	Ministry of Higher Education and Scientific Research - Iraq Al-Naji University College of Engineering Department of Computer Engineering	

MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**Programming Methodology**	**Module Delivery**	
Module Type	**CORE**	**Class lecture + Lab**	
Module Code	**COE103**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		
Module Level	1	**Semester of Delivery**	1
Administering Department	Computer	**College**	Engineering
Module Leader	**Abdul lateef Ali Hussain**	**e-mail**	**Abdullateef.ali@alnaji-uni.edu.iq**
Module Leader's Acad. Title	**Assist. Prof.**	**Module Leader's Qualification**	Ph.D
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Review Committee Approval		**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	• Providing students with confidence in their ability to write small useful programs. • Gaining essential programming skills like: code debugging, testing and algorithm development.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students will be able to: 1. **Understand Interpreter and Integrated Development Environment (IDE)** o Describe what an interpreter does and what are the main differences between High Level Language and Machine Language. o Describe the main functions of IDE and use it to write simple codes in Python. 2. **Understand and Use Variables and Data Types** o Store and manipulate values and variables in different data types. 3. **Use I/O Instructions** o Display data to the user and read data from user. 4. **Manipulate Data Using Operators** o Use mathematical and logical operators 5. **Control Execution Sequence Using IF Statement** o Use IF statement to change sequence of execution of instructions. 6. **Execute a Block of Code Multiple Times Using Loop** o Use for loop and while loop to execute a block of code multiple time according to a condition or values in a data structure. 7. **Process Data in Lists** o Describe the concept of lists. o Access and modify data in lists.
Indicative Contents المحتويات الإرشادية	• Interpreter and IDE • Variables and data types • Arithmetic and logical operators • If statement • String • Lists and Loops
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1) Lectures. 2) Homework and Assignments. 3) Tests and Exams. 4) In-Class Questions and Discussions. 5) In- and Out-Class oral conversations.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	**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	3	10% (10)	4, 8, 12	LO #1-4, LO #5-6, LO #7
	Assignments	2	5% (5)	8, 14	LO #5, LO #7
	Lab.	5	20% (20)	1-15	LO #1-7
Summative assessment	Project	1	5% (5)	12	LO # 1-7
	Mid Exam	1	10% (10)	15	LO # 1-5
	Final Exam	4 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to programming, problem solving
Week 2	Program Algorithm and Flowchart
Week 3	Visual Programming Using Scratch
Week 4	Python interpreter and IDE
Week 5	Python basic syntax
Week 6	Python data types: variables, assignments, and numerical types
Week 7	Python Input/Output
Week 8	Arithmetic and logical operators, precedence of operators

Week 9	If statement, nested if statement, if-else if ladder else
Week 10	String data type: simple string processing and string manipulation
Week 11	Python lists: traversing a list and list operations
Week 12	Loops: while statement and for statement
Week 13	Python 2D lists
Week 14	Python nested loops
Week 15	Python Casting
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Visual Programming Using Scratch
Week 2	Python interpreter and IDE
Week 3	Python turtle
Week 4	Variables and data types
Week 5	Python Print and Input
Week 6	Arithmetic and logical operators, precedence of operators
Week 7	IF…ELIF…ELSE STATEMENT
Week 8	Python simple string processing and string manipulation
Week 9	Python list traversing and operations
Week 10	Python for statement
Week 11	Python while statement
Week 12	Python loops: break and continue
Week 13	Python 2D lists

Week 14	Python nested loops
Week 15	Python Casting
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts		
Recommended Texts	• Brian Heinold, A Practical Introduction to Python Programming, 2012 • Ben Stephenson, The Python Workbook: A Brief Introduction with Exercises and Solutions, 2014	No
Websites	https://www.w3schools.com/python/	

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB 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.