MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Computer Fundamentals			**Module Delivery**	
Module Type	Base			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	NU1102				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level		UGI	**Semester of Delivery**		1
Administering Department		CSE	**College**	College of Engineering	
Module Leader	Muna Mahdi Salih		**e-mail**	muna.mahdi@alnaji-uni.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	1/4/2025		**Version Number**	3.0	

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. To learn and understand computer system work. 2. To learn computer organization and architecture for computer. 3. To understand input and output devices. 4. To learn and understand storage devices. 5. To learn hardware and software computer system. 6. To learn computer number systems and data representations. 7. To understand computer network and the web technologies.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Study how computer works and its components. 2. Understand memory function and storage. 3. Understand how operating system works and its structure. 4. Learn fundamentals of computer network. 5. To have basic knowledge about computer security and protection. 6. Learn how WWW web works and its technologies. 7. Understand computer number systems and data representations and how to convert from one number system to another. 8. Study how to use Microsoft application (Word, Excel, PowerPoint, Notepad).
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **Part One :** Introduction to computer: characteristics, components, computer System Hardware, Organization and Architecture. [16 hrs.] **Part Two :** Input, Output, Storage devices and computer software. [8 hrs.] **Part Three :** Computer number systems and data representation. [8 hrs.] **Part Four :** Computer networks, the web technologies and computer viruses. [8 hrs.] **Part Five :** Applications program (MS Word, Excel, PowerPoint, Notepad). [16 hrs.]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in lecture discussions and lab sessions, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type 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 (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	77	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	48	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	10% (10)	2, 8, 12	LO #1, 2, 5,6
	Assignments	2	10% (10)	3, 9, 12	LO # 3, 4, 6, 7
	Projects / Lab.	1	10% (10)	Continue	-
	Report	1	10% (10)	13	LO # 5, 8
Summative assessment	**Midterm Exam**	2hr	10% (10)	6, 11	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 Computers:** Characteristics of Computers, Components of a computer, Types of Computers, Computer System Hardware
Week 2	**Computer Organization and Architecture:** Central Processing Unit (CPU), Computer Memory, System bus, Motherboard, Expansion Slots, Built-in Components, Connecting Peripherals to the Computer, Power Supplies, Ports and Interfaces
Week 3	**Input Devices:** Physical Keyboards and Touch Screens, Mice and Other Pointing Devices, Image, Sound, and Sensor Input.
Week 4	**Output Devices:** Image and Audio Output, Image Output, Audio Output, Printers
Week 5	**Storage Devices:** Hard Disk Drive, Solid State Drive, Optical Drives, External Hard Drive, Cloud Storage
Week 6	**Computer Software:** System software, Operating System, Types of Operating Systems, Functions of an Operating System, Windows Operating System, application software
Week 7	**Midterm EXAM I**
Week 8,9	**Linux: Overview, Description, Features, and Architecture**
Week 10,11	**Linux Vs Windows, and Linux Security**
Week 12	**Computer Network:** Types of Computer Networks, Computer Network Components, Computer Network Topologies
Week 13	**The Web Technologies and Internet:** Concept of Internet, How the Web Work, World Wide Web, Client/Server System, Basic Internet Terminology, Types of Internet Connections, Understanding URL and IP addresses, Uses of Internet, E-Commerce
Week 14	**Computer Viruses:** Introduction to computer viruses, Types of computer viruses, Different virus expressions, how an antiviruses work, how to protect your system against viruses
Week 15	**Introduction to AI:** Definition of AI, History of AI, AI Techniques and approaches, challenges and Ethical considerations, AI Applications (education, healthcare, transportation, Marketing).
Week 16	**final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	**Computer Hardware Components:** Case components, Motherboard, Power Supply, CPU, Memory, Hard Disk, Monitor, Printer, Plotter, Projector, Audio Output Devices.
Week 2	**Input and output Devices:** Keyboard, Mouse, Joy Stick, Light Pen, Track Ball, Scanner, Microphone, Bar-Code Reader
Week 3	**Storage Devices:** HHD, SSD, External Drives.
Week 4	**Installation Software:** How to install an operating systems and software application: windows, Linux OS, and software programs, and Microsoft office.
Week 5,6	**Windows Operating System**

Week 7,8,9,10	**Linux Operating System.**
Week 11	**Mid Exam I**
Week12	**Application Programs (**Microsoft Word): opening and closing files, text creation and manipulation, text formatting, table handling, spell check, language setting and thesaures, printing of word document.
Week13	**Application Programs (**Microsoft Excel): basic of spreadsheet, manipulation of spread cells, formulas and functions, editing of spread sheet, printing of spread sheet.
Week 14	**Application Program ((**Microsoft PowerPoint): basics of presentation software, creating presentation, presentation skills.
Week15	**How to install and manage the antiviruses**
Week16	**Final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Reema Thareja , Fundamentals of Computers, 2nd edition,2020, Oxford University Press.	No
Recommended Texts	**Ramesh Bangia, Computer Fundamentals and Information Technology, Firewall Media, 2008,**	No
Recommended Texts	**W. Stallings, Computer Organization and Architecture Designing for Performance, 10th Ed., Pearson, 2016**	No
Websites	https://mdl.coie-nahrain.edu.iq	

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.