

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Technology		Module Delivery
Module Type	B		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	AI01		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGI - 1	Semester of Delivery	
Administering Department	AI	College	Information Technology
Module Leader	Assist. Lec. Maram Hamed Abas Assist. Lec. Mohammed A.S. Al-Hitawi	e-mail	maryam.h.abass@uofallujah.edu.iq al_hitawe@uofallujah.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Assist. Lec. Mohammed A.S. Al-Hitawi Assist. Lec. Maram Hamed Abas	e-mail	al_hitawe@uofallujah.edu.iq maryam.h.abass@uofallujah.edu.iq
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Scientific Committee Approval Date	1/06/2026	Version Number	2.0

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	- Introduce fundamentals of computer systems and digital technologies. - Understand hardware, software, and operating system basics. - Develop essential skills in productivity tools and IT applications. - Build foundational knowledge for AI, programming, and data science. - Enhance digital literacy and troubleshooting abilities.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Describe main computer system components (CPU, memory, storage, I/O). - Explain operating system functions and management concepts. - Distinguish software categories (system, application, tools). - Use Word, Excel, PowerPoint, and internet tools effectively. - Identify basic networking concepts. - Apply cybersecurity and safe computing practices. - Troubleshoot basic hardware/software issues. - Use basic Windows/Linux commands.
Indicative Contents المحتويات الإرشادية	- Unit 1: Introduction to Computers - Unit 2: Hardware Components - Unit 3: Software Types - Unit 4: Operating Systems - Unit 5: Storage & File Systems - Unit 6: Networks & Internet - Unit 7: Office Tools - Unit 8: Computer Security & Data Protection - Unit 9: Troubleshooting - Unit 10: Mini Project

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- Interactive lectures and discussions - Hands-on lab sessions - Practical demonstrations - Problem-solving activities - Tutorials and guided practice - Small group tasks and peer learning - Online learning materials and LMS support

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
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Weekly Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO from #1to #6
	Assignments	2	5% (5)	2 and 12	LO from #2 to #8
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	10% (10)	13	LO from #1to #8
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO from #1to #8
	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 Generation
Week 2	Computer Hardware Overview (CPU, Memory, Storage)
Week 3	Input/Output Devices
Week 4	Computer Software Overview (Software Types)
Week 5	Operating Systems
Week 6	Processor Structure and Function
Week 7	Parallel Processing
Week 8	Assembly Language
Week 9	Midterm Exam
Week 10	Network Basics
Week 11	Internet Technologies and Cybersecurity
Week 12	Cloud Computing
Week 13	Troubleshooting
Week 14	Emerging Technologies
Week 15	Review & Final Prep
Week 16	Preparatory Week

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Computer Generations & System Exploration: • (Lab Orientation and Safety, Identify computer components (desktop teardown or virtual lab) • Compare generations of computers using real examples • Hands-on: System Information & Device Manager exploration)
Week 2	Hardware Components (CPU, Memory, Storage): • Identify CPU, RAM, ROM, Storage devices • Install & remove RAM (or simulation software) • Task Manager performance monitoring • Benchmark basic hardware characteristics
Week 3	Input/Output Devices: • Install and configure I/O devices (keyboard, printer, scanner, USB) • Troubleshoot unrecognized devices • Device drivers' installation practice • Practice using accessibility and peripheral tools
Week 4	Software Types & Installation: • Install operating system or application software • Compare system vs application software • Hands-on: Package installation and uninstallation • Configure basic software settings
Week 5	Operating Systems (Windows/Linux Basics): • File system navigation, user accounts, permissions • Task scheduling, control panel / system settings • Basic command-line operations (cmd or terminal) • Create and manage folders, shortcuts, archives
Week 6	Processor and Performance Functions: • CPU scheduling simulation activity • Compare single-core vs multi-core performance • Perform load testing with simple tools • Monitor CPU processes using performance utilities
Week 7	Parallel Processing Concepts: • Demonstrate multithreading using simple programs or tools • Configure virtual machines or containers (intro level) • Run parallel tasks and observe system behavior • Case study: GPU vs CPU tasks (demonstration)
Week 8	Assembly Language Introduction: • Intro to assembler tools / emulator (e.g., MARS, NASM demo) • Write simple assembly instructions (move, add, print) • Run and analyze output • Observe machine-level execution behavior
Week 9	Midterm Exam
Week 10	Network Basics (Lab): • Connect devices in LAN topology (simulation or real hardware) • Configure IP addresses (static & DHCP)

	• Ping and connectivity tests • Network troubleshooting activity
Week 11	Internet & Cybersecurity Basics: • Configure browser privacy & security settings • Identify phishing & unsafe websites • Intro to firewall & antivirus tools • Password management and hashing demo
Week 12	Cloud Computing (Hands-On): • Create and use a cloud storage account • Upload, share, and sync files • Intro to virtualization / remote computing demo • Case exercise: Local vs cloud comparison
Week 13	Troubleshooting & Maintenance: • Diagnose common hardware/software faults • Use system diagnostic tools • Perform OS cleanup and optimization tasks • Document troubleshooting reports
Week 14	Emerging Technologies (Practical Explorations): • Hands-on demos: IoT / AI / Edge / Virtualization (as available) • Research mini-task & short presentation • Explore tech simulation or sandbox tools
Week 15	Final Practical Review & Project: • Consolidated practical revision tasks • Small capstone lab project (system setup / network config / troubleshooting) • Feedback and performance reflection
Week 16	Preparatory / Makeup Lab Week: • Completion of pending lab work • Practical exam preparation and consultation

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Stallings, William. Computer Organization and Architecture: Designing for Performance. 11th ed. New York: Pearson, 2024.	No
Recommended Texts	- Computer Organization and Architecture Tutorial	no
Websites	HarvardX: CS50's Introduction to Computer Science - https://www.edx.org/learn/computer-science/harvard-university-cs50-s-introduction-to-computer-science	

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.