Ministry of Higher Education and Scientific Research

Scientific Supervision and Scientific Evaluation Apparatus

Directorate of Quality Assurance and Academic Accreditation

Accreditation Department

Academic Program And Course Description Guide

2026-2025

University of Al- Hamdaniya

College of Computing and Information

Department of Information Technology

2026

Academic Program Description Form

University Name: University of Al-Hamdaniya

Faculty/Institute: College of Computing and Informatics

Scientific Department: Department of Information Technology

Academic Program Name: Bachelor of Science in Information Technology

Final Degree Name: Bachelor of Science in Information Technology

Academic System: Bolonga Process and Courses System

Description Preparation Date: 15 / 5 / 2026

File Completion Date: 16 / 5 / 2026

Signature:

Head of Department:

Asst. Lect. Firas Abdulrahman Yousif

Date: 17 / 5 / 2026

Signature:

Vice Dean for Scientific Affairs

Dr. Noora Hashim Mohammed

Date: 17 / 5 / 2026

The file is checked by:

Audited by the Quality Assurance and University Performance Division

Name of the Director of Quality Assurance and University Performance:

Date: 17 / 5 / 2026

Signature:

Name**: Asst. Lect. Laith Saadi Salman**

Approval of the President of the University of Al-Hamdaniya

(Acting Dean of the College)

Prof. Dr. Nashat Mubarak Sliwa

Date: 23 / 5 / 2026

Introduction

The educational program is a coordinated and organized package of study courses that include procedures and experiences organized in the form of syllabus vocabulary. The primary purpose is to build and refine the skills of graduates, making them qualified to meet labor market requirements. It is reviewed and evaluated annually through internal or external auditing procedures and programs, such as the external examiner program.

The academic program description provides a brief summary of the main features of the program and its courses, showing the skills that are being developed for students based on the objectives of the academic program. The importance of this description lies in the fact that it represents the cornerstone for obtaining program accreditation, and it is co-written by the teaching staff under the supervision of scientific committees in the academic departments.

In this context, we can only emphasize the importance of writing academic program and course descriptions to ensure the proper functioning of the educational process.

Academic Program Description Model

Reviewing the Performance of Higher Education Institutions

Academic Program Review

This academic program description provides a brief summary of the most important characteristics of the program and the learning outcomes expected of the student to achieve, demonstrating whether they have made the most of the available opportunities.

No.	Educational Institution / Department	Information
1	Educational Institution	University of Al-Hamdaniya
2	University Department / Center	College of Computers and Informatics
3	Academic Program Name	Information Technology
4	Final Degree Name	Bachelor of Science in Information Technology
5	Academic System	Bologna Process System (First, Second, Third, and Fourth Levels)
6	Approved Accreditation Program	Academic Accreditation (ABET)
7	Other External Influences	Central Examinations
8	Date of Description Preparation	2026

Vision

To make the Department of Information Technology at the University of Al-Hamdaniya a local and regional leader and pioneer in education, scientific research, and technical innovation, and the primary source for graduating specialized cadres capable of leading digital transformation to serve society and the knowledge-based economy.

Mission

Preparing distinguished graduates equipped with theoretical knowledge and practical skills in various fields of information technology, by providing a stimulating learning and research environment that supports creativity and international cooperation, and contributes to solving societal problems by providing smart and sustainable technical solutions adhering to ethical and professional values.

Objectives

The objectives of the department stem from the needs of the labor market and the requirements of scientific rigor, summarized as follows:

- Academic Excellence: Providing modern study programs that keep pace with rapid developments in Artificial Intelligence, Cybersecurity, and Software Engineering in accordance with international standards.
- Building Technical Skills: Enabling students to master programming languages, database management, and systems analysis to ensure their immediate readiness for the labor market.
- Scientific Research and Innovation: Encouraging faculty and students to conduct innovative applied research that contributes to raising the university's ranking and entering Scopus repositories, especially those related to sustainable development.
- Community Service: deploying the technical expertise of the department to solve real-world problems of local institutions, providing technical consultations, and training courses to raise digital efficiency in society.
- Critical Thinking and Problem Solving: Enhancing students' capacity for analytical thinking and innovation in finding complex technical solutions, just as in the interactive learning strategies adopted in modern curricula.
- Professional Partnerships: Building bridges of cooperation with technical companies and global research centers to provide outstanding training and research opportunities for students and graduates.
- Commitment to Professional Ethics: Instilling values of scientific honesty, data privacy, and work ethics in the field of technology among students.

1	**Knowledge and Understanding** 1. Students learn the concepts and fundamentals of information technology and supporting programming languages. 2. The ability to make scientific solutions to societal problems using information technology fundamentals. 3. The ability to use and develop artificial intelligence algorithms and harness them to the fullest extent. 4. The ability to analyze and evaluate systems.
2	**Subject-Specific Skills** - Theoretical - Practical - Graduation Projects

Academic Program Objectives

1. Providing students with robust theoretical knowledge and practical skills in core disciplines of information technology, including software engineering, network management, databases, and information security, ensuring mastery of current and emerging technologies.

2. Enhancing the understanding of digital ethical and legal frameworks, protecting data privacy, and enabling students to design and implement technological solutions that adhere to cybersecurity, transparency, and professional accountability standards.

3. Promoting the integration of information technology with vital sectors such as e-governance, healthcare, and digital education, and preparing students to face complex technical challenges through innovative and comprehensive solutions.

4. Developing research competencies and analytical capabilities through practical projects, accessing the latest technical tools and platforms, and encouraging students to contribute to developing software solutions and smart systems that serve scientific research.

5. Building bridges between academia and the technical sector by providing experiential learning opportunities, field training, and partnerships with technology companies, to ensure graduates possess problem-solving and teamwork skills in a changing work environment.

6. These goals aim to prepare well-rounded information technology professionals capable of leading digital transformation and driving technological progress while addressing technical and societal challenges with high responsibility.

Required Learning Outcomes, Teaching, Learning and Assessment

1	1. Students learn the concepts and fundamentals of information technology, computer architecture, and supporting programming languages to build systems. 2. The ability to find technical and institutional solutions to societal problems using digital transformation strategies and e-governance. 3. The ability to manage, design, and secure computer networks and data to protect privacy and ensure business continuity. 4. The ability to analyze, design, and evaluate information systems and software to ensure their efficiency in meeting user needs. 5. Developing student skills in building and managing databases and cloud systems across various professional life domains.
2	**Subject-Specific Skills** 1. Theoretical 2. Practical 3. Graduation Projects

Teaching and Learning Methods (Cognitive & Subject Skills)

1	Traditional Whiteboard
2	Smart Board
3	Data Show / Projector
4	Theoretical and practical lectures, application, daily assignments, and discussions

Assessment Methods

1	Electronic Examinations
2	Central and Monthly Examinations
3	Daily Examinations
4	Scientific Reports
5	Practical Examinations
6	Research Projects
7	Examinations, tasks, daily duties, discussions, laboratory reports, graduation project

Thinking Skills

1	Induction and Analysis Skills
2	Comparison Skills
3	Discussion Skills
4	Computer and Internet Usage Skills
5	Research and Investigation Skills
6	Conducting Research and Drawing Conclusions Skills
7	Decision-Making Skills

Teaching and Learning Method

1	Lectures
2	Practical Laboratories
3	Research and Investigation
4	Discussion Groups within Practical Lessons
5	Lectures - Practical Experiments - Applications - Homework - Scientific Discussions

Assessment Methods

1	**Electronic Examinations**
2	Oral and Written Examinations
3	Research Projects
4	Class Discussions
5	Evaluation of Assignments and Discussions
6	Evaluation of Individual and Group Research
7	Examinations, tasks, daily duties, discussions, laboratory reports, graduation project

General and Transferable Skills (Other skills related to employability and personal development)

1	**Developing the ability to work effectively in a team**
2	Developing the ability for self-learning
3	Developing the ability to present and discuss ideas
4	Developing the ability to address problems in a logical and organized manner
5	The ability to work within a multidisciplinary team
6	The ability to communicate and build relationships

Teaching and Learning Methods

1	**Cooperative Learning**
2	**Group Discussions**
3	Individual Learning
4	Discussion Groups within Practical Lessons
5	Lectures - Practical Experiments - Applications - Homework - Scientific Discussions

Assessment Methods

1	**Observing student interaction in different situations**
2	Posing real-world issues and problems and observing how students handle them programmatically
3	Evaluation of individual and group work
4	Solving summer training problems through graduation projects

Academic Program

Bologna Process

2025-2026

Republic of Iraq - Ministry of Higher Education and Scientific Research

University of Al-Hamdaniya

Bachelor's Degree in Information Technology (First Cycle)

Four Years (Eight Semesters) - 240 ECTS credits - 1 ECTS = 25 hr

Program Curriculum (2025 - 2026)

جمهورية العراق - وزارة التعليم العالي والبحث العلمي

جامعة الحمدانية

بكالوريوس في تكنولوجيا المعلومات (الدورة الأولى)

أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية - كل وحدة اوربية = ٢٥ ساعة

المنهاج الدراسي للعام 2025 - 2026

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGI	One	1	HIT-101	Fundamental of Programming (1)	اساسيات البرمجة (1)	English	2	1	2			1	3	93	57	150	6.00	C	
		2	HIT-102	Logic Circuits (1)	دوائر المنطق (1)	English	2	1	2			1	3	93	57	150	6.00	C	
		3	UOH-101	Arabic laguage	اللغة العربية	Arabic	3						3	48	27	75	3.00	S	
		4	UOH-103	Democrcy and Human Rights	الديمقراطية وحقوق الانسان	Arabic	3						3	48	27	75	3.00	S	
		5	HIT-103	Mathmatics (1)	الرياضيات (1)	English	3					1	3	63	87	150	6.00	B	
		6	HIT-104	Introduction to Statistics & Probability	مقدمة في الإحصاء والاحتمالية	English	3					1	3	63	87	150	6.00	B	
						Total	16	2	4	0	0	4	18	408	342	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGI	Two	1	HIT-105	Fundamental of programming (2)	اساسيات البرمجة (2)	English	2	1	2			1	3	93	57	150	6.00	C	HIT-101
		2	HIT-106	Logic Circuits (2)	دوائر المنطق (2)	English	2	1	2			1	3	93	57	150	6.00	C	HIT-102
		3	UOH102	English Languge	اللغة الإنكليزية	English	3						3	48	27	75	3.00	S	
		4	HIT-107	Computer Organizaition & Information Technology	تركيب الحاسوب وتكنولوجيا المعلومات	English	2	1	2			1	3	93	57	150	6.00	C	
		5	HIT-108	Discrete Mathmatics	الرياضيات المتقطعة	English	3						3	48	52	100	4.00	B	
		6	HIT-109	Mathmatics (2)	الرياضيات (2)	English	3	1					3	63	62	125	5.00	B	HIT-103
						Total	15	4	6	0	0	3	18	438	312	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGII	Three	1	HIT-201	Object-Oriented Programming (1)	البرمجة الشيئية (1)	English	2	1	2			1	3	93	57	150	6.00	C	
		2	HIT-202	Data base (1)	قواعد البيانات (1)	English	2	1	2			1	3	93	57	150	6.00	C	
		3	HIT-203	Algorithms & Data Structures	خوارزميات وهياكل البيانات	English	2	1	2			1	3	93	57	150	6.00	C	
		4	HIT-204	Operation Systems (1)	نظم تشغيل (1)	English	3						3	48	27	75	3.00	C	
		5	HIT-205	Numerical Analysis	التحليل العددي	English	3						3	48	27	75	3.00	B	
		6	HIT-206	Computer Networks Fundamentals (1)	أساسيات شبكات الحاسوب (1)	English	2	1	2			1	3	93	57	150	6.00	C	
						Total	14	4	8	0	0	4	18	468	282	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGII	Four	1	HIT-207	Object-Oriented Programming (2)	البرمجة الشيئية 2	English	2	1	2				3	78	72	150	6.00	C	HIT-201
		2	HIT-208	Data base(2)	قواعد البيانات 2	English	2		2				3	63	62	125	5.00	C	HIT-202
		3	HIT-209	Computer Architecture & Microprocessor	معمارية الحاسوب والمعالجات الدقيقة	English	2	1	2				3	78	72	150	6.00	C	
		4	HIT-210	Operation System 2	نظم تشغيل 2	English	3					1	3	63	37	100	4.00	C	HIT-204
		5	HIT-211	Number Theory	نظرية الاعداد	English	2						3	33	17	50	2.00	B	
		6	HIT-212	Computer Network Fundamental (2)	أساسيات شبكات الحاسوب 2	English	2		2			1	3	78	47	125	5.00	C	
		7	UOH-203	Crimes of the Ba'ath regime in Iraq	جرائم نظام البعث في العراق	English	2						3	33	17	50	2.00	S	
						Total	15	2	8	0	0	2	21	426	324	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGIII	Five	1	HIT-301	Distributed systems	النظم الموزعة	English	3	1					3	63	62	125	5.00	C	
		2	HIT-302	Advance Data base	قواعد بيانات متقدمة	English	2		2			1	3	78	72	150	6.00	C	HIT-208
		3	HIT-303	Wireless and mobile network	الشبكات اللاسلكية والمتنقلة	English	3	1					3	63	37	100	4.00	C	
		4	HIT-304	System Adminsteration	إدارة أنظمة	English	2		2			1	3	78	72	150	6.00	C	
		5	HIT-305	Information System	نظم المعلومات	English	3	1					3	63	37	100	4.00	C	
		6	HIT-306	Mobil Application (1)	تطبيقات الأجهزة المتنقلة (1)	English	2		2			1	3	78	47	125	5.00	C	
						Total	15	3	6	0	0	3	18	423	327	750	30.00		

UGIII	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
	Six	1	HIT-307	Multimedia	الوسائط المتعددة	English	2		2			1	3	78	47	125	5.00	C	
		2	HIT-308	Artificial intligance	الذكاء الاصطناعي	English	2		2			1	3	78	47	125	5.00	C	
		3	HIT-309	Computer System Security	امنية نظام الحاسوب	English	2		2			1	3	78	47	125	5.00	C	
		4	HIT-310	Website Program	برمجة المواقع	English	2		2			1	3	78	47	125	5.00	C	
		5	HIT-311	Software Engineering	هندسة البرمجيات	English	3	1				1	3	78	47	125	5.00	C	
		6	HIT-312	Mobil Application 2	تطبيقات الأجهزة المتنقلة (2)	English	2		2			1	3	78	47	125	5.00	C	HIT-306
						Total	13	1	10	0	0	6	18	468	282	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
	Seven	1	HIT-401	Internet of Things	انترنت الأشياء	English	3	1				1	3	78	72	150	6.00	C	
		2	HIT-402	Cyber Security	الامن السيبراني	English	2		2			1	3	78	72	150	6.00	C	
		3	HIT-403	Web Application 1	تطبيقات الويب 1	English	2		2			1	3	78	72	150	6.00	C	HIT-310
		4	HIT-404	Machin Learning	تعلم الالة	English	2		2			1	3	78	72	150	6.00	C	
		5	HIT-405	Acadimic Research Methodology	منهجية البحث الاكاديمي	English	2		2			1	3	78	72	150	6.00	C	
						Total	11	1	8	0	0	5	15	390	360	750	30.0		

UGIV	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	OLect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
	Eight	1	HIT-406	Project Implementation	تنفيذ المشروع	English	2			2		1	3	78	122	200	8.00	C	
		2	HIT-407	E-Society	المجتمع الالكتروني	English	3					1	3	63	37	100	4.00	C	
		3	HIT-408	Web Application 2	تطبيقات الويب 2	English	2	1	2				3	78	72	150	6.00	C	HIT-403
		4	HIT-409	Computer Vision & Image Pocessing	الرؤية الحاسوبية ومعالجة الصور	English	2	1	2				3	78	72	150	6.00	C	
		5	HIT-410	Data Mining	تنقيب البيانات	English	2	1	2				3	78	72	150	6.00	C	
						Total	11	3	6	2	0	2	15	375	375	750	30.0		
						Total	110	20	56	2	0	29	141	3396	2604	6000	240.0		Must be 240 ECTS

Note: The student should complete 4 weeks of Summer Internships to fulfil the requirements of the Bachelor's degree

Structured SWL (hr/w) type

CL	Class Lecture
Lab	Laboratory
Pr	Practical Training
Tut	Tutorial
OLect	Online lecture
Semn	Seminar

Module type

B	Basic learning activities (Foundation modules)
C	Core learning activity
S	Suport or related learning activity
E	Elective learning activity

SWL: Student Workload
SSWL: Structured SWL
USSWL: Unstructured SWL

Note: Columns O, Q and R are progrmaed, protected and should not be edited

إمسح الكود للوصول إلى النسخة الإلكترونية

Course Description

First Year / First Semester

Bologna Process

2025-2026

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**FUNDAMENTAL OF PROGRAMMING I**			**Module Delivery**	
Module Type	**Core**			☒Theory ☒Lecture ☒Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	HIT-101				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Information Technology		**College**	Computing and Informatics	
Module Leader	Mohammed Kassim Ahmed		**e-mail**	m.kassim@uohamdaniya.edu.iq	
Module Leader's Academic Title	Lecturer		**Module Leader's Qualification**	Master's	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Module Objectives, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ومخرجات تعلمها ومحتوياتها الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To introduce students to the fundamental concepts of structured problem-solving and basic programming logic using algorithms and flowcharts. 2. To equip students with the ability to implement programs using foundational C++ elements, including basic data types, variables, operators, and input/output operations. 3. To enable students to control program flow by effectively applying decision-making constructs and introducing fundamental iteration to solve computational tasks. 4. To build a foundational technical skill set in designing, coding, debugging, and tracing C++ programs to prepare students for subsequent advanced programming courses.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of this module, the student should be able to: 1. Identify and explain the fundamental structure, syntax, and components of a basic C++ program and its execution flow. 2. Formulate basic algorithms and translate them into visual flowcharts to outline the logic of computational problems. 3. Differentiate between C++ tokens, basic data types, variables, and constants, and implement their proper declaration and initialization. 4. Apply various C++ operators (Arithmetic, Logical, Relational, Increment/Decrement, and Assignment) and correctly evaluate complex expressions based on operator precedence. 5. Utilize conditional statements (if, if-else, nested if, and switch) to implement required logic, and demonstrate a basic conceptual understanding of looping statements. 6. Trace and debug programs efficiently to identify and correct syntax, logical, and run-time errors, ensuring properly formatted and correct output via cin and cout.
Indicative Contents المحتويات الإرشادية	• Designing fundamental algorithms and visualizing programming logic through the creation of flowcharts. • IDE setup, program structure, standard libraries, syntax, tokens, reserved words, and the use of variables, constants, and basic data types. • Comprehensive coverage of arithmetic, logical, relational, increment/decrement, and assignment operators, including operator precedence, code comments, and type conversion (casting). • Utilizing cin and cout statements to build interactive, console-based programs.

	• Detailed study and application of conditional structures, including basic if statements, if-else branches, nested conditions, and menu-driven logic using switch. • Introduction to the foundational concepts of loops and basic repetition in programming.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	Details
Direct Instruction & Explanation	Lectures focus on explaining C++ syntax, basic data types, operators, and the theoretical basis of decision-making statements (MLOs 1, 3, 4).
Practical Lab Sessions	Mandatory hands-on coding, flowcharting, and execution of programs (Lab 1 through Lab 15) to achieve algorithmic and practical coding proficiency (MLOs 2, 5, 6).
Problem-Based Learning (PBL)	Students are presented with foundational computational problems (e.g., calculating areas, determining grade brackets) and must design the algorithm/flowchart before coding (MLOs 2, 5).
Structured Review & Tracing	Specific sessions dedicated to evaluating expressions and tracing code execution to enhance debugging skills and reinforce operator precedence rules (MLOs 4, 6).
Collaborative Learning	Encouraging paired programming and teamwork during lab sessions, especially for tasks involving nested conditions and menu-driven switch programs (MLOs 5, 6).

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (hr/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	**Unstructured SWL (hr/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
	Quizzes	2	5	Weeks 6, 10	1, 2, 3, 4

Formative assessment	**Projects**	1	15	Continuous (Emphasis on Algorithmic Design and Flowcharts)	2, 3, 4, 5
	Code Review & Debugging Tasks	2	10	Weeks 5, 9, 13 (Monitored in Lab)	4, 6
	Supervised Lab Practical Exam	2	10	Continuous (Submission Week 7, Final Exam Week 14)	3, 4, 5, 6
Summative assessment	**Midterm Exam**	1	10	8	1, 2, 3, 4
	Final Exam	1	50	16	1, 2, 3, 4, 5, 6, (Comprehensive)
Total assessment			100% (100 Marks)		

Delivery Plan (Theoretical Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Algorithms
Week 2	Flowcharts
Week 3	C++ Programming Language, Program Structure, and Libraries
Week 4	Basic Data Types
Week 5	Arithmetic, Logical, and Relational Operations
Week 6	Increment, Decrement, and Assignment Operations
Week 7	Operator Precedence and Comments
Week 8	Variables, Constants, and Reserved Words
Week 9	Mid-semester Exam
Week 10	Type Conversion Operations
Week 11	Input/Output Statements
Week 12	Conditional Statements (Part 1)
Week 13	Conditional Statements (Part 2)
Week 14	Conditional Statements (Part 3)

Week 15	Loop Statements (Introduction)
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Designing Basic Algorithms and Problem-Solving Steps
Week 2	Visualizing Logic: Creating Flowcharts for Computational Problems
Week 3	First C++ Program: IDE Setup, Syntax, and Basic Libraries
Week 4	Memory and Storage: Exploring C++ Data Types
Week 5	Implementing Mathematical and Boolean Expressions
Week 6	Working with Shorthand Assignments and Variable Modification
Week 7	Evaluating Complex Expressions and Code Documentation
Week 8	Variable Declaration, Memory Scope, and Using Constants
Week 9	Mid-Semester Practical Assessment
Week 10	Data Manipulation: Implicit and Explicit Type Casting
Week 11	Building Interactive Programs with cin and cout
Week 12	Basic Decision Making with if and if-else
Week 13	Advanced Logic: Nested if Statements
Week 14	Building Menu-Driven Programs Using switch
Week 15	Introduction to Iteration and Basic Loops

Learning and Teaching Resources مصادر التعليم والتعلم		
	Text	**Available in the Library?**
Required Texts	Programming: Principles and Practice Using C++ (Bjarne Stroustrup)	
Recommended Texts	C++ How to Program (Deitel & Deitel)	
Websites	GeeksforGeeks (geeksforgeeks.org)	
	CPP Reference (cppreference.com)	

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 (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks with 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.

ملاحظة: سيتم تقريب العلامات العشرية التي تزيد أو تقل عن ٠,٥ إلى العلامة الكاملة الأعلى أو الأدنى (على سبيل المثال، سيتم تقريب علامة ٥٤,٥ إلى ٥٥، بينما سيتم تقريب علامة ٥٤,٤ إلى ٥٤). لدى الجامعة سياسة لا تسمح بـ "حالات الرسوب القريبة من النجاح"، لذا فإن التعديل الوحيد للعلامات الممنوحة من قبل المصححين الأصليين سيكون التقريب التلقائي الموضح أعلاه.

امسح الكود للوصول إلى النسخة الإلكترونية

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Logic Circuits 1**			**Module Delivery**	
Module Type	**Core**			☒Theory ☒Lecture ☒Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	**HIT-102**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		**UG1**	**Semester of Delivery**		**1**
Administering Department		**Information Technology**	**College**	**Computing and Informatics**	
Module Leader	**Hani Ghassan Abdul Karim**		**e-mail**	**hani.alsaigh@uohamdaniya.edu.iq**	
Module Leader's Academic Title		**Assistant Lecturer**	**Module Leader's Qualification**		**Master's degree**
Module Tutor			**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

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

Module Objectives, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ومخرجات تعلمها ومحتوياتها الإرشادية

Module Objectives أهداف المادة الدراسية	1. Understand the fundamental concepts of digital logic and binary systems. 2. Analyze and design basic logic circuits using standard logic gates. 3. Apply Boolean algebra techniques to simplify digital expressions. 4. Differentiate between combinational and sequential logic circuits. 5. Design and implement digital systems using modern tools and methods. 6. Develop problem-solving skills in digital circuit analysis and design.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**1. Knowledge & Understanding** • Explain number systems (binary, octal, hexadecimal). • Describe basic logic gates (AND, OR, NOT, NAND, NOR, XOR). • Understand Boolean algebra laws and theorems. **2. Cognitive Skills** • Simplify Boolean expressions using algebraic methods and Karnaugh maps (K-maps). • Analyze combinational circuits such as adders, multiplexers, decoders, and encoders. • Evaluate the behavior of sequential circuits (flip-flops, counters, registers). **3. Practical Skills** • Design digital circuits using logic gates. • Construct and test circuits using simulation tools or hardware kits. • Interpret timing diagrams and truth tables. **4. Transferable Skills** • Apply logical thinking to solve engineering problems. • Work effectively in teams on circuit design projects. • Communicate technical ideas clearly through reports and presentations.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies الإستراتيجيات	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (hr/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	**Unstructured SWL (hr/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
		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 (Theoretical Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introductory Concepts: • Digital and Analog Quantities • Binary Digits, Logic Levels, and Digital Waveforms
Week 2	Introductory Concepts: • Basic Logic Functions
Week 3	Number Systems and Operations: • Decimal Numbers • Binary Numbers

Week 4	Number Systems and Operations: • Decimal-to-Binary Conversion • Binary Arithmetic
Week 5	Number Systems and Operations: • Hexadecimal Numbers
Week 6	Number Systems and Operations: • Octal Numbers
Week 7	**Mid-term Exam**
Week 8	Logic Gates: • The Inverter (NOT Gate) • The AND Gate • The OR Gate
Week 9	Logic Gates: • The Exclusive-OR Gate • Exclusive-NOR Gate
Week 10	Boolean Operations and Expressions
Week 11	Boolean Operations and Expressions
Week 12	Laws and Rules of Boolean Algebra
Week 13	DeMorgan's Theorems
Week 14	Boolean Analysis of Logic Circuits
Week 15	Logic Simplification Using Boolean Algebra
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Logic gates
Week 2	Lab 2: Boolean Algebra
Week 3	Lab 3: Boolean Algebra
Week 4	Lab 4: DeMorgan's Simplify
Week 5	Lab 5: DeMorgan's Simplify
Week 6	Lab 6: Half adder & full adder
Week 7	Lab 7: Half adder & full adder

Learning and Teaching Resources مصادر التعليم والتعلم		
	Text	**Available in the Library?**
Required Texts	Digital Fundamentals, 11th Edition - Thomas L. Floyd - 2015	No
Recommended Texts	Digital Fundamentals, 11th Edition - Thomas L. Floyd - 2015	No
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 (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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امسح الكود للوصول إلى النسخة الإلكترونية

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**MATHEMATICS I**			**Module Delivery**	
Module Type	**BASIC LEARNING ACTIVITY**			☒ Theory ☐ Lecture ☐ Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	**HIT-103**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	UG1	**Semester of Delivery**	First Semester		
Administering Department	Information Technology	**College**	Computing and Informatics		
Module Leader	Dr. Sahba Abdul Sattar Younis	**e-mail**	sahbaa1977@uohamdaniya.edu.iq		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor		**e-mail**			
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date		**Version Number**	1.0		

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

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Provide students with the mathematical foundations necessary to understand the basic principles of computing and information technology disciplines. 2. Enable students to use concepts of differentiation and integration in analyzing scientific and engineering problems. 3. Develop analytical and logical thinking skills to solve mathematical problems encountered in programming applications. 4. Prepare students to comprehend subsequent courses that rely on mathematics, such as numerical analysis, differential equations, and programming. 5. Instill the ability to use mathematical models and to read and interpret graphical representations accurately.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**First: Cognitive Learning Outcomes** 1. Understand the fundamental concepts of functions, their limits, and continuity. 2. Recognize and apply the rules of differentiation to various types of functions. 3. Comprehend the principles of indefinite and definite integration. 4. Understand the use of derivatives in curve analysis, finding tangents, limits, and rates of change. **Second: Skills Learning Outcomes** 1. Solve mathematical problems using methods of differentiation and integration. 2. Apply mathematical rules to real-world problems in information technology. 3. Use graphical representations to analyze the behavior of functions. 4. Construct solution steps in a systematic and logical manner. **Third: Attitudinal Learning Outcomes** 1. Demonstrate accuracy and objectivity in solving mathematical problems. 2. Adopt a critical and analytical thinking approach. 3. Adhere to academic ethics and engage in self-learning.
Indicative Contents المحتويات الإرشادية	1. A brief review of the concepts and types of functions. 2. Limits. 3. Continuity. 4. Differentiation. 5. Basic differentiation rules.

	6. Chain rule. 7. Differentiation of trigonometric, exponential, and logarithmic functions. 8. Higher-order derivatives. 9. Applications of differentiation. 10. Tangents and normals. 11. L'Hôpital's Rule.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	1. Presenting fundamental concepts and essential skills. 2. Solving in-class exercises to reinforce understanding and apply mathematical rules. 3. Encouraging self-learning and simple projects to motivate students to research and apply concepts. 4. Using brainstorming and discussion to analyze mathematical problems and interpret results. 5. Administering short quizzes to assess continuous understanding.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

		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)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Inequalities and Absolute Value
Week 2	The Functions, Some type of Functions and their Domain and Range, Composite Function.
Week 3	The Domain and the Range of Functions, algebraic operations of functions, Graph of a Function.
Week 4	The Concept of Limits, The Limit from the right and from the left, Properties of Limits, The methods of Limit.
Week 5	The Limit in Infinity.
Week 6	The Continuity.
Week 7	Mid-term Exam
Week 8	Derivatives, Calculation derivative of some functions using Identification.
Week 9	Derivative Rules.
Week 10	The Chain rule, The derivative of the Power functions.
Week 11	Implicit derivative and Higher Order Derivation.
Week 12	The Derivative of (Natural logarithm function, The Exponential function).
Week 13	The Derivative of (Trigonometric Function, The inverse Trigonometric functions).
Week 14	Applications of Differentiations (Tangents and Normal)
Week 15	L'Hôpital's rule.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	R.K. Jain & S.R.K. Iyengar, Advanced Engineering Mathematics, Third Edition, Narosa Publications, 2007. Higher Engineering Mathematics, Dr.B.S Grewal 40th Edition, Khanna Publishers	No
Recommended Texts	Advanced Engineering Mathematics, Kreyszig E, 8 th Edition, John Wiley & Sons Ltd, 2006 A text book of Engineering Mathematics by N.P.Bali & Manish Goyal, Laxmi Publication.	Yes
Websites	https://mathworld.wolfram.com/topics/	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
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MODULE DESCRIPTION FORM

Module Information					
Module Title	**Introduction to Statistics and Probability**			**Module Delivery**	
Module Type	**Core**			☒Theory ☐ Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	HIT-104				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level	1		**Semester of Delivery**	1	
Administering Department	IT		**College**	CI	
Module Leader	**Rasha Raad AL-Mola**		**e-mail**	rasharaad@uohamdaniya.edu.iq	
Module Leader's Acad. Title	**Assistant lecturer**		**Module Leader's Qualification**	**Msc .**	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**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	1- Give the learner the statistical skills that enable him to work in the fields of statistic, calculating measures of statistic. 2- The subject of statistics is a digital language and an art to express the variables and numbers accurately, and thus enables the student to benefit from this subject in the statistics and the programs that are important to him in most fields of life. 3- Statistics course aims to develop ways and means of thinking and how to deal with various problems. 4- Trying to think in sound ways and methods, specifically in solving problems and thus improving and developing society.
Module Learning Outcomes	1- Understand the fundamental concepts and principles of statistics, including data types, measurement scales, and sampling methods. 2- Interpret and analyze data using descriptive statistical measures, such as measures of central tendency (mean, median, mode) and measures of variability (range, variance, standard deviation). 3- Apply probability theory to analyze and make predictions about uncertain events, including calculating probabilities and understanding the laws of probability. 4- Utilize basic principles of statistical inference to draw conclusions about a population based on sample data, including hypothesis testing and confidence intervals. 5- Apply appropriate statistical techniques for analyzing relationships between variables, including correlation analysis and simple linear regression. 6- Understand and interpret the results of statistical software output and graphical representations. 7- Communicate statistical findings and interpretations effectively, both orally and in written form. Develop critical thinking and problem-solving skills in the context of statistical analysis and interpretation
Indicative Contents	1- familiarize students with the basics of statistics, its fields of application. 2- the statistical method in scientific research, methods of data collection.

	3- classification and presentation for the purpose of obtaining the necessary information to make appropriate decisions and the possibility of using this data in prediction, in addition to developing students. 4- skills in research design method. 5- bringing the student to a level where he has the ability to interpret the results and turn them into a practical reality.

Learning and Teaching Strategies

Strategies	• Visualization. • Teamwork: Dividing the class into groups to complete a task is a teaching strategy that does wonders. • Inquiry-Based Teaching. • Differentiated Instruction • Implementing Technology in the Classroom. • Professional Development • Active Learning: Promoting Student Participation and Interaction. • Using a wide range of visual aids such as pictures, charts, graphs, and illustrations. • Include handouts and outlines for teaching various academic concepts. • Showing pictures and explain. • Remove potential distractions. • Showing clear screens while using multimedia. • Using colorful illustrations and presentations.

Student Workload (SWL)

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	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)	
Week	**Material Covered**
Week 1	General Introduction: Definition and Importance of Statistics
Week 2	Statistical method in scientific research Statistical Notation Types of statistics
Week 3	Data types and methods of collection and Tabular display and graphical representation
Week 4	Types of Samples
Week 5	Frequency distributions (importance and types)
Week 6	Measures of Central tendency for ungrouped data
Week 7	Measures of Central tendency for grouped data
Week 8	Measures of dispersion or difference.
Week 9	Standard Deviation.
Week 10	The relationship between variables: Simple Linear Regression and Simple Linear Correlation
Week 11	Principles of Probability Theory.
Week 12	The Concept of Probability.
Week 13	Rules of Probability.
Week 14	Probability using the drawing method.

Week 15	Probability function.
Week 16	**Preparatory week before the final exam.**

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	R.K. Jain & S.R.K. Iyengar, Advanced Engineering Mathematics, Third Edition, Narosa Publications, 2007. Higher Engineering Mathematics, Dr.B.S Grewal 40th Edition, Khanna Publishers	No
Recommended Texts	Advanced Engineering Mathematics, Kreyszig E, 8 th Edition, John Wiley & Sons Ltd, 2006 A text book of Engineering Mathematics by N.P.Bali & Manish Goyal, Laxmi Publication. Elementary Statistics (2007), Allan Bluman. Basics of Statistics (1995), Jarkko Isolalo .	No yes yes
Websites	https://mathworld.wolfram.com/topics/ https://mathworld.wolfram.com/topics/	

Grading Scheme

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
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MODULE DESCRIPTION FORM

Module Information					
Module Title	Arabic language			**Module Delivery**	
Module Type	Secondary			☒Theory ☐ Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	UOH-101				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level		1	**Semester of Delivery**		1
Administering Department		Information Technology	**College**	Computing and Informatics	
Module Leader	**Yaseen Abdullah Saeed**		**e-mail**	yaseen123abd@uohamdaniya.edu.iq	
Module Leader's Acad. Title		**Assistant lecturer**	**Module Leader's Qualification**		**Msc .**
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date			**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	1- Developing students' linguistic competence in grammar, morphology, and spelling, and enabling them to use these skills correctly in both oral and written expression. 2- Enhancing reading and analytical skills for diverse Arabic texts (literary and scientific), and fostering an understanding of their linguistic, semantic, and rhetorical structures. 3- Developing the ability to produce sound academic writing, including clarity of style, precision in expression, and adherence to the rules of standard Arabic. 4- Deepening awareness of the importance of the Arabic language as a tool for thinking and for scientific and cultural communication, and reinforcing its role across various humanities disciplines.
Module Learning Outcomes	1. That the student distinguishes between the fundamental concepts in the sciences of the Arabic language (grammar, morphology, and semantics). 2. That the student correctly applies the rules of grammar and morphology in various sentences and structures. 3. That the student analyzes selected Arabic texts using linguistic and semantic analysis appropriate to their academic level. 4. That the student employs effective reading skills to understand literary and scientific texts and extract their main ideas. 5. That the student writes academically sound texts in terms of language, style, and punctuation. 6. That the student uses Standard Arabic accurately in oral expression within the classroom. 7. That the student identifies common linguistic errors and corrects them in writing and expression. 8. That the student appreciates the importance of the Arabic language in scientific and cultural communication and in building intellectual identity.
Indicative Contents	1. An introduction to the Arabic language and its role in university education and scientific communication. 2. The grammatical and morphological foundations of the Arabic sentence and their practical applications. 3. The morphological structure of the Arabic word, including derivatives and types of plurals. 4. Analysis of Arabic texts (literary and scientific) in terms of language and meaning. 5. Effective reading skills and linguistic comprehension. 6. Principles of sound academic writing and punctuation. 7. Oral and written expression, along with correcting common linguistic errors.
Learning and Teaching Strategies	

Strategies	1. Interactive lectures to present linguistic concepts while engaging students in discussion and dialogue. 2. Text-based learning through reading selected texts and analyzing them linguistically and semantically. 3. Applied learning through practical exercises in parsing (i'rāb), morphological analysis, and writing. 4. Classroom discussion and brainstorming to develop linguistic and critical thinking skills. 5. Cooperative learning through working in small groups to solve shared language exercises. 6. Problem-based learning to address common linguistic errors and propose solutions. 7. Continuous formative assessment through short questions and both in-class and out-of-class assignments.

Student Workload (SWL)

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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)	
Week	**Material Covered**
Week 1	**Morphological Pattern (al-Mīzān al-Ṣarfī)**
Week 2	**Triliteral (Basic) and Augmented Verb Forms**
Week 3	**Sound Verbs and Weak Verbs**
Week 4	**Types of Plurals**
Week 5	**Derivational Forms (Arabic Derivatives)**
Week 6	**Solar and Lunar Lām (Definite Article Assimilation)**
Week 7	**Punctuation Marks**
Week 8	**Rules of Hamza Orthography and Arabic Lexicography**
Week 9	**Human Values in Pre-Islamic Poetry**
Week 10	**Parts of Speech and Their Case Markers**
Week 11	**Declinable and Indeclinable Nouns; Definite and Indefinite Nouns**
Week 12	**The Subject (Mubtadaʾ) and Predicate (Khabar)**
Week 13	**Grammatical Particles (Nawāsikh) and the Agent (Fāʿil)**
Week 14	**Introduction to Arabic Rhetoric**
Week 15	**Semantics (ʿIlm al-Maʿānī) and Rhetorical Expression (ʿIlm al-Bayān)**
Week 16	**Preparatory week before the final exam.**

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	• **Alfiyyah Ibn Malik** — by Ibn Malik • **Mughni al-Labib an Kutub al-A'arib** — by Ibn Hisham al-Ansari • **Jawahir al-Balagha** — by Ahmad al-Hashimi • **Jami' al-Durus al-Arabiyya** — by Mustafa al-Ghalayini	Yes
Recommended Texts	• **Al-Lughah al-Arabiyyah: Ma'naha wa Mabnaha** — by Tammam Hassan • **Ma'ani al-Nahw** —by Fadil al-Samarrai	Yes yes

Websites	

Grading Scheme

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 (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	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.

جمهورية العراق - وزارة التعليم العالي والبحث العلمي
جامعة الحمدانية
بكالوريوس في تكنولوجيا المعلومات (الدورة الأولى)
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية
كل وحدة اوربية = ٢٥ ساعة

MODULE DESCRIPTION CATALOGUE

معلومات المادة الدراسية			
Module Title	**Democracy and Human Rights**	**Module Delivery**	
Module Type	**Basic Learning Activities**	☒ Theory ☒ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☒ Seminar	
Module Code	**UOH-103**		
ECTS Credits	**3**		
SWL (hr/sem)	**75**		
Module Level	UG1	**Semester of Delivery**	1
Administering Department	Information Technology	**College**	Computing and Informatics
Module Leader	**Adeeb Abdul Majeed Ahmed**	**e-mail**	**adeebzangana@uohamdaniya.edu.iq**
Module Leader's Academic Title	Assistant Lecturer	**Module Leader's Qualification**	Master
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules			
Prerequisite module	**Prerequisite module**	**Prerequisite module**	
Co-requisites module	**Co-requisites module**	**Co-requisites module**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	1.To introduce students to the general concept of human rights and democracy, outlining their historical development in ancient civilizations, Islamic law, and international and national human rights sources, as well as explaining human rights guarantees at the national and international levels. 2.To understand the symbiotic relationship between human rights principles and democratic values as an integrated framework for good governance. 3.To enhance students' awareness of the importance of human rights and democracy, and the legal mechanisms for guaranteeing these rights.
Module Learning Outcomes	1.Explain the concepts of human rights, children's rights, and democracy, and trace their historical development within ancient civilizations and divine laws. 2.Clarify the concept of human rights and their types under the United Nations Charter and international conventions. 3.Understand the rights stipulated in Islamic law and the Universal Declaration of Human Rights. 4.Evaluate and analyze contemporary challenges facing human rights and democracy in the Iraqi and international contexts. 5.Apply this study to evaluate human rights conventions and compare them with Islamic law. 6.Connect the theoretical aspects of human rights, children's rights, and democracy with recent legal realities in society to identify the reasons for violations of these rights and mechanisms for addressing them. 7.Effectively use human rights and democracy terminology and concepts in discussions and reports.
Indicative Contents	• Human Rights in Ancient Civilizations

	• Human Rights in Greek, Egyptian, and Ancient Iraqi Civilizations • Human Rights in Divine Laws and Religions • Sources of Human Rights • Guarantees of Human Rights at the International and Domestic Levels • The Role of Regional Organizations in Protecting Human Rights • Children's Rights • The Emergence and Development of Children's Rights • Children's Rights in Christianity • Children's Rights in Islam • Pillars of Democracy • Analysis of Different Democratic Systems • Components of the Democratic System in Iraq • Active Citizenship

Learning and Teaching Strategies	
Strategies	Teaching method: theoretical and comparative study Employing pictures and presentations to explain the historical development of human rights in ancient civilizations and heavenly laws. Comparison of the rights contained in the Universal Declaration of Human Rights and Islamic Sharia. The distinction between the protection of human rights at the international and domestic level. :Learning activities View presentations and legal facts in the form of drawing circles. - Analyzing the texts of the conventions representing the International Law of Human Rights, which are studied through reports or controversies in the chapter. Organization of field visits to institutions related to the subject of human rights to strengthen the applied understanding and the connection between the theoretical and practical aspects. Tasking the students with a number of reports on one of the guarantees of human rights and the most important legal provisions in this regard, strengthening the theoretical and practical aspects and adding an element of fun to the students, because most of the famous events arouse curiosity and cultivate the desire to know the reasons. :Evaluation methods

	After studying the types of human rights and the sources of protections, the students are assigned to make painting circles, which includes the formation of groups within the classroom to exchange questions and disputes and conduct competitions among students. Tasking the students with reports on the summary of the field visits and stating the shortcomings, if any, and putting solutions to them. Conducting short tests (quiz) to find out the extent to which students use theoretical and practical lectures. Every student is tasked with giving a summary at the end of the lecture to strengthen confidence and activate the delivery skill, in addition to clarifying the content of the material.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, # 4and #6, #9
	Assignments	2	10% (10)	2 and 12	LO #1, # 2and #3, #12
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #1, #13
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	Human Rights: Concept, Characteristics, and Sources: The comprehensive definition of human rights, the essential characteristics (universality, originality, indivisibility), and their sources (international conventions, the Iraqi constitution).
Week 2	Types and classifications of rights: A detailed study of civil and political rights, and economic, social and cultural rights (first, second and third generation rights).
Week 3	Protecting the rights of women and children: An analysis of the CEDAW Convention and the Convention on the Rights of the Child, and the role of local legislation in guaranteeing these rights.
Week 4	Rights of persons with disabilities and minorities: A study of the charters protecting persons with disabilities, and the rights of national and religious minorities in the Iraqi constitution.
Week 5	International crimes and humanitarian law: examples of grave violations (genocide, torture, enforced disappearance), and the basics of international humanitarian law (Geneva Conventions).
Week 6	International and national mechanisms: The role of the United Nations human rights system, the role of the High Commissioner for Human Rights and the independence of the judiciary in Iraq.
Week 7	Mid-term Exam: A comprehensive test of the topics studied in weeks 1-6.
Week 8	Historical origins and concepts: The emergence of democracy, the concept of citizenship, and a comparison between direct and representative democracy.
Week 9	Models and theory of democracy: A study of types of democracy (liberal, social), and the components of democratic transformation.
Week 10	The principle of separation of powers: The importance of separating the three powers (legislative, executive, judicial) as a cornerstone of good governance.
Week 11	Mechanisms of political participation: the role of free and fair elections, the importance of the peaceful transfer of power, and the function of political parties and civil society organizations.
Week 12	Rule of Law and Equality: A study of the concept of the rule of law as the highest authority, equality among citizens, and the importance of judicial independence.
Week 13	The role of media and oversight: freedom of expression, media and press rights, transparency and accountability in a democratic system.
Week 14	Political system models: A comparison between the presidential, parliamentary and semi-presidential systems.
Week 15	Democracy in Iraq: An analysis of the components of the democratic system in the 2005 Iraqi Constitution, and a review of the challenges facing the democratic experiment in the country.
Week 16	Final Exam.

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	**Core Textbooks** **حقوق الانسان** (أ.م. د مصدق عادل طالب أ.د عدنان عاجل عبيد. أ.د آيات سلمان أ.م. د حميد علي جابر م.د عباس عطية م.د محمد عودة محسن) **الديمقراطية** (أ.د منتصر مجيد حميد أ.د ياسر علي إبراهيم أ.د كاظم علي مهدي أ.د احمد يحيى م.د عباس عطية م.د أنور سعيد م.د احسان محمد هادي	Required textbooks (Human Rights and Democracy) Curriculum for first-year students in Iraqi universities
Recommended Texts	N A	No
Websites	N A	

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
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Course Description

First Year / Second Semester

Bologna Process

2025-2026

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**FUNDAMENTAL OF PROGRAMMING II**			**Module Delivery**	
Module Type	**Core**			☒Theory ☒Lecture ☒Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	HIT-105				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	Information Technology		**College**	Computer Science and Information Technology	
Module Leader	Mohammed Kassim Ahmed		**e-mail**	m.kassim@uohamdaniya.edu.iq	
Module Leader's Academic Title	Lecturer		**Module Leader's Qualification**	Master's	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Module Objectives, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ومخرجات تعلمها ومحتوياتها الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To advance students' understanding of program flow control by mastering iterative structures (loops) and jump statements. 2. To introduce data organization techniques, enabling students to store and manipulate collections of data using single and multi-dimensional arrays. 3. To transition students from linear programming to modular programming by teaching them how to design, implement, and utilize built-in and user-defined functions. 4. To expand students' technical proficiencies by utilizing standard libraries for complex string manipulation and introducing fundamental file input/output operations for persistent data storage.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of this module, the student should be able to: 1. Apply advanced looping constructs (while, do-while, for, and nested loops) and jump statements to execute complex repetitive tasks. 2. Design, initialize, and manipulate one-dimensional, two-dimensional, and multi-dimensional arrays to solve data-driven problems. 3. Utilize standard C++ built-in functions and perform string manipulation operations effectively to process text-based data. 4. Design and implement user-defined functions, demonstrating a clear understanding of parameter passing (by value and reference), variable scope, and return types. 5. Integrate multiple programming constructs (arrays, loops, functions) to solve cohesive problems, and conceptually understand basic file I/O operations for data persistence. 6. Debug, trace, and optimize moderately complex C++ programs that integrate arrays, functions, and file handling.
Indicative Contents المحتويات الإرشادية	• Advanced Control Flow (Iteration): Comprehensive coverage of while, do-while, for loops, nested loops, and jump statements (break, continue). • Data Structures (Arrays): Declaration, initialization, processing, searching, and sorting of 1D, 2D, and 3D arrays (including matrix operations). • Standard Libraries & Strings: Utilizing C++ built-in functions (e.g., <cmath>) and string manipulation techniques/character arrays. • Modular Programming (Functions): Writing user-defined functions, argument passing methods, variable scope, function overloading, and an introduction to recursion. • File Handling: Introduction to file streams, opening/closing files, and reading/writing data for persistent storage.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	**Details**
Direct Instruction & Explanation	Lectures focus on explaining complex iteration, array memory allocation, modular programming theories, and file stream syntax (MLOs 1, 2, 3, 4, 5).
Practical Lab Sessions	Mandatory hands-on coding and execution of programs (Lab 1 through Lab 15) to achieve practical coding proficiency with data structures and functions (MLOs 1, 2, 4, 5, 6).
Problem-Based Learning (PBL)	Students are presented with computational problems (e.g., matrix multiplication, array sorting, modular calculators) and must design the logic before coding (MLOs 1, 2, 4).
Structured Review & Tracing	Specific sessions dedicated to tracing nested loops, tracking array indices, and following function call stacks to enhance debugging skills (MLOs 1, 2, 6).
Collaborative Learning	Encouraging paired programming during lab sessions, especially for complex tasks involving multi-dimensional arrays, string manipulation, and modular design (MLOs 2, 3, 5, 6).

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (hr/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	**Unstructured SWL (hr/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	5	Weeks 6, 10	1, 2, 3
	Projects	1	15	Continuous (Emphasis on Modular Design, Arrays, and String Manipulation)	2, 3, 4, 5

	Code Review & Debugging Tasks	2	10	Weeks 5, 9, 13 (Monitored in Lab)	6
	Supervised Lab Practical Exam	2	10	Continuous (Submission Week 7, Final Exam Week 14)	1, 2, 4
Summative assessment	**Midterm Exam**	1	10	Week 8	1, 2
	Final Exam	1	50	Week 16	1, 2, 3, 4, 5, 6 (Comprehensive)
Total assessment			100% (100 Marks)		

Delivery Plan (Theoretical Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Loop Statements (Part 1)
Week 2	Loop Statements (Part 2)
Week 3	Nested Loop Statements (Part 1)
Week 4	Nested Loop Statements (Part 2)
Week 5	Jump Statements
Week 6	One-Dimensional Arrays (Part 1)
Week 7	One-Dimensional Arrays (Part 2)
Week 8	Mid-Semester Exam
Week 9	Two-Dimensional Arrays
Week 10	Three-Dimensional and Higher Arrays
Week 11	Built-in Functions
Week 12	Strings and Their Functions
Week 13	How to Write Functions (Part 1)
Week 14	How to Write Functions (Part 2)
Week 15	Storing Data Using Files
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Implementing Iteration with while and do-while Loops
Week 2	Controlled Repetition using for Loops
Week 3	Creating Patterns and Basic Nested Loops
Week 4	Advanced Nested Loops for Complex Repetition
Week 5	Controlling Loop Execution with break and continue
Week 6	Array Declaration, Initialization, and Traversal
Week 7	Array Manipulation, Searching, and Basic Sorting
Week 8	Mid-Semester Exam
Week 9	Working with Matrices and Grid-Based Data
Week 10	Managing Multi-Dimensional Data Storage
Week 11	Utilizing Math and Standard C++ Library Functions
Week 12	Character Arrays and String Manipulation Techniques
Week 13	Modular Programming: Function Declaration and Calling
Week 14	Function Parameters: Pass by Value vs. Pass by Reference, Advanced Functions
Week 15	Data Persistence: Reading from and Writing to Text Files

Learning and Teaching Resources مصادر التعليم والتعلم		
	Text	**Available in the Library?**
Required Texts	Programming: Principles and Practice Using C++ (Bjarne Stroustrup)	
Recommended Texts	C++ How to Program (Deitel & Deitel)	
Websites	GeeksforGeeks (geeksforgeeks.org)	
	CPP Reference (cppreference.com)	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
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	F – Fail	راسب	(0-44)	Considerable amount of work required

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ملاحظة: سيتم تقريب العلامات العشرية التي تزيد أو تقل عن ٠,٥ إلى العلامة الكاملة الأعلى أو الأدنى (على سبيل المثال، سيتم تقريب علامة ٥٤,٥ إلى ٥٥، بينما سيتم تقريب علامة ٥٤,٤ إلى ٥٤). لدى الجامعة سياسة لا تسمح بـ "حالات الرسوب القريبة من النجاح"، لذا فإن التعديل الوحيد للعلامات الممنوحة من قبل المصححين الأصليين سيكون التقريب التلقائي الموضح أعلاه.

امسح الكود للوصول إلى النسخة الإلكترونية

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Logic Circuits 2**			**Module Delivery**	
Module Type	**Core**			☒Theory ☒Lecture ☒Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	**HIT-106**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		UG1	**Semester of Delivery**		2
Administering Department		**Information Technology**	**College**	**Computing and Informatics**	
Module Leader	Hani Ghassan Abdul Karim		**e-mail**	hani.alsaigh@uohamdaniya.edu.iq	
Module Leader's Academic Title		Assistant Lecturer	**Module Leader's Qualification**		Master's degree
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

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

Module Objectives, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ومخرجات تعلمها ومحتوياتها الإرشادية

Module Objectives أهداف المادة الدراسية	1. Understand The Fundamental Concepts of Digital Logic and Binary Systems. 2. Analyze And Design Basic Logic Circuits Using Standard Logic Gates. 3. Apply Boolean Algebra Techniques to Simplify Digital Expressions. 4. Differentiate Between Combinational and Sequential Logic Circuits. 5. Design And Implement Digital Systems Using Modern Tools and Methods. 6. Develop Problem-Solving Skills In Digital Circuit Analysis and Design.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**1. Knowledge & Understanding** • Explain number systems (binary, octal, hexadecimal). • Describe basic logic gates (AND, OR, NOT, NAND, NOR, XOR & XNOR). • Understand Boolean algebra laws and theorems. **2. Cognitive Skills** • Simplify Boolean expressions using algebraic methods and Karnaugh maps (K-maps). • Analyze combinational circuits such as adders, multiplexers, decoders, and encoders. • Evaluate the behavior of sequential circuits (flip-flops, counters, registers). **3. Practical Skills** • Design digital circuits using logic gates. • Construct and test circuits using simulation tools or hardware kits. • Interpret timing diagrams and truth tables. **4. Transferable Skills** • Apply logical thinking to solve engineering problems. • Work effectively in teams on circuit design projects. • Communicate technical ideas clearly through reports and presentations.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies الإستراتيجيات	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (hr/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	**Unstructured SWL (hr/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

		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 (Theoretical Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Boolean Operations and Expressions & Laws and Rules of Boolean Algebra
Week 2	DeMorgan's Theorems
Week 3	Boolean Analysis of Logic Circuits
Week 4	Logic Simplification Using Boolean Algebra
Week 5	Standard Forms of Boolean Expressions
Week 6	Boolean Expressions and Truth Tables
Week 7	**Mid-term Exam**
Week 8	The Karnaugh Map
Week 9	Karnaugh Map SOP Minimization Karnaugh Map POS Minimization

Week 10	Boolean Expressions with VHDL
Week 11	Basic Combinational Logic Circuits
Week 12	Implementing Combinational Logic
Week 13	Functions of Combinational Logic
Week 14	Latches, Flip-Flops, and Timers
Week 15	Shift Registers
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Logic gates
Week 2	Lab 2: Boolean Algebra
Week 3	Lab 3: Boolean Algebra
Week 4	Lab 4: DeMorgan's Simplify
Week 5	Lab 5: DeMorgan's Simplify
Week 6	Lab 6: Half adder & full adder
Week 7	Lab 7: Half adder & full adder

Learning and Teaching Resources
مصادر التعليم والتعلم

	Text	**Available in the Library?**
Required Texts	Digital Fundamentals, 11th Edition - Thomas L. Floyd - 2015	No
Recommended Texts	Digital Fundamentals, 11th Edition - Thomas L. Floyd - 2015	No
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 (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks with 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.

ملاحظة: سيتم تقريب العلامات العشرية التي تزيد أو تقل عن ٠,٥ إلى العلامة الكاملة الأعلى أو الأدنى (على سبيل المثال، سيتم تقريب علامة ٥٤,٥ إلى ٥٥، بينما سيتم تقريب علامة ٥٤,٤ إلى ٥٤). لدى الجامعة سياسة لا تسمح بـ "حالات الرسوب القريبة من النجاح"، لذا فإن التعديل الوحيد للعلامات الممنوحة من قبل المصححين الأصليين سيكون التقريب التلقائي الموضح أعلاه.

امسح الكود للوصول إلى النسخة الإلكترونية

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**COMPUTER ORGANIZATION & INFORMATION TECHNOLOGY**			**Module Delivery**	
Module Type	**CORE**			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**HIT-107**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	UG1		**Semester of Delivery**	2	
Administering Department	**Information Technology**		**College**	**Computing and Informatics**	
Module Leader	ZAIDOON ABDULLAH OTAIWI		**e-mail**	ziadoonotaiwi@uohamdaniya.edu.iq	
Module Leader's Acad. Title	Doctor		**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			**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The course will enable the students to gain knowledge about the architectural details of a computer and interfacing the different peripherals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Describe the organization of computer and various instruction formats 2. Distinguish between hardwired and micro programmed control units. 3. Identify various peripheral device architectures and operations. 4. Classify the different memory systems and the different types of mapping techniques to convert virtual addresses to physical addresses. 5. Identify the importance of pipelining and multiple function units in the design of high-performance processors.
Indicative Contents المحتويات الإرشادية	• **UNIT-I: Introduction and Basics** Computer organization and architecture fundamentals Von Neumann architecture and instruction execution cycle Number systems and data representation. • **UNIT-II: Central Processing Unit (CPU)** CPU organization and components Instruction set architecture and addressing modes Control unit and microprogramming • **UNIT-III: Memory and Storage Systems** Memory hierarchy and organization Cache memory and virtual memory concepts Storage devices and data retrieval techniques • **UNIT-IV: Input and Output Systems** Input and output devices and their interfaces I/O operations, interrupt handling, and DMA I/O interface protocols and data transfer techniques • **UNIT-V:** Networking and Information Technology Network architecture, protocols, and topologies Fundamentals of information technology Web technologies, database systems, and emerging trends

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	**Level one: Recollection** • Visualization. • Teamwork: Dividing the class into groups to complete a task is a teaching strategy that does wonders. • Inquiry-Based Teaching. • Differentiated Instruction • Implementing Technology in the Classroom. • Professional Development • Active Learning: Promoting Student Participation and Interaction. • Using a wide range of visual aids such as pictures, charts, graphs, and illustrations. • Include handouts and outlines for teaching various academic concepts. • Showing pictures and explain. • Remove potential distractions. • Showing clear screens while using multimedia. • Using colorful illustrations and presentations.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

		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)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	• Introduction to Computer Organization and Architecture • Historical development of computing systems • Overview of computer components and their functions
Week 2	• Number Systems and Data Representation • Binary, decimal, and hexadecimal number systems • Conversion between different number systems • Representation of unsigned and signed integers
Week 3	• Central Processing Unit (CPU) and Instruction Set Architecture • CPU components and their functions • Instruction set architecture (ISA) and formats • Addressing modes and instruction execution
Week 4	• Memory Systems • Main memory organization and hierarchy • Cache memory and its operation • Virtual memory concepts and techniques
Week 5	• Input and Output Systems

	• Input devices and their interfaces • Output devices and their interfaces • I/O operations and interrupt handling
Week 6	• Computer Arithmetic • Representation and manipulation of integer and floating-point numbers • Arithmetic operations (addition, subtraction, multiplication, division) • Algorithms for efficient arithmetic computation
Week 7	• Digital Logic Circuit • Boolean algebra and logic gates • Combinational logic circuits (adders, multiplexers, decoders) • Sequential logic circuits (flip-flops, registers, counters)
Week 8	• Instruction-Level Parallelism • Pipelining and its stages • Hazards and techniques for hazard avoidance • Superscalar and VLIW architectures
Week 9	• Performance Evaluation and Optimization • Metrics for measuring computer performance • Performance evaluation techniques • Optimization strategies for improving performance
Week 10	• Introduction to Information Technology • Overview of information technology and its components • Networking fundamentals and protocols • Data storage and retrieval techniques
Week 11	• Computer Networks • Network architecture and topologies • Network protocols (TCP/IP, Ethernet) • Network security and management
Week 12	• Operating Systems and System Software • Functions and components of operating systems • Process management and scheduling • Memory management and file systems

Week 13	• Database Systems • Relational database concepts • Structured Query Language (SQL) • Database design and normalization
Week 14	• Web Technologies • Client-server architecture • Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) • JavaScript and server-side scripting
Week 15	• Emerging Technologies and Trends • Cloud computing and virtualization • Internet of Things (IoT) and its applications • Artificial Intelligence (AI) and machine learning
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Familiarization with Computer System and its peripheral devices
Week 2	Lab 2: Familiarization with Operating System
Week 3	Lab 3: Working practice on windows operating system: creating file, folder. Copying, moving, deleting file, folder
Week 4	Lab 4: Installing and uninstalling of new software using control panel.
Week 5	Lab 5: Installation and uninstallation of new hardware drivers using control panel.
Week 6	Lab 6: Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).
Week 7	Lab 7: Changing resolution, color, appearances, and screensaver option of the display
Week 8	Lab 8: Email Account creation, reading, writing and sending emails with attachments
Week 9	Lab 9: Internet browsing using browsers.
Week 10	Lab 10: Using of Search Engine to get information from internet

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Carl Hamacher, ZvonkoVranesic, SafwatZaky, Computer Organization, 5th Edition, McGraw Hill, 2002. M. M. Mano, Computer System Architecture, 3rd Edition, Prentice Hall, 1994.	No
Recommended Texts	W. Stallings, "Computer Organization and Architecture - Designing for Performance", Prentice Hall of India, 2002. D. A. Patterson and J. L. Hennessy, "Computer Organization and Design - The Hardware/Software Interface", 2005.	No
Websites	https://nptel.ac.in/courses/106106092	

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
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جمهورية العراق - وزارة التعليم العالي والبحث العلمي
اسم الجامعة
بكالوريوس في الهندسة الكهربائية (الدورة الأولى)
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية
كل وحدة اوربية = ٢٥ ساعة

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information					
Module Title	**Discrete mathematic**			**Module Delivery**	
Module Type	**Core**			☒**Theory** ☐ **Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	HIT-108				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Information Technology		**College**	Computer Science and Information Technology	
Module Leader	**Noor basim**		**e-mail**	**noorbasim@uohamdaniya.edu.iq**	
Module Leader's Acad. Title	**Assistant lecturer**		**Module Leader's Qualification**	**Msc .**	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**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	1. Introduce students to the fundamental concepts of discrete mathematics. 2. Develop logical thinking and mathematical analysis skills. 3. Understand discrete structures such as sets, relations, and functions. 4. Equip students with problem-solving skills using mathematical logic. 5. Prepare students for advanced subjects like Compilers and Data Structures.
Module Learning Outcomes	1. Understand logical statements and their representations. 2. Use logical laws to prove equivalence and contradiction. 3. Handle sets and set operations. 4. Understand relations, functions, and their properties. 5. Apply counting principles (permutations and combinations). 6. Analyze problems using mathematical induction. 7. Represent problems using Graphs.
Indicative Contents	1. Mathematical Logic (Propositions, Connectives, Truth Tables). 2. Quantifiers (,). 3. Logical Equivalence and De Morgan's Laws. 4. Sets and their operations. 5. Relations and Functions. 6. Mathematical Induction. 7. Graphs and their fundamentals
Learning and Teaching Strategies	

Strategies	1. **Theoretical Lectures**: Delivering core concepts through structured classroom sessions. 2. **In-Class Exercises**: Solving problems and exercises during class to apply theoretical knowledge. 3. **Interactive Learning**: Engaging students through active discussions and group participation. 4. **Visual Aids**: Using the whiteboard and symbolic representation to clarify complex mathematical structures. 5. **Regular Homework**: Assigning periodic home tasks to ensure continuous practice and self-study. 6. **Quizzes**: Conducting short tests to reinforce understanding and monitor student progress.

Student Workload (SWL)

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل		**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل		**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل			

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)	
Week	**Material Covered**
Week 1	General Introduction: Definition of Discrete Mathematics and its differences from traditional math.
Week 2	Mathematical Induction
Week 3	Introduction to Mathematical Logic (Simple and Compound Statements).
Week 4	Variables in declarative sentences; identifying statements
Week 5	Logical Propositions, Logical Equivalence, Tautology, and Contradiction
Week 6	Logical Implication, Algebra of Propositions, Conditional Statements
Week 7	Logical Reasoning and Quantifiers
Week 8	Set Theory: Introduction, representations, and basic concepts.
Week 9	Venn Diagrams, Number Sets, and Set Algebra
Week 10	Family of Sets, Ordered Pairs, Cartesian Product, and Boolean Algebra.
Week 11	Relations: Introduction, Binary Relations, and Relation Graphs.
Week 12	Ways of writing relation elements, Domain, and Range
Week 13	Reflexive and Inverse Relations, Composition, and Equivalence Relations.
Week 14	Matrices: Types and Square Matrix models.
Week 15	Algebraic Operations on Matrices and Determinants.
Week 16	**Preparatory week before the final exam.**

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	*Discrete Mathematics and Its Applications* – Kenneth Rosen. **nce:** *Discrete Mathematics* – Richard Johnsonbaugh.	No
Recommended Texts	• *Discrete Mathematics for Computer Science.*	No

Websites	• GeeksforGeeks - Propositional Logic	

Grading Scheme

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
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	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
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	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.

جمهورية العراق - وزارة التعليم العالي والبحث العلمي
اسم الجامعة
بكالوريوس في الهندسة الكهربائية (الدورة الأولى)
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية
كل وحدة اوربية = ٢٥ ساعة

MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**MATHEMATICS II**			**Module Delivery**	
Module Type	**Compulsory Course**			☒Theory ☐ Lecture ☐ Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	HIT-109				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	First		**Semester of Delivery**	First Semester	
Administering Department	Information Technology		**College**	Computer Science and Information Technology	
Module Leader	Dr. Sahba Abdul Sattar Younis		**e-mail**	sahbaa1977@uohamdaniya.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			**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Provide students with the mathematical foundations necessary to understand the basic principles of computing and information technology disciplines. 2. Enable students to use concepts of differentiation and integration in analyzing scientific and engineering problems. 3. Develop analytical and logical thinking skills to solve mathematical problems encountered in programming applications. 4. Prepare students to comprehend subsequent courses that rely on mathematics, such as numerical analysis, differential equations, and programming. 5. Instill the ability to use mathematical models and to read and interpret graphical representations accurately.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**First: Cognitive Learning Outcomes** 1. Understand the fundamental concepts of functions, their limits, and continuity. 2. Recognize and apply the rules of differentiation to various types of functions. 3. Comprehend the principles of indefinite and definite integration. 4. Understand the use of derivatives in curve analysis, finding tangents, limits, and rates of change. **Second: Skills Learning Outcomes** 1. Solve mathematical problems using methods of differentiation and integration. 2. Apply mathematical rules to real-world problems in information technology. 3. Use graphical representations to analyze the behavior of functions. 4. Construct solution steps in a systematic and logical manner. **Third: Attitudinal Learning Outcomes** 1. Demonstrate accuracy and objectivity in solving mathematical problems. 2. Adopt a critical and analytical thinking approach. 3. Adhere to academic ethics and engage in self-learning.

Indicative Contents المحتويات الإرشادية	1. A brief review of the concepts and types of functions. 2. Limits. 3. Continuity. 4. Differentiation. 5. Basic differentiation rules. 6. Chain rule. 7. Differentiation of trigonometric, exponential, and logarithmic functions. 8. Higher-order derivatives. 9. Applications of differentiation. 10. Tangents and normals. 11. L'Hôpital's Rule.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	1. Presenting fundamental concepts and essential skills. 2. Solving in-class exercises to reinforce understanding and apply mathematical rules. 3. Encouraging self-learning and simple projects to motivate students to research and apply concepts. 4. Using brainstorming and discussion to analyze mathematical problems and interpret results. 5. Administering short quizzes to assess continuous understanding.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	95	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**143**		

Module Evaluation
تقييم المادة الدراسية

		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)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Integral by part
Week 2	Odd and even power of sine and cosine
Week 3	Trigonometric substitution
Week 4	Exam
Week 5	Partial faction
Week 6	Integral involving ax^2+bx+c
Week 7	Mid-term Exam
Week 8	Rational function of sinx and cosx
Week 9	Solve some quation
Week 10	Integral in interval
Week 11	Double integration
Week 12	Area by double integration
Week 13	Triple integral and volume

Week 14	Exam
Week 15	**Complex number**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	R.K. Jain & S.R.K. Iyengar, Advanced Engineering Mathematics, Third Edition, Narosa Publications, 2007. Higher Engineering Mathematics, Dr.B.S Grewal 40th Edition, Khanna Publishers	No
Recommended Texts	Advanced Engineering Mathematics, Kreyszig E, 8 th Edition, John Wiley & Sons Ltd, 2006 A text book of Engineering Mathematics by N.P.Bali & Manish Goyal, Laxmi Publication.	Yes
Websites	https://mathworld.wolfram.com/topics/	

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 (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	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.

جمهورية العراق - وزارة التعليم العالي والبحث العلمي
اسم الجامعة
بكالوريوس في الهندسة الكهربائية (الدورة الأولى)
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية
كل وحدة اوربية = ٢٥ ساعة

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MODULE DESCRIPTION CATALOGUE

وصف المادة الدراسية

Module Information					
Module Title	**English Language**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOH-102				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level	1		**Semester of Delivery**	1	
Administering Department	**Information Technology**		**College**	**Computing and Informatics**	
Module Leader	**Fatima Farooq Jasim**		**e-mail**	**Fatimafarooq@uohamdaniya.edu.iq**	
Module Leader's Acad. Title	**Assistant lecturer**		**Module Leader's Qualification**	**Msc .**	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

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

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Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	1-Enriching and developing students' English language skills 2-Developing students' language abilities and skills in daily life
Module Learning Outcomes	1.Understanding the basic principles of English language. 2Developing the four skills of English language.
Indicative Contents	1/ Introducing students to the basics of the English language, most importantly English grammar. 2/ Acquiring skills in speaking the English language. 3/ Raising the student's level so that they become somewhat able to use English in daily life.

Learning and Teaching Strategies	
Strategies	1- Developing students' ability to recognize the most important vocabulary and linguistic terms in English language. 2- Enriching students' vocabulary. 3- Understanding the importance of learning English and its impact on learning other subjects. 4- Developing students' skills in English language. 5- Developing reading and writing skills.

Student Workload (SWL)			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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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)

Week	Material Covered
Week 1	Unit one Verbs to be/ Questions words
Week 2	Unit Two Possessive adjective/ Plural nouns
Week 3	Unit Three Questions with question words/Yes-No questions
Week 4	Unit Three Verbs to be/positive and negative
Week 5	Unit Four Have/ Has
Week 6	Unit Four Plural nouns
Week 7	Unit Four Possessive pronoun
Week 8	Unit Five Possessive adjective
Week 9	Unit Five Present simple
Week 10	Unit Five a-an/ Adjective+ noun
Week 11	Unit Six Present simple
Week 12	Unit Six Adverbs of frequency

Week 13	Unit seven Question words
Week 14	Unit Seven Pronouns
Week 15	Unit Seven This & That
Week 16	**Preparatory week before the final exam.**

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	New Headway Plus for Beginners.	No
Recommended Texts		
Websites		

Grading Scheme

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