

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Computer Introduction		Module Delivery	
Module Type	B		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	URCOM			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	1	Semester of Delivery		1
Administering Department	Laser & optoelectronics		College	College of Engineering
Module Leader	Karrar Jawad Hadi		e-mail	Karrar.jawad@alayen.edu.iq
Module Leader's Acad. Title	Assistant lecture		Module Leader's Qualification	MSc
Module Tutor	Karrar Jawad Hadi		e-mail	Karrar.jawad@alayen.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date			Version Number	1.0

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	Essential skills in using computer applications relevant to engineering and academic work. - Word processing, spreadsheets, and presentation tools for professional reporting and documentation - internet and email applications effectively - database basics and data management concepts - self-learning skills through the use of digital tools.




Module Learning Outcomes



Knowledge

- A1**
- A1.1 Define the process of setting up a programming environment and its importance for developing and executing code efficiently.
 - A1.2 Recognize general software libraries and their role in simplifying programming tasks and enhancing functionality.
 - A1.3 Explain the use of specialized libraries such as scikit-learn in implementing advanced machine learning techniques.
 - A1.4 Identify methods of data visualization and explain how tools like matplotlib are used to represent data graphically.
 - A1.5 Choose appropriate techniques for designing and implementing algorithms to solve computational problems.
 - A1.6 Illustrate the principles of Object-Oriented Programming (OOP) and how they are applied in software development.
 - A1.7 Compare different methods of file handling and demonstrate efficient techniques for managing files in programming.
 - A1.8 Distinguish between various approaches for reading and storing data in programming applications.

- A4**
- A4.1 Label the steps required to create and configure a programming environment through practical exercises.
 - A4.2 Explain the use of general and specialized libraries, including scikit-learn, by implementing simple examples.
 - A4.3 Select appropriate visualization techniques using matplotlib to represent datasets effectively.
 - A4.4 Apply algorithm design and Object-Oriented Programming concepts to solve real-world problems.
 - A4.5 Demonstrate efficient file handling techniques, including reading and writing data, through lab exercises.
 - A4.6 Analyze datasets by reading, processing, and storing data using suitable programming methods.
 - A4.7 Examine and improve program performance by applying best practices in coding, data handling, and visualization.

Skills

- B1**
- B1.1: Function effectively as an individual in solving problems using computer tools.
 - B1.2: Work collaboratively on group assignments using digital platforms.
- B2**
- B2.1: Communicate effectively through professional documents, spreadsheets, and presentations.

		B2.2: Use email and online tools to communicate efficiently in academic and professional contexts.
	Ethics	C1 C1.1: Recognize ethical responsibilities in using digital resources, including respect for intellectual property. C1.2: Demonstrate commitment to integrity and professionalism in preparing and presenting work.
Indicative Contents 	Indicative content includes the following. Unit 1 (6 hours): Introduction to Computers & Operating Systems Computer components: hardware, software, storage, and OS basics. Windows & Linux basics (file management, shortcuts, settings). Unit 2 (8 hours): Word Processing (MS Word) Creating, formatting, and editing documents, Inserting tables, figures, and equations. References, citations, and professional report formatting. Unit 3 (8 hours): Spreadsheets (MS Excel) Data entry, formatting, and functions, Charts and graphs for data visualization. Engineering and scientific calculations using Excel formulas. Unit 4 (6 hours): Presentations (MS PowerPoint) Designing effective slides, adding animations, transitions, and multimedia. Professional academic and engineering presentations. Unit 5 (4 hours): Internet & Email Applications Effective search strategies and academic resources, Email communication (Gmail/Outlook), Cloud services and file sharing. Unit 6 (4 hours): Introduction to Databases Basic concepts of databases, Data storage and retrieval, Introduction to MS Access / simple database systems.	
	Learning and Teaching Strategies	
Strategies	• Presentation and demonstration. • Interactive learning and hands-on practice in the lab. • Discussions and Q&A. • Brainstorming and problem-solving exercises. • Group projects and assignments. • Problem-based learning. • Self-learning tasks using digital tools.	
Student Workload (SWL) for 15 weeks		

Structured SWL (h/sem)	63	Structured SWL (h/w)	4.2
Unstructured SWL (h/sem)	12	Unstructured SWL (h/w)	1.13
Total SWL (h/sem)	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	A1
	Assignments	2	10% (10)	2, 4,6,8,10,12 and 14	A1
	Projects / Lab.				
	Report	1	10% (10)	13	A1
Summative assessment	Midterm Exam	1hr	10% (10)	7	A1,A4
	Final Exam	3hr	50% (50)	15	A1,A4
Total assessment			100% (100 Marks)		



Delivery Plan (Weekly Syllabus)		
المنهاج الاسبوعي النظري		
	Material Covered	Los
Week 1	Introduction to Computers: hardware, software, operating systems basics	A1
Week 2	Windows & Linux basics: file management, system settings	A1, B1,C1
Week 3	Word Processing (MS Word): creating and formatting documents	A1, B2,C1
Week 4	Word Processing: tables, figures, equations, references	A1, B2,C1

Week 5	Word Processing: academic and professional reports	A1, B2,C1
Week 6	Spreadsheets (MS Excel): data entry and formatting	A1, B1,C1
Week 7	Spreadsheets: formulas, functions, and calculations	A1, B1,C1
Week 8	Spreadsheets: charts, graphs, and data visualization	A1, B2,C1
Week 9	Mid-term Exam (Word + Excel)	A1, B2,C1
Week 10	Presentations (MS PowerPoint): creating slides, design principles	A1, B2,C1
Week 11	PowerPoint: multimedia, animations, and professional presentations	A1, B2,C1
Week 12	Internet & Email Applications: effective search, academic resources, Outlook/Gmail	A1, B2,C1
Week 13	Cloud services & file sharing (Google Drive, OneDrive, Dropbox)	A1, B1,C1
Week 14	Introduction to Databases: concepts, storage, simple queries	A1, B1,C1
Week 15	Practical Project: preparing and presenting a report using Word, Excel, and PowerPoint	A1, B1, B2, C1
Week 16	Final Exam + Preparatory Week	All

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered	LOs
Week 1	Introduction to Computer Lab: safety, hardware & software overview, OS basics	A4, B2,C1
Week 2	File management and system operations (Windows/Linux): creating, saving, organizing files & folders	A4, B2,C1
Week 3	MS Word: creating, formatting documents, inserting tables, figures, and references	A4, B2,C1
Week 4	MS Excel: data entry, formatting, formulas, and functions	A4, B2,C1
Week 5	MS Excel: charts, graphs, and basic data analysis	A4, B2,C1
Week 6	MS PowerPoint: slide creation, design, inserting multimedia	A4, B2,C1
Week 7	Internet & Email applications: effective searching, academic resources, email communication (Gmail/Outlook)	A4, B2,C1

Learning and Teaching Resources



مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Microsoft Office 365: In Practice – Randy Nordell. 2. Computer Fundamentals – P. K. Sinha. 3. Introduction to Information Technology – Efraim Turban.	Yes
Recommended Texts	1. Microsoft Office 2019 Step by Step – Joan Lambert & Curtis Frye. 2. Digital Literacy for Dummies – Faithe Wempen.	Yes
Websites	https://eng.alayen.edu.iq//colleges/e/42	

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.				

