MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Computer Programming	**Module Delivery**	
Module Type	**Core**	☒ **Theory** ☐ **Lecture** ☒ **Lab** x☐**Tutorial** ☐ **Practical** x☐ **Seminar**	
Module Code	**ENG110**		
ECTS Credits	**6**		
SWL (hr/sem)	**150**		

Module Level	UGI	**Semester of Delivery**	1
Administering Department	BSc - COMM	**College**	College of Engineering & Information Technology
Module Leader	Russell Ali Jabbar	**e-mail**	
Module Leader's Acad. Title	Assist. Lecturer	**Module Leader's Qualification**	MS.c
Module Tutor		**e-mail**	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	The objective of this course is an introduction to Python programming and the environment. Topics include program design, testing and debugging, as well as data types, variables, constants, operators, and a loop structure. It is in the computing and problem-solving field with the help of Python programming language defiled by PyCham environment window. This language is important for the cipher security engineering course and artificial intelligence course. Upon completion of this course, the student will be able to: 1. Understand computers and classify programming languages. 2. Write simple Python program. 3. Learn data types, variables, arithmetic operators, assignment and input statements. 4. Learn relational operators and logical expressions. 5. Using selection in program like if/if…else, block statements , switch structures. 6. Develop executable programs by using repetition control structures: While Looping, Do…while Looping, For Looping, Break and continue Statements Define and use functions in Pytong program. 7. Learn Enumeration type with Functions 8. Learn how to define String type with string Operations 9. Learn define and use arrays and strings 10. Define pointer data types, Address of Operator (&) , Pointer Variables 11. Perform simple file I/O streams.
Module Learning Outcomes	1.Recognize computer system and programming languages . 2.Build simple program by using different data types. 3.Define the relational operators and logical expressions.

مخرجات التعلم للمادة الدراسية	4.Adding new abilities to program by using selection control structures. 5.Applying repetition control structures in programs. 6. Perform , Break and continue Statements. 7. Recognize functions in C++ program and their types and how to use them in program 8. Define the Enumeration type with Functions 9. Identify String type with string Operations 10. Using arrays with their types in programs and strings with functions. 11. Applying pointer data types and classes. 12. Apply recursion in functions 13. Perform simple file I/O streams
Indicative Contents المحتويات الإرشادية	Introduction to computers and Classification of programming languages (1 hours), Introduction to problem solving (3 hours), Computers and Programming Languages (3 hours), Processing a Python Program (3 hours). Basics of a Python Program, Data Types, Variables, Arithmetic Operators (3 hours) , Assignment and Input Statements (3 hours). Input / Output, I/O Streams (3 hours), Predefined Functions, Output Formatting (3 hours), Control Structures I (Selection): Relational Operators, Logical Expressions (3 hours), If/If…else, Block Statements (3 hours), Switch Structures (3 hours),Control Structures I (Repetition) : While Looping, Do…while Looping (3 hours), For Looping (3 hours), Break and continue Statements (3 hours), Preparatory week before the final Exam User-Defined Functions (6 hours), User-defined simple data types and the string type (6 hours), Arrays and strings (6 hours), Pointers, Classes (3 hours), File Input/Output (3 hours).
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 the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, homework's and examples. Practical examples help students to understand the course material.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	**79**	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	**6**
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	**71**	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	**4.1**
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)	8 and 13	LO #1 to #4 and #6 to #8
	Assignments	3	10% (10)	4, 7 and 11	LO #2, #3, #4, #5 and #7,#8,#9
	Projects / Lab.	1	20% (20)	Continuous	All
	Report	0			
Summative assessment	Midterm Exam	2 hr	10% (10)	9	LO #1 - #7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered

Week 1	Introduction to python programming and installation, why using python, python connected environment type, library's, python code (print), experiment with example code.
Week 2	Python data type and variables, data type, variable types and experiment function, string type.
Week 3	List of mathematic operations, methods, library of math.
Week 4	Python list and operation.
Week 5	Python 2D list.
Week 6	More list function examples.
Week 7	Python tubes.
Week 8	Python function and conditional.
Week 9	Python function and conditional 2.
Week 10	**Mid-term Exam**
Week 11	Conditional statements (if-else), more examples with (if-else).
Week 12	Loops (for, while, do-while).
Week 13	Python set, power.
Week 14	Python class and function.
Week 15	Final exams.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Review of typical Python Environment and program instillation package
Week 2	Understand structure of Python programs-.
Week 3	executing examples of Data types - Variable declaration - Constant declaration - Simple Input/Output, I/O Streams
Week 4	Applying of Arithmetic Operators - Relational Operators - Logical Operators - Assignment Operators
Week 5	Applying of Increment & Decrement Operators -Bitwise Operators - Misc Operators.

Week 6	Using Conditional (Selection) Statement: if statement - if...else statements
Week 7	Utilizing Nested if statements - Switch statement
Week 8	Appling Iteration (Repetition) statements: while statement - do/while statement
Week 9	Using for statement - Nested for statement- Break and continue Statements
Week 10	Applying Array: Array declaration - Single dimensional array
Week 11	Executing of Multiple –subscripted Arrays
Week 12	Test String - Array of strings.
Week 13	Understanding Functions: Function Prototypes (declaration) - Calling Function - Function Definition
Week 14	Applying Passing Arguments functions.
Week 15	Understanding Python class and function.

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. Core Python programming, W.Chun, Pearson, Introduction to Python, Kenneth A. Lambert, Cengage, Learning Python, Mark Lutz, Orielly.	Yes
Recommended Texts	• Programming and problem solving with Python: comprehensive sixth edition, Nell Dale and Chip Weems. • Computer Science Textbook class XI, First Edition, 2019. • Python Primer Plus, Sixth Edition	No
Websites	▪ http://www.cplusplus.com/doc/tutorial/	

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.

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