MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	ENGINEERING WORKSHOPS			**Module Delivery**	
Module Type	BASIC			**Theory** **Lab** **Tutorial**	
Module Code	ATU12014				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	1	**Semester of Delivery**	1		
Administering Department	ATU12	**College**	PMTEC		
Module Leader	Amar Abdulallah	**e-mail**			
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.Sc..		
Module Tutor	None	**e-mail**	None		
Peer Reviewer Name	Ahmad T Abdulsadda	**e-mail**	Coj.abdulsad@atu.edu.iq		
Review Committee Approval	01/06/2023	**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	1. Develop practical skills in electronics workshop operations, focusing on safety measures and proficiency in using measuring devices and tools. 2. Acquire knowledge and techniques related to welding, soldering, and handling electronic components on printed boards. 3. Gain familiarity with various electronic components, circuits, and their behaviors through hands-on manufacturing and experimentation. 4. Understand the principles of parallel and series circuits involving resistors		

	and capacitors, and apply them in practical scenarios. 5. Enhance the ability to read and interpret electronic boards, and design and assemble electronic circuits on printed boards.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate a thorough understanding of the fundamental concepts and principles of electronics, including measuring devices, soldering techniques, and electronic components. 2. Apply knowledge and skills in conducting welding and soldering operations with precision and adherence to safety guidelines in an electronics workshop. 3. Construct and analyze various electronic circuits, including resistive, capacitive, and semiconductor circuits, using appropriate tools and materials. 4. Evaluate and troubleshoot electronic circuits, identify faults, and apply effective problem-solving techniques to rectify issues. 5. Develop proficiency in reading and interpreting electronic boards, designing and assembling circuits, and effectively communicating ideas and findings related to electronics.
Indicative Contents المحتويات الإرشادية	1. Electronic Workshop: Acquire practical skills in electronics, including the use of measuring devices, soldering techniques, and working with electronic components. 2. Mechanical Workshop: Develop hands-on knowledge and skills in mechanical engineering, including working with different tools, understanding mechanical systems, and performing various mechanical operations.
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 showing the students how the construction members exposed to external loads. This can be done by films or videos or by the ready structural software.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (hr/sem) (SSWL) الحمل الدراسي المنتظم للطالب خلال الفصل	27	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	27/15 =1.8

Unstructured SWL (hr/sem)(USSWL) الحمل الدراسي غير المنتظم للطالب خلال الفصل	48	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	62/15=3.2
Total SWL (hr/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**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	1.5 hr	10% (10)	7	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	**Syllabus**
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	•
	•
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	•

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي المختبري

	Material Covered
Week	**Syllabus**
1-7	• Occupational Safety, Foundry Workshop, Files type Workshop, Carpentry Workshop, Turnery workshop, Welding types Workshop
8	• Learn how to use different measuring devices in the workshop, Learn how to use caustic, types of caustic, welding by using caustic
9	• Types of welding, Auxiliary materials for welding, wires welding between them and

	with other components. • Sucker solder and Solder removal, Training to remove some of the electronic components of the printed board
10	• Learn different types of printing board through printing method, drilling operation, Install the various components.
11	• Different types of electronics components through manufacturing for example the resistance and its power, measure the value of resistance in different methods, rheostat, Parallel resistance circuit - series resistance circuit - parallel and series resistance circuits - and check it.
12-13	• Types of capacitance • 14-15 Parallel capacitance circuit - series capacitance circuit - parallel and series capacitance, circuit - check it on the board, Switch types, Fuses types, Inductor types, Transformer types
14-15	• Learn how to read electronic board, Students learn to design electronic board on the printed board, install the component on the board, and welding the components on the board.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Digital principles and applications, by Albert Paul Malvino, 2nd Edition. ¬ 2. Digital Logic Circuits by D.A.Godse A.P.Godse, Technical Publications 2008	Yes
Recommended Texts	1. Digital principles and applications, by Albert Paul Malvino, 2nd Edition. ¬	Yes
Websites		

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group	**A** - Excellent	امتياز	90 - 100	Outstanding Performance

(50 - 100)	**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.