type College Code
Module Leader	Name	**e-mail**	E-mail
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0

Relation with other Modules

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	● Understand the concepts and terms used to describe languages that support the imperative, functional, and logic programming paradigms. ● Solve problems using the functional paradigm
Module Learning Outcomes	Develop proficiency in the C++ programming language, including a strong understanding of its syntax, semantics, data types, control structures, functions, and object-oriented programming concepts.

Indicative Contents	Introduction to C++ Programming
	Object-Oriented Programming (OOP) in C++
	C++ Standard Library
	Memory Management in C++
	Data Structures and Algorithms in C++
	C++ Application Development

Learning and Teaching Strategies	
Strategies	Conceptual Understanding:
	Hands-on Practice
	Code Review and Feedback
	Problem-Solving Exercises

Student Workload (SWL)			
Structured SWL (h/sem)	123	**Structured SWL (h/w)**	8
Unstructured SWL (h/sem)	102	**Unstructured SWL (h/w)**	7
Total SWL (h/sem)	**225**		

Module Evaluation				
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10

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

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	**Algorithms**
Week 2	**Introduction to programming languages and C++**
Week 3	**Variables**
Week 4	**C++ Libraries**
Week 5	**C++ User Input**
Week 6	**C++ Operators**
Week 7	Mid-term Exam
Week 8	**C++ Strings & C++ Math**
Week 9	**C++ Booleans**
Week 10	**If condition**
Week 11	**Switch condition**
Week 12	**While loop**
Week 13	**Do-while loop**
Week 14	**For loop**
Week 15	**C++ Break and Continue**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	C++ Libraries
Week 2	C++ User Input
Week 3	C++ Operators
Week 4	If condition
Week 5	Switch condition
Week 6	While loop
Week 7	Do-while loop
Week 8	For loop
Week 9	C++ Break and Continue

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	The C++ Programming Language (4th Edition) by by Bjarne Stroustrup	No
Recommended Texts		
Websites	https://www.learncpp.com/ https://www.w3schools.com/CPP/default.asp	

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	A - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors

	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

MODULE DESCRIPTION FORM

Module Information		
Module Title	**Introduction to Artificial Intelligence (AI)**	**Module Delivery**
Module Type	C	☒ Theory
Module Code	**AIDC111**	☐ Lecture ☐ Lab
ECTS Credits	**6**	☒ Tutorial
SWL (hr/sem)	**150**	☒ Practical ☐ Seminar

Module Level	1	**Semester of Delivery**		1
Administering Department	AI	**College**	Type College Code	
Module Leader	Name	**e-mail**	E-mail	
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)	**e-mail**	E-mail	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date	01/10/2023	**Version Number**	1.0	

Relation with other Modules

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	The aim of this module is to provide an introduction to Artificial Intelligence (AI) and its various applications. Students will gain a comprehensive understanding of the fundamental concepts, techniques, and algorithms used in AI, as well as the ethical considerations associated with its use. The module will also explore the impact of AI on society, economy, and various industries.
Module Learning Outcomes	By the end of this module, students are expected to: 1. Understand the basic concepts and principles of Artificial Intelligence. 2. Gain knowledge of various AI techniques and algorithms. 3. Develop an understanding of the ethical implications of AI. 4. Analyze the impact of AI on different aspects of society and industry. 5. Apply AI techniques to solve real-world problems.
Indicative Contents	Introduction to Artificial Intelligence Definition, brief history, and scope of AI. Different types of AI systems. Problem Solving and Search Algorithms Problem formulation and representation. Uninformed search algorithms (e.g., breadth-first search, depth-first Machine Learning Ethical and Social Implications of

Learning and Teaching Strategies

Strategies	Conceptual Understanding: Hands-on Practice Code Review and Feedback Problem-Solving Exercises

Student Workload (SWL)

Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6
Unstructured SWL (h/sem)	57	**Unstructured SWL (h/w)**	4
Total SWL (h/sem)		**150**	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

	Delivery Plan (Weekly Syllabus)
	Material Covered
Week 1	Historical overview of AI, AI Introduction
Week 2	Programing and AI important
Week 3	AI Types
Week 4	Problem Solving: **Introduction to problem-solving techniques and algorithms**
Week 5	AI Applications Overview: **A survey of AI applications in various domains such as healthcare, finance, and gaming.**
Week 6	**search algorithms like depth-first search and breadth-first search.**
Week 7	Mid-term Exam
Week 8	Machine Learning Basics: **A brief introduction to the fundamentals of machine learning**
Week 9	**Supervised learning**
Week 10	**unsupervised learning**
Week 11	**Expert systems**
Week 12	**Knowledge base**
Week 13	**Rule based approaches**
Week 14	**AI Ethics Awareness: An introduction to ethical considerations in AI, including fairness, bias, and responsible AI development.**
Week 15	**Preparatory week before the final Exam**

	Learning and Teaching Resources	
	Text	**Available in the Library?**
Required Texts	Book Title: "Artificial Intelligence: A Guide to Intelligent Systems"Author: Michael Negnevitsky	No
Recommended Texts		
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

Module Information

Module Title	**Mathematics**		Module Delivery	
Module Type	**B**		☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**CCIT060**			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level	1	**Semester of Delivery**		1
Administering Department	AI	**College**	Type College Code	
Module Leader	Mohammed Salah Ibrahim	**e-mail**	Moh.salah@uoanbar.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)	**e-mail**	E-mail	
Peer Reviewer Name	Name	**e-mail**	E-mail	

Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	Core Mathematical Knowledge: The course aims to provide students with a solid foundation of core mathematical concepts and theories. This includes topics such as algebra, calculus, geometry, discrete mathematics, probability, and statistics. The aim is to ensure that students have a comprehensive understanding of fundamental mathematical principles.
Module Learning Outcomes	By the end of the module, students should be able to: -Understand and use basic mathematical terminology. - Understand the role of formal definitions and proofs and be able to apply them in problem solving. - Understand the basics of propositional and predicate logic. - Understand the basics of elementary set theory. - Understand the basics of mathematical relations and functions. - Understand the basics of graph theory.
Indicative Contents	Calculus Linear Algebra Discrete Mathematics Probability and Statistics Differential Equations

Learning and Teaching Strategies

Strategies	Hands-on Practical Exercises
	Case Studies and Real-World Examples
	Collaborative Learning
	Continuous Assessment and Feedback

Student Workload (SWL)

Structured SWL (h/sem)	93	Structured SWL (h/w)	6
Unstructured SWL (h/sem)	57	Unstructured SWL (h/w)	4
Total SWL (h/sem)		150	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Functions: Function Definition, Domain and range of functions, Graphing of function

Week 2	Limits: Definition of limits, Theorems of limits, Type of limits
Week 3	The Definition and Interpretation of the Derivative
Week 4	Methods of proof and Mathematical induction
Week 5	Counting principles Permutations and combinations
Week 6	Pigeonhole principle Inclusion-exclusion principle
Week 7	Midterm
Week 8	Number Theory: ● Prime numbers and factorization ● Modular arithmetic ● GCD and LCM ● Applications in cryptography
Week 9	Probability and Statistics: ● Probability spaces ● Random variables and distributions ● Expectation and variance ● Applications in data analysis and algorithm analysis
Week 10	Linear Algebra for Computer Science: ● Vectors and matrices
Week 11	● Linear transformations
Week 12	● Eigenvalues and eigenvectors ● Applications in Machine Learning
Week 13	Special Topics: ● Cryptography

	Computation theory and Complexity theory
Week 14	Final Exam
Week 15	Recap for the final exam

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Calculas , Thomas ,1990,5th edition	Yes
Recommended Texts	Howard Anton, Irl Bivens, Stephen Davis, CALCULUS, 10th Edition, John Wiley & Sons, Inc., 2012.	No
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

<table>
<tr><th colspan="4" align="center">Module Information</th></tr>
<tr><td>Module Title</td><td colspan="2" align="center">English Language I</td><td>Module Delivery</td></tr>
<tr><td>Module Type</td><td colspan="2" align="center">S</td><td rowspan="4">☒   Theory
☐   Lecture
☐   Lab
☐   Tutorial
☐   Practical
☐   Seminar</td></tr>
<tr><td>Module Code</td><td colspan="2" align="center">UOA003</td></tr>
<tr><td>ECTS Credits</td><td colspan="2" align="center">2</td></tr>
<tr><td>SWL (hr/sem)</td><td colspan="2" align="center">50</td></tr>
<tr><td>Module Level</td><td>1</td><td>Semester of Delivery</td><td>1</td></tr>
<tr><td>Administering Department</td><td>Artificial Intelligence</td><td>College</td><td>Computer Science and Information Technology</td></tr>
<tr><td>Module Leader</td><td>Kibrea Abdul-Kadhim Jasim</td><td>e-mail</td><td>Kibrea.a.jasim@uoanbar.edu.iq</td></tr>
<tr><td>Module Leader's Acad. Title</td><td>Assistant Lecturer</td><td>Module Leader's Qualification</td><td>Asst.Lec.</td></tr>
<tr><td>Module Tutor</td><td>Name (if available)</td><td>e-mail</td><td>E-mail</td></tr>
<tr><td>Peer Reviewer Name</td><td>Name</td><td>e-mail</td><td>E-mail</td></tr>
<tr><td>Scientific Committee Approval Date</td><td>01/06/2023</td><td>Version Number</td><td>1.0</td></tr>
</table>

<table>
<tr><th colspan="4" align="center">Relation with other Modules</th></tr>
<tr><td>Prerequisite module</td><td>None</td><td>Semester</td><td></td></tr>
<tr><td>Co-requisites module</td><td>None</td><td>Semester</td><td></td></tr>
</table>

<table>
<tr><th colspan="2" align="center">Module Aims, Learning Outcomes and Indicative Contents</th></tr>
<tr><td>Module Objectives</td><td>Enhance Language Proficiency: The course aims to enhance students' language proficiency in English, including their reading, writing, speaking, and listening skills. It focuses on improving grammar, vocabulary, pronunciation, and overall communication abilities</td></tr>
<tr><td>Module Learning Outcomes</td><td>Developing advanced reading comprehension skills and critical analysis of various texts.
Enhancing writing skills across different genres and formats.
Improving oral communication and presentation skills.
Expanding language proficiency in English, including grammar,</td></tr>
</table>

	vocabulary, and pronunciation.
	- Analyzing and interpreting literary works from diverse genres and periods. - Conducting effective research and demonstrating information literacy. - Cultivating critical thinking skills and forming well-supported opinions. - Enhancing intercultural communication and understanding. - Fostering creativity and imaginative expression through literature and writing. - Cultivating a love for lifelong learning in the field of English.
Indicative Contents	- Study of various literary genres, such as poetry, drama, and prose. - Analysis of literary works from different periods and cultural contexts. - Development of critical reading and interpretation skills. - Exploration of language and linguistics, including grammar, syntax, and phonetics. - Introduction to literary theories and their application in analyzing texts. - Practice in academic writing, including essay composition and research skills. - Development of oral communication and presentation skills. - Examination of cultural and historical contexts that influence literature. - Integration of technology and digital resources in language and literary studies. - Opportunities for creative writing and expression.

Learning and Teaching Strategies

Strategies	1. Reading and Text Analysis: Provide a variety of reading materials, including literary texts, articles, and authentic sources. Guide students in analyzing and interpreting texts, identifying main ideas, and extracting key information. Facilitate class discussions to promote comprehension and critical thinking. 2. Writing Workshops and Peer Feedback: Conduct writing workshops where students can refine their writing skills and receive feedback from peers and the instructor. Incorporate writing exercises that focus on specific writing techniques and genres. Provide guidance and support in the writing process, including brainstorming, drafting, revising, and editing. 3. Presentations and Public Speaking: Assign oral presentations on various topics to enhance students' public speaking skills. Provide guidelines and practice opportunities for effective delivery, organization, and visual aids. Offer constructive feedback to help students improve their presentation skills. 4. Grammar and Vocabulary Activities: Incorporate interactive grammar and vocabulary activities, such as exercises, games, and quizzes, to reinforce language skills. Provide explicit instruction on grammar rules and strategies for vocabulary acquisition. Encourage students to use new grammar and vocabulary in context.

Student Workload (SWL)

Structured SWL (h/sem)	33	**Structured SWL (h/w)**	2
Unstructured SWL (h/sem)	17	**Unstructured SWL (h/w)**	1
Total SWL (h/sem)	**50**		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1		Continuous	All
	Report	1		13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Hello Grammar spot (is, are, am) Possessive Pronouns Everyday English (conversation) Word order Sounds

Week 2	Your world Nationalities Grammar spot (abbreviations, Completing a question, Checking the correct sentence) Complete a conversation
Week 3	All about you Grammar spot (Negatives, abbreviations, and Short answers) Writing Personal information (profile) Listening to a conversation Social expressions and jobs
Week 4	Family and friends Objective Pronouns Possession (Possessive pronouns, Possessive S, Has and have) Grammar spot (Checking the correct sentence) Pronunciation
Week 5	The way I live Vocabulary: sports, food, and drinks Grammar spot: (positive, negative, adjectives, and articles: a/an) Listening and speaking Matching countries with nationalities
Week 6	Every day Writing (times) Grammar spot (present simple and its adverbs) Pronunciation (s) Vocabulary and speaking Prepositions

Week 7	Mid-term Exam
Week 8	My favourites/Where I live Grammar spot: Question words, positive, negative, question, and word order. Conversation : using this/ that Vocabulary: completing adjectives, synonyms and antonyms, Everyday English (places and activities). Writing a letter, a postcard and a paragraph. Everyday English: directions
Week 9	Times past Grammar spot: passive voice, past simple, questions, past tense adverbs, and question words. Reading and speaking: past form Vocabulary: Using have, do, go, and time expressions Listening and speaking: sport, leisure, seasons, and months.
Week 10	We had a great time Grammar spot: past tense: regular and irregular forms Pronunciation of /t/, /d/ and /id/ Vocabulary: technical terms
Week 11	I can do that Grammar spot: can, adverbs (fast and well), Regular adverbs, and request and offer Pronunciation of can Vocabulary and speaking: adjectives, and everyday English
Week 12	Please and thank you Speaking : activities and places, Grammar spot: would like, some and any, always, and now and soon Reading and speaking: food names, and everyday English (signs all around) Vocabulary: Technical expressions

Week 13	Second Exam
Week 14	Here and now

Vocabulary and listening : colors, opposite verbs, everyday English (sense terms)

Grammar spot: present continuous |
| Week 15 | It's time to go

Writing: transport

Grammar spot: going to and present continuous, and Question words

Vocabulary revision, Everyday English (social expressions), and technical abbreviations.

Pronunciation of two and three syllables |

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	**Headway Plus Beginner, by John and Liz Soars,2010**	Yes
Recommended Texts		
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group **(50 - 100)**	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group **(0 – 49)**	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

MODULE DESCRIPTION FORM

Module Information		
Module Title	الديمقراطية وحقوق الإنسان	**Module Delivery**
Module Type	S	☒ **Theory**
Module Code	**UOA005**	☐ **Lecture** ☐ **Lab**
ECTS Credits	**2**	☐ **Tutorial** ☐ **Practical**
SWL (hr/sem)	**50**	☐ **Seminar**

Module Level	1	**Semester of Delivery**	1
Administering Department	AI	**College**	Type College Code
Module Leader	Name	**e-mail**	E-mail
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	أ . تعليم الطلبة على أساسيات حقوق الإنسان وقوانينها . ب. التعرف على الحقوق وأهم الإشكاليات والتحديات التي تواجهها ج- تحديد وفهم المفاهيم المتعلقة بالحريات، بما في ذلك الحقوق الفردية والحريات الشخصية . د. تنمية القدرة على التفكير النقدي حول القضايا المتعلقة بالحريات والحقوق الفردية.
Module Learning Outcomes	1- أن يعرف الطالب مفهوم الحقوق وقوانينها وتطبيقاتها . 2- أن يعرف الطالب كيفية المشاركة في نشر الحقوق وتطبيقها بالعمل الواقعي الحقيقي. 3- القدرة على استخدام الحقوق وسيلة من أجل التعايش السلمي بين مكونات المجتمع وجميع المخلوقات . 4- القدرة على مشاركة الآخرين في نشر هذه الحقوق . 5- القدرة على تحليل وتعريف مفهوم الحرية والتمييز بين أنواع مختلفة من الحريات. 6- التفاعل مع قضايا الحريات على الصعيدين الوطني والدولي والتأثير في تشكيل الرأي العام.
Indicative Contents	الحقوق والحريات الأساسية وغير الأساسية الحقوق والحريات المدنية الحقوق السياسية حقوق الانسان والقانون الدولي الإنساني

Learning and Teaching Strategies

Strategies	1- المشاركة بالتحضير في قاعة الدرس 2- طريقة الأسئلة والأجوبة في قاعة الدرس 3- الواجبات 4- التقارير

Student Workload (SWL)

Structured SWL (h/sem)	33	**Structured SWL (h/w)**	2
Unstructured SWL (h/sem)	17	**Unstructured SWL (h/w)**	1
Total SWL (h/sem)		**50**	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1		Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	مفهوم الديمقراطية ومميزاتها
Week 2	الديمقراطية المباشرة
Week 3	الديمقراطية شبه المباشرة
Week 4	الديمقراطية غير المباشرة
Week 5	ركائز الديمقراطية
Week 6	آليات الديمقراطية
Week 7	تعريف حقوق الإنسان
Week 8	امتحان
Week 9	الحقوق الأساسية وغير الأساسية
Week 10	الحقوق المدنية
Week 11	الحقوق السياسية

Week 12		الحقوق الاقتصادية والاجتماعية والثقافية
Week 13		الحقوق الفردية والحقوق الجماعية وطائفة الحقوق الجديدة
Week 14		حقوق الإنسان والقانون الدولي الإنساني
Week 15		حقوق الإنسان في الإسلام

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Diamond L. & M. F. Plattner, eds., (2009), Democracy. A Reader, Baltimore, Johns Hopkins University Press.	yes
Recommended Texts	مفهوم الحريات العامة وحقوق الانسان ، إطارها التاريخي والفكري والفلسفي، وضماناتها الأساسية- 2010	
Websites	**http://ghrorg-learning.blogspot.com**	

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

Semester-2

MODULE DESCRIPTION FORM

Module Information			
Module Title	Discrete Structures	**Module Delivery**	
Module Type	B	☒ Theory	
Module Code	CCIT061	☐ Lecture	
ECTS Credits	5	☐ Lab	
		☒ Tutorial	
SWL (hr/sem)	125	☒ Practical	
		☐ Seminar	
Module Level	1	**Semester of Delivery**	2
Administering Department	AI	**College**	Type College Code
Module Leader	Name	**e-mail**	E-mail
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	CCIT060	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	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 these objects
Module Learning Outcomes	A- Knowledge and Understanding
	1. Understand the concept of ordinary and partial
	2. Understand the set theory
	3. Understand the logic math
	4. Understand the relation of two sets
	5. Understand the graph theory
Indicative Contents	• Sets and Graphs Sets and subsets: definitions, examples, Set operations, basic identities, power of a set, Cartesian product of sets, relations on sets, Basic graph terminology. • Recurrence relations (Difference Equations) Definition of a recurrence relation (difference equations), Homogeneous and inhomogeneous difference equations, Nonlinear difference equations: $x_{n+1} = g(x_n)$, Fixed points, linearisation, stability of fixed points. Applications: the Newton and Secant Methods to solve non-linear equations $f(x) = 0$, Programming: Short introduction to Matlab, Numerical algorithms for difference equations: Newton's method, Fibonacci sequences, Recursion.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	- By solving many exercises - Daily and weekly quizzes. - Guiding the student to some electronic websites.

Student Workload (SWL)			
Structured SWL (h/sem)	78	**Structured SWL (h/w)**	5
Unstructured SWL (h/sem)	47	**Unstructured SWL (h/w)**	3
Total SWL (h/sem)	**125**		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Abstract of discrete mathematics
Week 2	Set theory
Week 3	Solve some example
Week 4	Logic
Week 5	Solve some example
Week 6	Functions
Week 7	Mid-term Exam
Week 8	Relation
Week 9	Some examples
Week 10	Graph theory

Week 11	Some example
Week 12	Tree
Week 13	Solve example
Week 14	Solve example
Week 15	Review
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts		
Recommended Texts		
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C – Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

Module Information			
Module Title	**Structured Programming**	**Module Delivery**	
Module Type	C	☒ Theory	
Module Code	**AIDC123**	☐ Lecture	
ECTS Credits	**9**	☒ Lab	
SWL (hr/sem)	**225**	☒ Tutorial ☒ Practical ☒ Seminar	
Module Level	1	**Semester of Delivery**	2
Administering Department	AI	**College**	Type College Code
Module Leader	Name	**e-mail**	E-mail
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	AIDC112	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	▪ 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
Module Learning Outcomes	- Learn the algorithms - Learn the Flowchart

	- Learn C++ Programming	
Indicative Contents	Introductions to C++ Programming; Introductions to essential computer graphics concepts and theories; Object Oriented programming for 2D graphics; Algorithms design for 2D graphics; Graphic interface creations and implementations.	

Learning and Teaching Strategies

Strategies	- Daily and weekly quizzes. - Class room activities. - Guiding the student to some electronic websites.

Student Workload (SWL)

Structured SWL (h/sem)	123	**Structured SWL (h/w)**	8
Unstructured SWL (h/sem)	102		7
Total SWL (h/sem)	225		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Function
Week 2	Passing Parameters. Passing by Value. Passing by Reference.
Week 3	Pointers
Week 4	Arrays. Array of One Dimension: Declaration of Arrays.
Week 5	Initializing Array Elements
Week 6	Accessing Array Elements
Week 7	Mid-term Exam
Week 8	Read / Write / Process Array Elements.
Week 9	Array of Two Dimension: Declaration of 2D-Arrays
Week 10	Read / Write / Process Array Elements.
Week 11	Member Function of String stdlib Library.
Week 12	Structures. The Three Ways for Declare the Structure.
Week 13	Array of Structures.
Week 14	The Files
Week 15	**midterm**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Function
Week 2	Passing Parameters. Passing by Value. Passing by Reference.
Week 3	Pointers

Week 4	Arrays. Array of One Dimension: Declaration of Arrays.
Week 5	Initializing Array Elements
Week 6	Accessing Array Elements
Week 7	Array of Two Dimension: Declaration of 2D-Arrays
Week 8	Read / Write / Process Array Elements.
Week 9	Array of Structures.
Week 10	The Files

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Mastering C++, shomme's series	yes
Recommended Texts		
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group **(50 - 100)**	**A** - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group **(0 – 49)**	**FX** – Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

<table>
<tr><th colspan="4">Module Information</th></tr>
<tr><td>Module Title</td><td colspan="2">Logic Design</td><td>Module Delivery</td></tr>
<tr><td>Module Type</td><td colspan="2">C</td><td rowspan="4">☒ Theory
☐ Lecture
☒ Lab
☒ Tutorial
☐ Practical
☐ Seminar</td></tr>
<tr><td>Module Code</td><td colspan="2">AIDC124</td></tr>
<tr><td>ECTS Credits</td><td colspan="2">6</td></tr>
<tr><td>SWL (hr/sem)</td><td colspan="2">150</td></tr>
<tr><td>Module Level</td><td>1</td><td>Semester of Delivery</td><td>2</td></tr>
<tr><td>Administering Department</td><td>AI</td><td>College</td><td>Type College Code</td></tr>
<tr><td>Module Leader</td><td>Name</td><td>e-mail</td><td>E-mail</td></tr>
<tr><td>Module Leader's Acad. Title</td><td>Professor</td><td>Module Leader's Qualification</td><td>Ph.D.</td></tr>
<tr><td>Module Tutor</td><td>Name (if available)</td><td>e-mail</td><td>E-mail</td></tr>
<tr><td>Peer Reviewer Name</td><td>Name</td><td>e-mail</td><td>E-mail</td></tr>
<tr><td>Scientific Committee Approval Date</td><td>01/06/2023</td><td>Version Number</td><td>1.0</td></tr>
</table>

<table>
<tr><th colspan="4">Relation with other Modules</th></tr>
<tr><td>Prerequisite module</td><td>None</td><td>Semester</td><td></td></tr>
<tr><td>Co-requisites module</td><td>None</td><td>Semester</td><td></td></tr>
</table>

<table>
<tr><th colspan="2">Module Aims, Learning Outcomes and Indicative Contents</th></tr>
<tr><td>Module Objectives</td><td>1- The student should understand number systems and codes and conversion between them.

2- The student should understand the Boolean expression and how to apply it.

3- The student should recognize among different logic gates and how to use them.

4- The student should understand how to design a logic circuit.

5- The student should understand using K-map for simplification.</td></tr>
<tr><td>Module Learning Outcomes</td><td>Demonstrate a solid understanding of digital logic principles, including Boolean algebra, logic gates, truth tables, and the concept of binary representation.</td></tr>
</table>

Indicative Contents	Introduction to Digital Logic
	Combinational Logic Design
	Arithmetic circuits
	Sequential Logic Design
	Circuit Testing and Verification

Learning and Teaching Strategies	
Strategies	Conceptual Understanding
	Problem-Solving Approach
	Hands-on Laboratory Experience
	Design Projects
	Simulation and Modeling
	Problem-Based Learning

Student Workload (SWL)			
Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6
Unstructured SWL (h/sem)	57	**Unstructured SWL (h/w)**	4
Total SWL (h/sem)	**150**		

Module Evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10

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

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction: Digital System
Week 2	Number Systems: Octal and Hexadecimal Numbers
Week 3	Number base conversion
Week 4	● Theories of Boolean Algebra ● Digital Logic gates
Week 5	Boolean Expression and Truth table
Week 6	● Sum of Product Simplification ● Product Of Sum Simplification
Week 7	● Exclusive OR ● NAND gates ● NOR gates
Week 8	Midterm
Week 9	● Two- and Three-Variables Karnaugh Maps. ● Four Variables Karnaugh Maps.
Week 10	Quine-McCluskey method
Week 11	Combinational Logic: Adder, Subtractor Comparators, Decoders and Encoders
Week 12	Multiplexers (Data Selectors). and DE multiplexers
Week 13	Sequential Logic and Latches
Week 14	Applied Logic
Week 15	Memory and Programmable logic

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	Codes and conversion among them
Week 2	Codes and conversion among them1
Week 3	Boolean expression
Week 4	Logic gates
Week 5	Circuit Design
Week 6	Second month exam
Week 7	NAND gates & NOR gates
Week 8	Sum of product form
Week 9	Product Of sum form
Week 10	K-map

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	An Introduction to Logic Technology by Luois Nashlsky	Yes
Recommended Texts	Fundamentals of logic design by J. Roth	No
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group **(50 - 100)**	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings

	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

MODULE DESCRIPTION FORM

Module Information

Module Title	**Data Science**	Module Delivery
Module Type	C	☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☒ Seminar
Module Code	**AIDC125**	
ECTS Credits	**6**	
SWL (hr/sem)	**150**	

Module Level	1	Semester of Delivery	2
Administering Department	AI	College	Type College Code
Module Leader	Name	e-mail	E-mail
Module Leader's Acad. Title	Associate Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Ahmed J. Aljaaf	e-mail	a.j.aljaaf@uoanbar.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	21/10/2023	Version Number	1.0

Relation with other Modules

Prerequisite module	AIDC111		Semester	1
Co-requisites module			Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	This course has been designed to help learners to understand the core concepts and applications of Data Science and Familiarize them with essential data manipulation and visualization techniques. Various data sources and collection methods will be explored in this course to enable learners develop skills in data cleaning and preprocessing. It is anticipated that learners, at the end of this course, will be able to effectively communicate data insights and build data narratives by creating reports and visualizations for data communication.
Module Learning Outcomes	Upon completion of this comprehensive Data Science course, learners will have achieved a diverse set of learning outcomes. They will have a solid understanding of the core principles of data science, enabling them to proficiently collect, clean, and explore data for analysis. Learners will develop strong data visualization skills, including advanced techniques, and will be able to apply statistical and probability concepts to perform robust data analysis. Furthermore, by the end of this course, learners will have the knowledge and skills needed to communicate their findings effectively and present data insights in a compelling manner. The capstone project will serve as a practical application of their skills, allowing them to tackle real-world data science challenges and showcase their problem-solving abilities.
Indicative Contents	- Definition and scope of Data Science. - Data preprocessing: encoding, scaling, and normalization. - Data cleaning techniques: handling missing data, data formatting. - Descriptive statistics: mean, median, variance, skewness. - Exploratory data analysis techniques: box plots, scatter plots, histograms. - Correlation Analysis, Analysis of variance, and Non-parametric statistical tests. - Time series data exploration. - Data extraction and manipulation using SQL. - Data wrangling techniques: filtering, merging, pivoting - Ethical considerations in data collection and analysis. - Building data narratives and reports. - Applying data science skills to a real-world project.

Learning and Teaching Strategies

Strategies	Hands-on Practical Exercises Case Studies and Real-World Examples Collaborative Learning Continuous Assessment and Feedback

Student Workload (SWL)

Structured SWL (h/sem)	93	Structured SWL (h/w)	6
Unstructured SWL (h/sem)	57	Unstructured SWL (h/w)	4
Total SWL (h/sem)	**150**		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	5% (5)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction to Data Science
Week 2	Data and information
Week 3	Data analytics Lifecycle
Week 4	Data Collection and Cleaning
Week 5	Exploratory Data Analysis (EDA)
Week 6	Data Visualization

Week 7	Statistical Analysis
Week 8	Time Series Analysis
Week 9	Data Wrangling
Week 10	Feature Engineering
Week 11	Data Ethics and Privacy
Week 12	Data Storytelling and Communication
Week 13	Capstone Project
Week 14	SQL and Databases for Data Science
Week 15	Project Presentations and Wrap-up

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Data Collection and Cleaning
Week 2	Exploratory Data Analysis (EDA)
Week 3	Data Visualization
Week 4	Statistical Analysis
Week 5	Time Series Analysis
Week 6	Data Wrangling
Week 7	Feature Engineering
Week 8	Data Ethics and Privacy
Week 9	Data Storytelling and Communication
Week 10	Capstone Project

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Introducing Data Science, Davy Cielen, Anro DB Meysman, Mohamed Ali	No
Recommended Texts	Data Science Job: How to Become a Data Scientist, Przemek Chojecki	No
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

MODULE DESCRIPTION FORM

Module Information			
Module Title	**Arabic Language I**	**Module Delivery**	
Module Type	**S**	☒ Theory	
Module Code	UOA001	☐ Lecture	
ECTS Credits	**2**	☐ Lab	
		☐ Tutorial	
SWL (hr/sem)	**50**	☐ Practical	
		☐ Seminar	

Module Level	2	**Semester of Delivery**	2
Administering Department	AI	**College**	Type College Code
Module Leader	Name	**e-mail**	E-mail
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0

Relation with other Modules			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	تعليم الطلبة على أساسيات اللغة العربية وقواعدها - تعليم الطلبة على كيفية الأعراب -
Module Learning Outcomes	أن يتعرف الطالب على قواعد اللغة العربية - أن يعرف الطالب كيفية بناء الجمل واستخراجها للعنوان المطلوب - القدرة على استعمال العبارات الصحيحة - القدرة على مشاركة الآخرين في الحوار الصحيح -
Indicative Contents	

Learning and Teaching Strategies

Strategies	مشاركة بالتحضير في قاعة الدرس - طريقة الأسئلة والأجوبة في قاعة الدرس - ادارة المحاضرة على نحو تطبيقي مرتبط بواقع الحياة اليومية - تكليف الطالب ببعض الأنشطة والواجبات -

Student Workload (SWL)

Structured SWL (h/sem)	33	Structured SWL (h/w)	2
Unstructured SWL (h/sem)	17	Unstructured SWL (h/w)	1
Total SWL (h/sem)		50	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	العدد تذكيره وتأنيثه
Week 2	الاعداد المفردةً والمركبة

Week 3		ألفاظ العقود والأعداد(مئة ، ألف ، مليون)
Week 4		تعريف العدد وتنكيره
Week 5		ما يصاغ من العدد على وزن فاعل
Week 6		كتابة الهمزة المتوسطة والمتطرفة
Week 7		امتحان
Week 8		كتابة الالف اللينة
Week 9		كتابة التاء المربوطة والمبسوطة
Week 10		كتابة الضاد والظاء
Week 11		اللامات وأنواعها
Week 12		الهاءات وأنواعها
Week 13		النونات وأنواعها
Week 14		استعمالات (ما ، من ،(والفرق بين (أما ، إما)
Week 15		استعمالات (أن ، إن)
Week 16		الامتحان النهائي

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	- قواعدُاللغةِالعربيةِ، يوسفَ الصيداويِّ	لا
Recommended Texts		
Websites		

Grading Scheme			
Group	Grade	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors

	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(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.

MODULE DESCRIPTION FORM

Module Information		
Module Title	**The Crimes of Ba'ath Regime in Iraq**	**Module Delivery**
Module Type	S	☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code		
ECTS Credits	**2**	
SWL (hr/sem)	**50**	

Module Level		2	**Semester of Delivery**		2
Administering Department		AI	**College**	Type College Code	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules

Prerequisite module	None		Semester	
Co-requisites module	None		Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	-
Module Learning Outcomes	-
Indicative Contents	

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	-

Student Workload (SWL)

Structured SWL (h/sem)	33	Structured SWL (h/w)	2
Unstructured SWL (h/sem)	17	Unstructured SWL (h/w)	1
Total SWL (h/sem)		50	

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**				
	Assignments				
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**				
	Final Exam				
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	

Week 13		
Week 14		
Week 15		
Week 16		

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-	
Recommended Texts		
Websites		

Grading Scheme

Group	Grade	Marks %	Definition
Success Group **(50 - 100)**	**A -** Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group **(0 – 49)**	**FX –** Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required

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