	Ministry of Higher Education and Scientific Research - Iraq Al-Mustaqbal University College for engineering and technology Department of Biomedical Engineering	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Computer Science			**Module Delivery**	
Module Type	BASIC			**Theory** **Lecture** **Lab**	
Module Code					
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level	1		**Semester of Delivery**		
Administering Department	Department of Chemical Engineering and Petroleum Industries		**College**	Engineering	
Module Leader	Abrar Falah Naji		**e-mail**	Abrar.falah.naji@uomus.edu.iq	
Module Leader's Acad. Title	Asst.lecturer		**Module Leader's Qualification**	master	
Module Tutor					
Peer Reviewer Name			**e-mail**		
Review Committee Approval	1/2/2026		**Version Number**		

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	1- Learn the basics of computer and operation system Windows 7 and application program Office 2010 and programming language (Visual Basic) and used to solve the problems of chemical engineering. 2- emphasizes the general principles and techniques of computer programming, which can be applied to almost any programming language. Although the emphasis is on programming in any language, this course focuses on one language, in particular, called Visual Basic. It provides the students with a basic understanding and appreciation of the various essential programming-languages constructs, programming paradigms, evaluation criteria and language implementation issues. 3- develop the mathematical skills necessary to solve practical problems 4- Equip you with the knowledge and skills for a range of careers in technology and computer-based industry 5 developing critical thinking skills, solving open-ended problems and working in teams.-		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Be able to operate computer hardware and peripherals, Overview of computer systems-hardware and operating systems. Be familiar with software applications, understand file management and have skills in developing simple scientific and educational programs 2- skills in using Microsoft software; and accomplishing creating essential documents, worksheets and databases. 3- Demonstrate knowledge and understanding of the core ideas of programming languages. 4- Analyze a problem, and identify and define the computing requirements appropriate to its solution. 5- Apply algorithmic principles and computer science to design problem solutions. 6- Understand and apply various programming principles to solve problems in different areas. 7- Demonstrate knowledge and understanding of the core ideas of programming languages. 7- Analyze a problem, and identify and define the computing requirements appropriate to its solution. 8- Apply algorithmic principles, and computer science to design problem solutions. 9- Understand and apply various programming principles to solve problems in different areas.		
Indicative Contents	Microsoft Windows 7(1 hr.)		

المحتويات الإرشادية	Microsoft Word (1 hr.) Microsoft Excel(1 hr.) Introduction To Visual Basic Programming • Menu bar • Tools bar • Project explorer • Tool box • Properties windows • Form • Code• Controls: Command Buttons, Labels, Textbox, Pointers, Picture box, frame. • Naming Controls. • Properties for controls: Height, Width, Left, Top, Font, Forecolor, Backcolor, Name, Caption, Text, and Visible.(1 hr.) Events. • Saving Visual Basic Project. • Examples: Chemical Engineering Applications.(1 hr.) Built-In Functions Built-in math functions: • Abs(x), Int(x), Rnd(x), sgn(x), sqr(x), str(x), val(x), round(x, n), CInt(x), Fix(x). • String Functions .(1 hr.) Selection Structure:Single Selection: If/Then structure.• Double Selection: If/Then/Else structure.• Nested If/Then/Else structure.• Select Case Multiple Selection Structure. • Examples: Chemical Engineering Applications. .(٢ hr.) • InputBox.• MsgBox. • Examples: Chemical Engineering Applications. .(٢ hr.) Repetition Structure:• For ... Next Loop.• While ... Wend • Do .... While ... Loop • Do ... Loop Until • Exit Do, Exit For, Examples: Chemical Engineering Applications. (٢hr.) ❖ Variable • Data Types: Boolean, Integer, Long, Single, Double, String. • Valid Naming of Variables, • Initial Value for each Type of the Variables (Initial Value for each Data Type). • Size of each Variable Type in Bytes. • How to Declare Variables. (Dim statement). • Using: Dim variable-name As Data type. • Using Suffix: Integer, Long, Single, Double, String• Constant Variable. • Examples: Chemical Engineering Applications. .(1 hr.) ❖ ARRAYS:• Introduction: Defining Arrays • Array Declaration Statement • Assigning Values for Arrays (i.e. filling array's element value either by the loop or by direct assignment statement). • ReDim Statement. • Using Loops with Arrays. (i.e. writing an application on an array using loops) • Two Dimensional Arrays. • Operations on Arrays: • Fill Array Elements with Random Numbers using Rnd Function.• Sorting.• Searching. (i.e. Linear search).• Swapping Two Elements. .(1 hr.) ❖ Graphics In Visual Basic• Graphics control• Picture box• Image box • Coordinate system• Pixel• Graphics methods (Line, Circle, pset) • Examples: Chemical Engineering Applications.(1 hr.)
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, interactive tutorials and by considering the type of simple experiments involving

	some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	15% (5)	3-1١	LO #3, 4, 5,6,7 and 8
	Assignments	2	10% (5)	2-1٣	LO # 1-٩
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	5% (5)	13	LO # 1-٩
Summative assessment	**Midterm Exam**	2 hr	10% (10)	5-1٤	LO # 1-٩
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Windows7
Week 2	Micro soft word
Week 3	Micro soft excel
Week 4	Introduction To Visual Basic Programming
Week 5	Other toolbox items
Week 6	Mathematic functions
Week 7	Conditional sentence

Week 8	InputBox function and message box function
Week 9	Iteration loops
Week 10	Data and variable
Week 11	Array
Week 12	Menu bar
Week 13	graphics
Week 14	Review
Week 15	**Preparatory Week**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1:windows7,Microsoft Word, Microsoft Excel
Week 2	Lab 2: Introduction To Visual Basic Programming,writing code
Week 3	Lab 3: Mathematic functions
Week 4	Lab 4: Conditional sentence
Week 5	Lab 5: InputBox function and message box function
Week 6	Lab 6: Iteration loops
Week 7	Lab 7: Data and variable,array, the menu bar
Week 8	Lab 8:graphics

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Microsoft® Making the Transition to Microsoft Windows 7 – Just the Basics! © 2009 CustomGuide, Inc. / Bates College (October 2011)	no

	2- Windows® 7 Step by Joan Preppernau and Joyce Cox ©2009 Joan Preppernau and Joyce Cox, Early Content—Subject to Change, Microsoft Press. 3- Step by Step, Microsoft Office Word 2007, Published by Microsoft Press A Division of Microsoft Corporation, One Microsoft Way Redmond, Washington 98052-6399, Copyright © 2007 by Joyce Cox, Joan Preppernau, and Online Training Solutions, Inc. 4- Microsoft Office Word 2007 By: Torben Lage Frandsen & Ventus Publishing Aps, The eBookboon, The eBook company,2010 5- BEGINNING EXCEL, Barbara Lave, Diane Shingledecker, Julie Romey, Noreen Brown, & Mary Schatz, Portland Community College, 2021,Libretext: https://workforce.libretexts.org/@go/page/14525 6- Introduction: Visual Basic Basic 6.0, By: Gary Haggard, Wade Hutchison, Christy Shibata,1st edition, 2013, bookboon.com 7- Programming Microsoft Visual Basic 6.0, PUBLISHED BY:Microsoft Press, A Division of Microsoft Corporation,One Microsoft Way Redmond, Washington 98052-6399, 1999 by Francesco Balena	
Recommended Texts		No
Websites		

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:				

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي