MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Programming I			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CS101**				
ECTS Credits	**8**				
SWL (hr/sem)	**200**				
Module Level			**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Dr. Shatha Falih		**e-mail**	Shatha.falih@gmail.com	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules 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 Aims أهداف المادة الدراسية	Here are some module aims typically associated with a Programming I course. These aims describe the overarching goals and objectives of the course: 1. This course covers fundamentals of algorithms and give the students an opportunity to write the algorithms. 2. In this course the students can easily know how to draw flowcharts to describe the algorithms. 3. The programming aims to learn how to solve problem. 4. This course covers programming concepts and write codes. 5. Also after this course the students will know how to control structures and function
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Here are some module learning outcomes that are typically associated with a Programming I course. These outcomes represent the knowledge, skills, and competencies that students are expected to achieve upon completing the course: 1. Develop algorithms to solve "computer-solvable" problems. 2. Test algorithms. 3. Translate algorithms to C++ programs. 4. Debug, run and test C++ "procedural" programs
Indicative Contents المحتويات الإرشادية	Here are some indicative contents for a programming I course targeted at beginners. These contents cover the fundamental concepts and topics typically included in such a course: • Problem solving • Algorithms • What is programming? • Basic elements of C++ • General Form of a C++ Program • Comments • Reserved Words • Identifiers • Variables and constant • Data Types • Arithmetic Operators and Operator Precedence • Expressions • Assignment Statement • Declaring and Initializing Variables • Input and output • Control Structures • Relational Operators and precedence • Selection • Selection: if and if...else • Compound (Block of) Statements • Multiple Selections: Nested if • Selection: Switch case

	• Repetition • for Looping Structure • User-defined functions • Function declarations and call • Scope rule of an Identifier

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	When teaching a programming I course to beginners, it's important to adopt strategies that cater to their foundational understanding and gradually build their knowledge and skills. Here are some effective learning and teaching strategies for beginners in a Programming I course:

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	80	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
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**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Problem solving Algorithms What is programming?
Week 2	Basic elements of C++ General Form of a C++ Program Comments
Week 3	Reserved Words Identifiers Variables and constant Data Types
Week 4	Arithmetic Operators and Operator Precedence Expressions
Week 5	Assignment Statement Declaring and Initializing Variables
Week 6	Input and output
Week 7	Control Structures Relational Operators and precedence
Week 8	Selection Selection: if and if...else
Week 9	Compound (Block of) Statements
Week 10	Multiple Selections: Nested if
Week 11	Selection: Switch case
Week 12	Repetition for Looping Structure
Week 13	User-defined functions Function declarations and call
Week 14	User-defined functions Function declarations and call
Week 15	General Discussion
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Basic elements of C++
Week 2	Lab 2: Variables and constant
Week 3	Lab 3: Expressions
Week 4	Lab 4: Declaring and Initializing Variables
Week 5	Lab 5: : if and if...else
Week 6	Lab 6: Switch case
Week 7	Lab 7: for Looping

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Problem solving with c++ by Walter Savitch, 7th edition,2009. 2. C++: The Complete Reference by Herbert Schildt, 4th edition, 2003	
Recommended Texts	A first book of c++ by Gary Bronson, 4th edition, 2012 by Gary Bronson	
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 Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computational Thinking for Problem Solving**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**CS102**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		1	**Semester of Delivery**		1
Administering Department		Type Dept. Code	**College**	Type College Code	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		01/06/2023	**Version Number**	1.0	

Relation with other Modules 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 Aims أهداف المادة الدراسية	1. Develop computational thinking skills. 2. Enhance problem-solving abilities. 3. Foster logical and analytical thinking. 4. Promote algorithmic reasoning and design. 5. Cultivate creativity and innovation in problem solving.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Apply computational thinking techniques to analyze and solve problems. 2. Utilize algorithms and logical reasoning to develop efficient solutions. 3. Demonstrate proficiency in problem decomposition and pattern recognition. 4. Employ abstraction and generalization to model and solve complex problems. 5. Cultivate critical thinking and creativity in problem-solving approaches. 6. Communicate and collaborate effectively in problem-solving scenarios.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Basics Introduction: number systems, data encoding. 2. Problem Solving: Problem definition, decomposition, abstraction. 3. Algorithmic Thinking: Flowcharting, selection, repetition. 4. Data organization: Lists, arrays, modularization. 5. Problem Solving Techniques: Factoring, recursion.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Engage students through interactive lectures and discussions. 2. Utilize hands-on coding exercises and projects to apply computational thinking concepts. 3. Provide real-world examples and case studies to demonstrate the practical application of problem-solving techniques. 4. Foster collaborative learning through group activities and problem-solving challenges. 5. Offer opportunities for self-paced learning and practice through online resources and coding platforms. 6. Provide timely feedback and guidance to support students' progress and improvement in problem-solving skills.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	78	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.2
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)	3, 8, 13	LO # 1, 2, 3, and 5
	Assignments	3	10% (10)	6, 10, 15	All
	Projects	1	5% (5)	15	
Summative assessment	**Exam**	2hr	25% (25)	11	All
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Weeks 1	Pillars of Computational Thinking
Weeks 2-3	Basics Introduction: Information and data, data types, data encoding, Boolean algebra, simplification of Boolean expression.
Weeks 4-6	Problem Solving: Problem definition, Problem decomposition, Abstraction, Greedy Method, Divide and Conquer.
Week 7-8	Algorithm and Flowcharting, Name binding.
Week 9-10	Selection
Week 11	Exam I
Week 12-13	Repetition
Week 14-15	Data organization: Arrays, Modularization, Problem Solving: Factoring and Recursion Techniques.

Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	David Riley and Kenny Hunt , Computational thinking for modern solver, Chapman & Hall/CRC, 2014	No
Recommended Texts	R.G. Dromey , "How to solve it by Computer", PHI, 2008	No
Websites	code.org	

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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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Mathematics for computer science**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **l Lectures**	
Module Code					
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Naser Oda Jassim		**e-mail**	Nasir.jasim@uobasrah.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Mathematics for computing	**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	-Cognitive Goals 1. Upon Successful completion of this subject, students should : 2. Be able to use algebra accurately; 3. Be able to plot and interpret graphs 4. Be able to use exponential, logarithm, and trigonometric functions in applications; 5. Be able to calculate the sums of arithmetic and geometric series and use them in simple financial calculations; 6. Be able to use basic rules of differentiation and calculate derivatives of simple functions; 7. Be able to use matrix in solving linear system of equations; -Skill goals 1. Enable the student to refer the mathematical problem to a program and find a solution through the computer. 2. Student realization of the close relationship between mathematical problems and computer programs
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. This subject is designed for students who enter university without a strong background in mathematics 2. It is also for students who are planning to enroll in subjects requiring basic numeracy skills such as sciences, computing and information technology. 3. The subject reinforces calculation skills, basic algebra . 4. This subject is designed to work with formula. 5. It is also to use applications of exponential and logarithmic functions. 6. It is designed how applying matric to solve linear system of equations.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Sequences and series Sequence is a function whose domain is the set of natural numbers. The terms of the sequence are the function values. There will be studied two types of

	sequences: arithmetic and geometric sequences with their partial sums. While series means that the infinite sum of geometric sequence. [12 hrs] Part B – Matrices Matrices are simply a rectangular array of numbers with **m** rows and **n** columns . There will be studied some: types of matrices, algebra of matrices. It is also studied how to find inverse of matrix, how to use matrix and its inverse to solve linear system of equations, how to find determinant of matrix and use it to solve linear system of equations. [12 hrs] Part C – Derivatives and integrals Derivatives mean that if $f: x \to y$ is a function, the derivative of a function f at a point x_0 written $f'(x_0)$; is given by $f'(x_0) = \lim_{x \to x_0} \frac{f(x)-f(x_0)}{x-x_0}$, If this limit exists and finite. There will be studied the derivatives of usual functions, implicit derivatives, derivatives of trigonometric functions, derivatives of exponential and logarithm functions. Graphical of exponential and logarithm functions. While integrals means that if $f(x)$ function defined at some interval, let $F(x)$ be another function such that $F'(x) = f(x)$, $F(x)$ called an infinite integral of $f(x)$ and is written as the following form $\int f(x)dx = F(x)) + C$. [12 hrs]. Part D – Interest Interest is the rental fee charged by a lender to a business or an individual for the use of money . There will be studied simple and compound interests. Simple interest means that the interest is calculated *only once* for the entire time period of the loan. At the end of the time period, the borrower repays the principal plus the Interest . while compound interest means that means that the interest is calculated more than once during the time period of the loan. [9 hrs].

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1.Explain the topic in detail by the teacher by writing the topic and explaining it on the board and other teaching aids

	2. Discussion during the lecture period 3. Doing homework 4. See the websites of the subject

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	102	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**200**		

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 - Sequences
Week 2	Arithmetic sequences and their partial sims
Week 3	Geometric sequences and their partial sums
Week 4	Series
Week 5	Matrices and algebra of matrices
Week 6	Inverse of matrices
Week 7	Solving linear system of equations by using inverse of matrices
Week 8	Determinant and using it to solve linear system of equations
Week 9	Derivatives
Week 10	Derivatives of trigonometric, exponential, logarithm functions
Week 11	Integrals
Week 12	Integral of trigonometric, exponential, logarithm functions
Week 13	Interest and simple interest
Week 14	Compound interest
Week 15	Present and future values of an annuity
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Cheryl Cleaves, Margie Hobbs and Jeffry Noble	Yes
Recommended Texts	James Stewart , Lothar Redlin and Saleem Watson Robert Brechner and George Bergeman	yes
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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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer Skills**			**Module Delivery**	
Module Type	**Core**			☒ **Theory**	
Module Code	**CSIT0102**			☒ **Lecture**	
ECTS Credits	**7**			☒ **Lab**	
SWL (hr/sem)				☐ **Tutorial**	
				☒**Practical**	
				☐ **Seminar**	
Module Level	1		**Semester of Delivery**	1	
Administering Department	CIS		**College**	CSIT	
Module Leader	Ebtisam.s.jaber		**e-mail**		
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	MSc.	
Module Tutor	Name (if available)		**e-mail**	ebtesam.jaber@uobasrah.edu.iq	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

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

Co-requisites module	Prenciples of information technology	**Semester**	2

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	This course aims at teaching students how to use a variety of computer applications as tools to improve students' performance in school, increase their future productivity in the work place and enhance their level of critical thinking. Students will use computer networks and applications to locate, evaluate, and use information, create written documents and oral presentations. This course will assist students in understanding the underlying concepts of these technologies and provide project-oriented learning opportunities. The goal is for students to become independent users of information, computer technology and library resources.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The student will acquire fundamental computer skills that can be effectively applied to data processing and presentation tasks. This includes gaining proficiency in essential computer operations, such as file management, utilizing productivity tools, and navigating digital interfaces. Through practical application, the student will develop the ability to handle and manipulate data, as well as create compelling presentations.
Indicative Contents المحتويات الإرشادية	1. Introduction to the computer - Basic components of a computer (monitor, CPU, storage, etc.) - Keyboard vs. mouse - Desktop vs. laptop - Activity: power off/on computers 2. Introduction to Windows - Desktop (icons, Start button, taskbar) - Cursor/mouse - Activity: click & drag desktop icons - Programs (3 ways to start programs: icon, Start, All Programs) 3. Typing

	4. Windows Navigation - Window features (minimize, resize, exit, click & drag) - Menu bar (drop-down arrow) - Tool bar (icons) (roll cursor over to ID) - Scrolling - Multiple ways to do the same thing (menu, icon, keyboard) 5. Word - How to open Word (icon, Start menu, All Programs) - What is a "document" - Using the cursor with text (how to position, different types of cursor) - Review menu bar and tool bar - Using the keyboard with text (arrows, backspace, delete, tab, shift, space, enter keys) - Highlighting text (click & drag, full line from margin, edit/select all) - Requirement to highlight text for formatting commands - Formatting commands (Bold/Italicize/Underline, show as "on/off" icons) - Font size, Font type (review drop-down arrow) - Text color, Text highlight (review drop-down arrow) - Alignment (left, center, right) - Undo/Redo - Spell check (by the word, by the document) - Find/replace - Bullets/numbers - Review Windows Navigation (lesson 6) - Copy/cut/paste 6. Excel - Introduction to Excel (cells, row, column) - Tables - Basic Excel formulas 7. Windows File Management

	- Options for storage (internal drive, flash drive, CD/DVD) - Introduce Flash Drive - Files and Folders - My Computer - Save As, Save and Exit without changes 8. Internet Navigation - What is the Internet - What is a Web Browser - Links and navigation bars - Back & forward arrow buttons, home button - Address bar (how to use the website address/URL in the address bar) 9. Internet Search - How to start a web browser (Mozilla Firefox or Internet Explorer) - Getting to Google (toolbars, search box, other Google features) - Job search 10. EMAIL - Open new email - Send emails (attachment, text...)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The primary approach for delivering this module will focus on fostering active student engagement in exercises, while simultaneously enhancing their critical thinking abilities. This will be accomplished through a combination of classroom and laboratory sessions, interactive tutorials, and the incorporation of captivating sampling activities to facilitate hands-on learning experiences for the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	77	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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	✓ Using the Computer and Managing Files • Operating System • File Management • Utilities • Print Management
Week 2	✓ Word Processing • Using the Application • Document Creation • Formatting
Week 3	✓ Word Processing • Objects • Mail Merge • Prepare Outputs
Week 4	✓ Word Processing • Referencing • Enhancing Productivity • Collaborative Editing
Week 5	✓ Spreadsheets • Using the Application • Cells • Managing Worksheets • Formulas and Functions
Week 6	✓ Spreadsheets • Formatting • Charts • Prepare Outputs • Analysis
Week 7	✓ Spreadsheets • Validating and Auditing • Enhancing Productivity • Collaborative Editing
Week 8	Mid-term Exam
Week 9	✓ Presentation • Using the Application • Developing a Presentation • Text • Charts and Diagrams
Week 10	✓ Presentation • Graphical Objects • Prepare Outputs • Presentation Planning • Slide Masters and Templates
Week 11	✓ Presentation • Multimedia • Enhancing Productivity • Managing Presentations

Week 12	✓ Online Essentials • Web Browsing Concepts • Web Browsing
Week 13	✓ Online Essentials • Web-Based Information • Communication Concepts • Using E-mail
Week 14	✓ Visio • Using the Application • Creating Technical Layouts
Week 15	✓ Visio • Exploring Advanced Diagrams • Diagramming and Data • Advanced Custom Shape Design

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	1. Operating System: • Familiarization with the chosen operating system • Navigating through the desktop, taskbar, and start menu 2. File Management: • Creating, renaming, copying, moving, and deleting files and folders • Sorting and organizing files based on different criteria 3. Utilities: • Exploring system utilities for maintenance tasks • Performing basic optimization tasks for computer performance 4. Print Management: • Setting up and configuring printers • Printing documents and adjusting print settings
Week 2	1. Using the Application: • Opening the word processing application • Exploring the user interface and menus 2. Document Creation: • Creating and saving a new document • Opening an existing document 3. Formatting: • Applying font styles, sizes, and colors • Adjusting paragraph alignment • Adding bullet points or numbering • Applying basic text formatting (bold, italic, underline)
Week 3	1. Objects: • Inserting and formatting images and shapes • Adjusting object size and position • Applying borders and shading 2. Mail Merge: • Creating a data source with recipient information • Designing a template with placeholders

	• Performing a mail merge to generate personalized documents • Previewing and editing merged documents 3. Prepare Outputs: • Formatting documents for printing • Setting up headers, footers, and page numbers • Adding tables of contents or indexes • Creating PDF or electronic document formats
Week 4	1. Referencing: • Adding citations and creating a bibliography • Inserting footnotes or endnotes 2. Enhancing Productivity: • Using shortcuts and keyboard commands for faster editing • Customizing the user interface and toolbar 3. Collaborative Editing: • Enabling track changes and reviewing document revisions • Inserting comments and resolving conflicts
Week 5	1. Using the Application: • Navigating the spreadsheet application • Exploring different toolbars and options 2. Cells: • Entering and formatting data in cells • Adjusting cell alignment and text wrapping 3. Managing Worksheets: • Creating, renaming, and deleting worksheets • Moving and copying worksheets 4. Formulas and Functions: • Writing basic formulas for calculations • Using common functions (e.g., sum, average, count) • Referencing cells in formulas
Week 6	1. Formatting: • Formatting cell content • Applying conditional formatting 2. Charts: • Creating charts • Customizing chart elements 3. Prepare Outputs: • Setting up print areas • Saving and sharing spreadsheets 4. Analysis: • Using functions for data analysis • Sorting and filtering data
Week 7	1. Validating and Auditing: • Setting data validation rules • Auditing formulas for errors 2. Enhancing Productivity: • Using shortcuts for efficient navigation • Utilizing autofill and templates 3. Collaborative Editing: • Tracking changes by multiple users • Inserting comments
Week8	Lab Exam
Week9	1. Using the Application: • Navigating the presentation application • Exploring different toolbars and options 2. Developing a Presentation:

	• Creating slides and selecting layouts • Adding and arranging content (text, images, shapes) • Applying themes and customizing backgrounds 3. Text: • Formatting text (font, size, color) • Aligning and spacing text on slides 4. Charts: • Inserting and formatting charts • Adding labels and titles to charts
Week10	1. Graphical Objects: • Inserting and manipulating graphical objects • Applying effects and styles to graphics • Arranging and aligning graphical objects on slides 2. Prepare Outputs: • Setting up slide layouts and design elements • Configuring slide transitions and animations 3. Presentation Planning: • Outlining the structure and content of the presentation • Determining key messages and visuals for each slide 4. Slide Masters and Templates: • Modifying slide masters for consistent design • Creating and applying slide templates
Week11	1. Multimedia: • Inserting and managing multimedia elements (videos, audio, animations) • Configuring playback settings for multimedia • Syncing multimedia with slide transitions 2. Enhancing Productivity: • Utilizing shortcuts and productivity features • Using slide layouts and templates • Applying design themes for visual appeal 3. Managing Presentations: • Organizing and managing slides • Rearranging slide order • Configuring slide show settings
Week12	1. Web Browsing Concepts: • Understanding the basics of web browsing • Exploring different web browsers and their features • Learning about search engines and their functionalities 2. Web Browsing: • Opening a web browser and navigating to websites • Using bookmarks and favourites to save and access web pages • Exploring tabs and managing multiple web pages
Week13	1. Web-Based Information: • Searching and accessing information from websites • Evaluating online source reliability • Bookmarking useful websites 2. Communication Concepts: • Understanding online communication forms • Practicing netiquette and online etiquette • Recognizing online communication risks 3. Using E-mail: • Composing and sending emails • Managing email folders • Attaching files and formatting emails
Week14	1. Using the Application: • Opening and navigating the Visio application

	• Exploring the user interface and toolbars • Familiarizing with various Visio features and options 2. Creating Technical Layouts: • Creating and arranging shapes on a drawing canvas • Adding connectors and lines to create flowcharts or diagrams Applying formatting and styles to enhance the visual appearance
Week15	1. Exploring Advanced Diagrams: • Creating complex diagrams with advanced shapes and connectors • Using templates and stencils for specific diagram types • Incorporating advanced features like layers and callouts 2. Diagramming and Data: • Importing and linking external data to create data-driven diagrams • Customizing data visuals and applying data graphics • Creating organizational charts or network diagrams with data connectivity 3. Advanced Custom Shape Design: • Creating and modifying custom shapes using shape creation tools • Enhancing existing shapes to meet specific requirements • Utilizing shape behaviours and metadata for enhanced functionality

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	**Microsoft Office 2013** Visual Quickstart Guide*by Steve Schwartz*	
Recommended Texts	Gary B. Shelly, Misty E. Vermaat (2010). Microsoft Office 2010: Brief. Cengage Learning. OR any ECDL, ICDL or IC3 books	
Websites	https://www.microsoft.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	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded

(0 – 49)	**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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Programming II			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CS106**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	2		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Dr. Shatha Falih		**e-mail**	Shatha.falih@gmail.com	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules 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 Aims أهداف المادة الدراسية	Here are some module aims typically associated with a Programming I course. These aims describe the overarching goals and objectives of the course: 6. This course covers basic concepts and techniques for programming including : repetition statements (while and for). 7. In this course the students can learn how to deal with arrays. 8. The programming II aims to learn how to understand the strings.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	At the end of this course, students should be able to design, write and test c++ program to implement a working solution to a given problem.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	When teaching a programming I course to beginners, it's important to adopt strategies that cater to their foundational understanding and gradually build their knowledge and skills. Here are some effective learning and teaching strategies for beginners in a Programming I course:

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	80	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
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**
	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11

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

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Repetition while Looping Structure
Week 2	do..while Looping Structure
Week 3	Nested Control Structures
Week 4	Nested Control Structures
Week 5	Arrays One and two dimensional array: Declaration Access
Week 6	Array as parameter
Week 7	Strings Declaration String functions
Week 8	Array of string
Week 9	Array of string
Week 10	Structures Compare the structure with the arrays
Week 11	Access field of structure
Week 12	Fields Assigning values
Week 13	Structures initialization
Week 14	Functions and structures
Week 15	General Discussion
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: while Looping
Week 2	Lab 2 do..while Looping
Week 3	Lab 3: Nested Control
Week 4	Lab 4: Arrays
Week 5	Lab 5: : Strings
Week 6	Lab 6: Array of string
Week 7	Lab 7: Functions and structures

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	3. Problem solving with c++ by Walter Savitch, 7th edition,2009. 4. C++: The Complete Reference by Herbert Schildt, 4th edition, 2003	
Recommended Texts	A first book of c++ by Gary Bronson, 4th edition, 2012 by Gary Bronson	
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 Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

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

Relation with other Modules 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 Aims أهداف المادة الدراسية	1. We can develop our mathematical ability 2. Discrete mathematic is the gateway to more advanced courses in all part of math. 3. Discrete mathematics provides the math foundations for many computer science courses 4. Discrete mathematics contains the necessary math back ground for solving problems in operation research, chemistry, and engineering.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	6. formulate solutions for selected mathematical problem 7. Apply objective mathematical reasoning to systems composed of discrete objects. 8. Assess mathematical proofs. 9. Interpret situations that have a predetermined sequence of actions that depend on a limited sequence of events. 10. categorize all possible outcomes for a series of events, or all possible collections of a set of objects; 11. diagram hierarchical relationships between individual entities within a given situation using relations; and 12. Diagram hierarchical relationships between individual entities within a given situation using function. 13. apply Trees of mathematical or system entities as tools in computer science to solve various real-world problems; and 14. Apply Graph of mathematical or system entities as tools in computer science to solve various real-world problems.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Sets, Types of set, Operations on sets, Set identities, Computer Representation of Sets (multi-sets, fuzzy sets), Sequences and Summations. [12 hrs] Properties of Integers and Applications of Number Theory, Propositional and Logical Operations, Conditional Statements. [6 hrs] Mathematical reasoning and Induction, Recursive, Mathematical proofs: Methods of Proving Theorems. [12 hrs] Properties of Relations, Operations Relations, Computer Representation of Relations, Functions, Properties of Functions, Functions types. [12 hrs] Trees, Types of trees, Trees as Models, Properties of Trees, Tree Traversal, Universal Address Systems , Traversal Algorithms, Infix, Prefix, and Postfix Notation of tree. [15 hrs] Graph, Types of graphs, Some Special Simple Graphs, Representing Graphs, Isomorphism and Isomorphic of graphs. [12 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Convergent and divergent thinking. 2. Project-based learning. 3. Experiential learning. 4. Peer teaching. 5. Inquiry-based learning. 6. Problem-based learning. 7. Reciprocal teaching.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	80	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.5
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	15% (15)	2, 5, 10	LO #1, 2, 8 and 9
	Assignments	3	15% (15)	3,6, 12	LO # 3, 4, 6 and 7
	Projects / Lab.				
	Report	1	10% (10)	13	LO # 5, 7 and 9
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-8
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	Sets, Types of set, Operations on sets
Week 2	Set identities, Computer Representation of Sets (multi-sets, fuzzy sets)
Week 3	Sequences and Summations
Week 4	Properties of Integers and Applications of Number Theory
Week 5	Propositional and Logical Operations, Conditional Statements
Week 6	Mathematical reasoning and Induction, Recursive
Week 7	Mathematical proofs: Methods of Proving Theorems
Week 8	Mid-term Exam
Week 9	Relations: Properties of Relations, Operations Relations, Computer Representation of Relations
Week 10	Functions: Properties of Functions, Functions types
Week 11	Trees: Types of trees, Trees as Models, Properties of Trees
Week 12	Tree Traversal, Universal Address Systems , Traversal Algorithms
Week 13	Infix, Prefix, and Postfix Notation of tree
Week 14	Graph: Types of graphs, Some Special Simple Graphs
Week 15	Representing Graphs, Isomorphism and Isomorphic of graphs
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Essential Discrete Mathematics for Computer Science, by Harry Lewis and Rachel Zax, Princeton University Press , ASIN: B07H5384J5, 2019.	No
Recommended Texts	Discrete Structures, Logic, and Computability by James L. Hein, Jones & Bartlett Learning; 4 edition, 2015.	No
Websites	https://www.cs.cornell.edu	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group	**A -** Excellent	امتياز	90 - 100	Outstanding Performance

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Principles of IT**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code					
ECTS Credits	**7**				
SWL (hr/sem)					
Module Level		1	**Semester of Delivery**		2
Administering Department		CIS	**College**	CSIT	
Module Leader	Ebtisam.s.jaber		**e-mail**	ebtesam.jaber@uobasrah.edu.iq	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		MSc.
Module Tutor	Name (if available)		**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	2

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	This course aims at teaching students how to use a variety of computer applications as tools to improve students' performance in school, increase their future productivity in the work place and enhance their level of critical thinking. Students will use computer networks and applications to locate, evaluate, and use information, create written documents and oral presentations. This course will assist students in understanding the underlying concepts of these technologies and provide project-oriented learning opportunities. The goal is for students to become independent users of information, computer technology and library resources.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The student will acquire fundamental computer skills that can be effectively applied to data processing and presentation tasks. This includes gaining proficiency in essential computer operations, such as file management, utilizing productivity tools, and navigating digital interfaces. Through practical application, the student will develop the ability to handle and manipulate data, as well as create compelling presentations.
Indicative Contents المحتويات الإرشادية	The course will build on your existing user-level knowledge and experience with personal computer software and hardware to present fundamental skills and concepts that you will use on the job. In this course, you will acquire the essential skills and information you will need to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems This course will: Help acquires the essential skills and information needed to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems. Assist you in preparing to take the CompTIA A+ certification Examinations

	Identify network technologies. Install and manage network connections. Support laptops and portable computing devices. Support printers and scanners. Identify personal computer security concepts. Support personal computer security 1- In this session, you will learn to: 2- Identify the major components of personal computers. 3- Identify the major components of the system unit. 4- Identify the various types of storage devices used in personal 5- computers. 6- Identify personal computer connection methods 2- In this session, you will learn to: Identify the major personal computer operating systems. Identify the primary components of the Windows user interface. Identify the primary tools and functions used in Windows file system management. Identify Windows system management tools. 3- In this session, you will learn to: Identify common hardware and software tools used by professional personal computer technicians. Identify the best practices for PC technicians to follow to promote electrical safety. Identify the best practices for PC technicians to follow to promote environmental safety and proper handling of materials. Identify and apply the general preventative maintenance best

	practices that PC technicians should employ. Identify the general diagnostics and troubleshooting best practices that PC technicians should employ. Identify best practices for PC technicians to use to communicate appropriately with clients and colleagues and conduct business in a professional manner 3- In this session, you will learn to: Identify common hardware and software tools used by professional personal computer technicians. Identify the best practices for PC technicians to follow to promote electrical safety. Identify the best practices for PC technicians to follow to promote environmental safety and proper handling of materials. Identify and apply the general preventative maintenance best practices that PC technicians should employ. Identify the general diagnostics and troubleshooting best practices that PC technicians should employ. Identify best practices for PC technicians to use to communicate appropriately with clients and colleagues and conduct business in a professional manner 4- In this session, you will learn to: Install and configure display devices. Install and configure input devices. Install and configure adapter cards. Install multimedia devices

	5- In this session, you will learn to: Select, install, and configure storage devices. Install and configure power supplies. Install and configure memory. Install and configure CPUs. Install and configure system boards. 6-In this session, you will learn to: Test and troubleshoot display devices. Maintain and troubleshoot input devices. Test and troubleshoot adapter cards. Troubleshoot multimedia devices. Troubleshoot storage devices 7-In this session, you will learn to: Test and troubleshoot power supplies. Test and troubleshoot memory. Test and troubleshoot CPUs. Test and troubleshoot system boards 8-In this session, you will learn to: Install Microsoft Windows. Upgrade Windows from a given version to a later version. Add devices to an installation of Microsoft Windows. Optimize an installation of Microsoft Windows 9-In this session, you will learn to: Identify Windows operating system utilities to use in maintenance and troubleshooting. Perform backups.

	Troubleshoot Windows. Recover a damaged installation of Windows 10-In this session, you will learn to: Identify fundamental concepts of computer networks. Identify network communications technologies. Identify network connectivity technologies. Identify Internet technologies 11-In this session, you will learn to: Create network connections. Install and configure web browsers. Maintain and troubleshoot network connections. Identify components that are specialized for laptops and portable computing devices. 12-In this session, you will learn to: Install and configure laptops and portable computing devices. Maintain and troubleshoot laptops and portable computing devices. Identify major types of printer and scanner technologies 13-In this session, you will learn to: Identify the technical components of printers and scanners. Identify printing and scanning processes. Install and configure printers and scanners. Maintain and troubleshoot printers and scanners

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The primary approach for delivering this module will focus on fostering active student engagement in exercises, while simultaneously enhancing their critical thinking abilities. This will be accomplished through a combination of classroom and laboratory sessions, interactive tutorials, and the incorporation of captivating sampling activities to facilitate hands-on learning experiences for the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	77	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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	✓ • Identify the major components of personal computers. • Identify the major components of the system unit. • Identify the various types of storage devices used in personal • computers. • Identify personal computer connection methods •
Week 2	• Identify the major personal computer operating systems. • Identify the primary components of the Windows user interface. • Identify the primary tools and functions used in Windows file • system management. • Identify Windows system management tools.
Week 3	• Identify common hardware and software tools used by • professional personal computer technicians. • Identify the best practices for PC technicians to follow to • promote electrical safety. • Identify the best practices for PC technicians to follow to • promote environmental safety and proper handling of • materials. • Identify and apply the general preventative maintenance best • practices that PC technicians should employ. • Identify the general diagnostics and troubleshooting best • practices that PC technicians should employ. • Identify best practices for PC technicians to use to • communicate appropriately with clients and colleagues and • conduct business in a professional manner
Week 4	• Install and configure display devices. • Install and configure input devices. • Install and configure adapter cards.

	• Install multimedia devices
Week 5	• Select, install, and configure storage devices. • Install and configure power supplies. • Install and configure memory. • Install and configure CPUs. • Install and configure system boards.
Week 6	• Test and troubleshoot display devices. • Maintain and troubleshoot input devices. • Test and troubleshoot adapter cards. • Troubleshoot multimedia devices. • Troubleshoot storage devices
Week 7	• Test and troubleshoot power supplies. • Test and troubleshoot memory. • Test and troubleshoot CPUs. • Test and troubleshoot system boards
Week 8	Mid-term Exam
Week 9	• Install Microsoft Windows. • Upgrade Windows from a given version to a later version. • Add devices to an installation of Microsoft Windows. • Optimize an installation of Microsoft Windows
Week 10	• Identify Windows operating system utilities to use in • maintenance and troubleshooting. • Perform backups. • Troubleshoot Windows. • Recover a damaged installation of Windows
Week 11	• Identify fundamental concepts of computer networks. • Identify network communications technologies. • Identify network connectivity technologies. • Identify Internet technologies
Week 12	• Create network connections. • Install and configure web browsers. • Maintain and troubleshoot network connections. • Identify components that are specialized for laptops and • portable computing devices.
Week 13	• Install and configure laptops and portable computing devices. • Maintain and troubleshoot laptops and portable computing • devices. • Identify major types of printer and scanner technologies
Week 14	• Install and configure laptops and portable computing devices. • Maintain and troubleshoot laptops and portable computing • devices. • Identify major types of printer and scanner technologies

Week 15	• Identify the technical components of printers and scanners. • Identify printing and scanning processes. • Install and configure printers and scanners. • Maintain and troubleshoot printers and scanners

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	1. Operating System: • Familiarization with the chosen operating system • Navigating through the desktop, taskbar, and start menu 2. File Management: • Creating, renaming, copying, moving, and deleting files and folders • Sorting and organizing files based on different criteria 3. Utilities: • Exploring system utilities for maintenance tasks • Performing basic optimization tasks for computer performance 4. Print Management: • Setting up and configuring printers • Printing documents and adjusting print settings
Week 2	1. Using the Application: • Opening the word processing application • Exploring the user interface and menus 2. Document Creation: • Creating and saving a new document • Opening an existing document 3. Formatting: • Applying font styles, sizes, and colors • Adjusting paragraph alignment • Adding bullet points or numbering • Applying basic text formatting (bold, italic, underline)
Week 3	1. Objects: • Inserting and formatting images and shapes • Adjusting object size and position • Applying borders and shading 2. Mail Merge: • Creating a data source with recipient information • Designing a template with placeholders • Performing a mail merge to generate personalized documents • Previewing and editing merged documents 3. Prepare Outputs: • Formatting documents for printing • Setting up headers, footers, and page numbers • Adding tables of contents or indexes • Creating PDF or electronic document formats
Week 4	1. Referencing: • Adding citations and creating a bibliography • Inserting footnotes or endnotes 2. Enhancing Productivity: • Using shortcuts and keyboard commands for faster editing • Customizing the user interface and toolbar

	3. Collaborative Editing: • Enabling track changes and reviewing document revisions • Inserting comments and resolving conflicts
Week 5	1. Using the Application: • Navigating the spreadsheet application • Exploring different toolbars and options 2. Cells: • Entering and formatting data in cells • Adjusting cell alignment and text wrapping 3. Managing Worksheets: • Creating, renaming, and deleting worksheets • Moving and copying worksheets 4. Formulas and Functions: • Writing basic formulas for calculations • Using common functions (e.g., sum, average, count) • Referencing cells in formulas
Week 6	1. Formatting: • Formatting cell content • Applying conditional formatting 2. Charts: • Creating charts • Customizing chart elements 3. Prepare Outputs: • Setting up print areas • Saving and sharing spreadsheets 4. Analysis: • Using functions for data analysis • Sorting and filtering data
Week 7	1. Validating and Auditing: • Setting data validation rules • Auditing formulas for errors 2. Enhancing Productivity: • Using shortcuts for efficient navigation • Utilizing autofill and templates 3. Collaborative Editing: • Tracking changes by multiple users • Inserting comments
Week8	Lab Exam
Week9	1. Using the Application: • Navigating the presentation application • Exploring different toolbars and options 2. Developing a Presentation: • Creating slides and selecting layouts • Adding and arranging content (text, images, shapes) • Applying themes and customizing backgrounds 3. Text: • Formatting text (font, size, color) • Aligning and spacing text on slides 4. Charts: • Inserting and formatting charts • Adding labels and titles to charts
Week10	1. Graphical Objects: • Inserting and manipulating graphical objects • Applying effects and styles to graphics • Arranging and aligning graphical objects on slides

	2. Prepare Outputs: • Setting up slide layouts and design elements • Configuring slide transitions and animations 3. Presentation Planning: • Outlining the structure and content of the presentation • Determining key messages and visuals for each slide 4. Slide Masters and Templates: • Modifying slide masters for consistent design • Creating and applying slide templates
Week11	1. Multimedia: • Inserting and managing multimedia elements (videos, audio, animations) • Configuring playback settings for multimedia • Syncing multimedia with slide transitions 2. Enhancing Productivity: • Utilizing shortcuts and productivity features • Using slide layouts and templates • Applying design themes for visual appeal 3. Managing Presentations: • Organizing and managing slides • Rearranging slide order • Configuring slide show settings
Week12	1. Web Browsing Concepts: • Understanding the basics of web browsing • Exploring different web browsers and their features • Learning about search engines and their functionalities 2. Web Browsing: • Opening a web browser and navigating to websites • Using bookmarks and favourites to save and access web pages • Exploring tabs and managing multiple web pages
Week13	1. Web-Based Information: • Searching and accessing information from websites • Evaluating online source reliability • Bookmarking useful websites 2. Communication Concepts: • Understanding online communication forms • Practicing netiquette and online etiquette • Recognizing online communication risks 3. Using E-mail: • Composing and sending emails • Managing email folders • Attaching files and formatting emails
Week14	1. Using the Application: • Opening and navigating the Visio application • Exploring the user interface and toolbars • Familiarizing with various Visio features and options 2. Creating Technical Layouts: • Creating and arranging shapes on a drawing canvas • Adding connectors and lines to create flowcharts or diagrams Applying formatting and styles to enhance the visual appearance
Week15	1. Exploring Advanced Diagrams: • Creating complex diagrams with advanced shapes and connectors • Using templates and stencils for specific diagram types • Incorporating advanced features like layers and callouts 2. Diagramming and Data: • Importing and linking external data to create data-driven diagrams

	• Customizing data visuals and applying data graphics • Creating organizational charts or network diagrams with data connectivity 3. Advanced Custom Shape Design: • Creating and modifying custom shapes using shape creation tools • Enhancing existing shapes to meet specific requirements • Utilizing shape behaviours and metadata for enhanced functionality

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	**CompTIA A+ Certification: A Comprehensive Approach** **for all 2009 Exam Objectives**	
Recommended Texts		
Websites	https://www.microsoft.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 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.