

MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	ENGINEERING WORKSHOPS	Module Delivery	
Module Type	BASIC	☐ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	ATU11213		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGI		
Administering Department		College	NETC
Module Leader	Liath Wajeh	e-mail	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Nasir Hussein Selman	e-mail	Coj.nas@atu.edu.iq
Scientific Committee Approval Date	01/10/2024	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			
Module Aims أهداف المادة الدراسية	- Develop practical skills in electronics workshop operations, focusing on safety measures and proficiency in using measuring devices and tools. - Acquire knowledge and techniques related to welding, soldering, and handling electronic components on printed boards. - Gain familiarity with various electronic components, circuits, and their		

	behaviors through hands-on manufacturing and experimentation. - Understand the principles of parallel and series circuits involving resistors and capacitors, and apply them in practical scenarios. - 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	- Demonstrate a thorough understanding of the fundamental concepts and principles of electronics, including measuring devices, soldering techniques, and electronic components. - Apply knowledge and skills in conducting welding and soldering operations with precision and adherence to safety guidelines in an electronics workshop. - Construct and analyze various electronic circuits, including resistive, capacitive, and semiconductor circuits, using appropriate tools and materials. - Evaluate and troubleshoot electronic circuits, identify faults, and apply effective problem-solving techniques to rectify issues. - 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	- Electronic Workshop: Acquire practical skills in electronics, including the use of measuring devices, soldering techniques, and working with electronic components. - 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	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	48/15 = 3.2
Unstructured SWL (hr/sem)(USSWL) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	27/15 = 1.8
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	2 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 الأسبوعي 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	Electronics Workshop Companion by Stan Gibilisco	no
Recommended Texts	Electronic Principles Eighth Edition by Albert Malvino David Bates. Make: Electronics Second Edition by Charles Platt.	
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:

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.