

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Programming 1	Module Delivery	
Module Type	Basic	<input checked="" type="checkbox"/> Theory	
Module Code	CREQ1214	<input type="checkbox"/> Lecture	
ECTS Credits	5	<input checked="" type="checkbox"/> Lab	
SWL (hr/sem)	125	<input type="checkbox"/> Tutorial	
		<input type="checkbox"/> Practical	
		<input type="checkbox"/> Seminar	
Module Level	1	Semester of Delivery	1
Administering Department	Mathematics and Computer Applications Science	College	College of Sciences
Module Leader	Mohammed Q. Ali	e-mail	mohammed.q.ali@nahrainuniv.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	23/2/2024	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

<b>Module Aims</b> أهداف المادة الدراسية	<ol style="list-style-type: none"><li>1. The computer languages classification</li><li>2. How using the MATLAB</li><li>3. Programming mathematical operations</li><li>4. Identify the vectors and matrices</li><li>5. Understanding how to write a program in MATLAB</li></ol>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1. You will be able to apply the knowledge in MATLAB</li><li>2. You will be able to use MATLAB arithmetic operations</li><li>3. You will be able to elementary math built-in in MATLAB</li><li>4. You will be able to Creating, Saving and executing a Script File</li><li>5. You will be able to define different types of arrays, arrays operations</li><li>6. You will be able to solve linear equations in MATLAB</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<p>Understanding computer languages classification</p> <p>Understanding MATLAB environment</p> <p>Variable and its rules, arithmetic operation and its Order of Precedences</p> <p>Math Built-In Functions (elementary, trigonometric functions, Rounding functions ... etc.)</p> <p>Define arrays (vectors and matrices) with their different types (zero, ones, identity and so on) and operations (sort, inverse, reshape and so on)</p> <p>Running a program in MATLAB</p>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>The main strategy that will be adopted in delivering this module is by explaining lectures in an interactive way by letting the students to participate in the presenting through questions and answers while at the same time refining and expanding their critical thinking skills. This will be achieved through classes and labs.</p>
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### Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	64	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	4.26
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.06
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	125		

### Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	4	10% (10)	3,6,10,13	All
	<b>Assignments</b>	4	10% (10)	4,7,9,12	All
	<b>Report</b>	1	10% (10)	Continuous	
	<b>Lab</b>	2	10% (10)	8,15	All
<b>Summative assessment</b>	<b>Midterm Exam</b>	2hr	10% (10)	7,14	All
	<b>Final Exam</b>	3hr	50% (50)	15	All
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
<b>Week 1</b>	Computer Languages
<b>Week 2</b>	Starting with MATLAB
<b>Week 3</b>	Variables, Arithmetic operations and Elementary Math Built-In Functions
<b>Week 4</b>	Script Files
<b>Week 5</b>	Creating A One-Dimensional Array (Defining Vector)
<b>Week 6</b>	Vector operations and its Built-in functions
<b>Week 7</b>	Mid-term Exam 1

<b>Week 8</b>	Creating Matrices (2D array)
<b>Week 9</b>	Matrix Addressing
<b>Week 10</b>	Matrix Operations
<b>Week 11</b>	Special matrices
<b>Week 12</b>	Matrix built-in functions
<b>Week 13</b>	Solve linear equations
<b>Week 14</b>	Mid-term Exam 2
<b>Week 15</b>	<b>Preparatory Week</b>
<b>Week 16</b>	<b>Final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

#### المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	Lab 1: Working with MATLAB (The MATLAB Environment)
<b>Week 2</b>	Lab 2: Defining variables and programming mathematics equations
<b>Week 3</b>	Lab 3: Using Elementary Math Built-In Functions and result formats
<b>Week 4</b>	Lab 4: Working with Script file (create and execute)
<b>Week 5</b>	Lab 5: Defining Vectors (create methods and addressing)
<b>Week 6</b>	Lab 6: vector operation and its Built-In Functions
<b>Week 7</b>	Lab 7: cross and dot product applications
<b>Week 8</b>	Practical Exam 1
<b>Week 9</b>	Lab 8: Create a matrix
<b>Week 10</b>	Lab 9: Matrix addressing
<b>Week 11</b>	Lab 10: matrix operations
<b>Week 12</b>	Lab 11: Special matrices (Identity, zeros, ones and so on)
<b>Week 13</b>	Lab 12: Matrix built-in functions
<b>Week 14</b>	Lab 13: solve linear equations base on matrix
<b>Week 15</b>	Practical Exam 2
<b>Teaching Staff</b>	م.م. محمد قاسم علي/م.م. ايمان خالد/ م.م. نبراس ياسر/م.م. شيماء عبدالستار/ م.م. بتول امخيلف / م.م. لمياء خالد/م.م. فرح لطيف جوي

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts		
Recommended Texts	MATLAB: An Introduction with Applications (4th Edition) by Amos Gilat, Golat A. 2011	No
Websites	<a href="http://mathworks.com">Documentation - MATLAB &amp; Simulink (mathworks.com)</a>	

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
<p><b>Note:</b> 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.</p>				