Ministry of Higher Education and
Scientific Research - Iraq
Al-Furat Al-Awsat Technical University
Technical College /Al-Mussaib
Department of Electrical Engineering Techniques

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	COMPUTER APPLICATION			**Module Delivery**	
Module Type	**SUPLEMENT**			☒ **Theory** **Lecture** ☒ **Lab** ☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	ATU23036				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	٢		**Semester of Delivery**	١	
Administering Department	Electrical Engineering Techniques		**College**	Al-Furat Al-Awsat Technical University Technical College /Al-Mussaib	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	١٤/٠٦/٢٠٢٣		**Version Number**	١	

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	Students will learn the principle use of computer program, solve the function and equation using command of matlab program.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least ٦ Learning Outcomes, better to be equal to the number of study weeks. ١. Operations solution on matrices ٢. Operations solution on vectors ٣. Solve Linear equation by direct method ٤. Solve Linear equation by least square ٥. Solve Non linear equation ٦. Solve 2nd order Linear Differential equation ٧. Mathematical process (integral, differential and limits) for functions ٨. To learn draw 2D,3D ٩. Properities and increase accuracy of draw ١٠. Find the roots by Newton Raphson method ١١. Solve equation by Laplace with MATLAB ١٢. Solve equation by Laplace inverse with MATLAB
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - Fundamentals of the computer hardware and software Definition of computerand its parts, method of operation, types of memories, type of system and programs used (word, excel, powerpoint). Part B – Solve function and equation by matlab program Introduction for MATLAB Program,Mathematical process on matrices ,Mathematical process on vectors,Linear equation by direct method,Linear equation by least square Non linear equation,٢nd order Linear Differential equation ,Mathematical process (integral, differential and limits) for functions Draw ٢D,٣D,Properities and increase accuracy of draw,Newton Raphson method for roots,Invisible instructions ,Laplace with MATLAB,Laplace inverse with MATLAB.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 .

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	٦٣	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٤,٢
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	٣٧	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	٢,٤٦
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١٠٠		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	٤	١٠٪ (١٠)	٥ and ١٠	**LO #١, #٢ and #١٠, #١١**
	Assignments	٦	١٠٪ (١٠)	٢ and ١٢	**LO #٣, #٤ #٦, #٧ and #١٠, #١١**
	Projects / Lab.	١٠	١٠٪ (١٠)	**Continuous**	**All**
	Report	٨	١٠٪ (١٠)	٢ and ١٠	**LO #٢ - #١٠**
Summative assessment	**Midterm Exam**	٢hr	١٠٪ (١٠)	٨	**LO #١ - #٨**
	Final Exam	٣hr	٥٠٪ (٥٠)	١٥	**All**
Total assessment			١٠٠٪ (١٠٠ Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week ١	Introduction for MATLAB Program
Week ٢	Mathematical process on matrices
Week ٣	Mathematical process on vectors
Week ٤	Linear equation by direct method
Week ٥	Linear equation by least square
Week ٦	Non linear equation
Week ٧	٢nd order Linear Differential equation

Week ٨	Mathematical process (integral, differential and limits) for functions
Week ٩	Draw ٢D,٣D
Week ١٠	Properities and increase accuracy of draw
Week ١١	Newton Raphson method for roots
Week ١٢	Invisible instructions
Week ١٣	Laplace with MATLAB
Week ١٤	Laplace inverse with MATLAB
Week ١٥	**Final exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week ١	Introduction for MATLAB Program
Week ٢	Mathematical process on matrices
Week ٣	Mathematical process on vectors
Week ٤	Linear equation by direct method
Week ٥	Linear equation by least square
Week ٦	Non linear equation
Week ٧	٢nd order Linear Differential equation
Week ٨	Mathematical process (integral, differential and limits) for functions
Week ٩	Draw ٢D,٣D, Properities and increase accuracy of draw
Week ١٠	Newton Raphson method for roots
Week ١١	Invisible instructions
Week ١٢	Laplace with MATLAB
Week ١٣	Laplace inverse with MATLAB
Week ١٤	Review
Week ١٥	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	كتاب الماتلاب للمهندسين	No

	عدنان شاهين	
Recommended Texts	كتاب الماتلاب عصام سرحان	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (٥٠ - ١٠٠)	**A** - Excellent	امتياز	٩٠ - ١٠٠	Outstanding Performance
	B - Very Good	جيد جدا	٨٠ - ٨٩	Above average with some errors
	C - Good	جيد	٧٠ - ٧٩	Sound work with notable errors
	D - Satisfactory	متوسط	٦٠ - ٦٩	Fair but with major shortcomings
	E - Sufficient	مقبول	٥٠ - ٥٩	Work meets minimum criteria
Fail Group (٠ – ٤٩)	**FX** – Fail	راسب (قيد المعالجة)	(٤٥-٤٩)	More work required but credit awarded
	F – Fail	راسب	(٠-٤٤)	Considerable amount of work required

Note: Marks Decimal places above or below ٠,٥ will be rounded to the higher or lower full mark (for example a mark of ٥٤,٥ will be rounded to ٥٥, whereas a mark of ٥٤,٤ will be rounded to ٥٤. 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.