

Module Description Form

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Drawing		Module Delivery	
Module Type	Basic B		☐ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	ATU11107			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	UGI	Semester of Delivery		1
Administering Department		College	NETC	
Module Leader	Noor Fadil		e-mail	noor.habib@atu.edu.iq
Module Leader's Acad. Title	Assistant lecturer		Module Leader's Qualification	MSc.
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 Objectives أهداف المادة الدراسية	1. To present a brief vision of Computer-Aided Design (auto CAD) and the tools of this term. 2. Highlighting the mathematical modeling principles of line, arc, spline, and other segments. Fundamental of electricity element : resistance, inductance, ...,etc. 3. Covering the significant programs utilized in the modeling and comparing these programs. 4. Defining the AutoCAD and workbench program's tools and modeling outcomes. 5. Explaining global and local coordinate systems in modeling.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Control of AutoCAD principles as background programming of each segment, such as line or arc. 2. Controlling the main and sub-tools of the AutoCAD program as a professional designer. 3. Contributing to knowing the methodology of drawing accuracy and technology terms.
Indicative Contents المحتويات الإرشادية	Part A Introduction to modeling system in AutoCAD: Drawing planes, Preparing sheet drawings, Line commands, circle commands, Arc commands, Rectangle commands, straight slot commands, Ellipse commands, Spline commands, and 3D sketch planes. Part (B) Fit conceptual: Transition, Clearance, and Interference. Part (C) Bearing, Cams, Gears, and Belts, bolts, Welding conceptual.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The strategy of this subject is to study the principles of computer-aided design (auto CAD) by employing one of the popular programs. The tools of autocad program contribute to developing the users' skills in 2D and 3D drawing. Besides, this program utilizes the assembly and sheet representation for sketched parts with annotation technologies. Furthermore, this program boosts the modeling of belts, coupling, gears, and cams. Consequently, prepare the students to design advance modeling of electrical and electronic circuits.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4 and 12	
	Assignments	2	10% (10)	3 to 12	
	Projects / Homework	5	10% (10)	6 and 11	
	Report	1	10% (10)	0	
Summative assessment	Midterm Exam	2hr	10% (10)	7	
	Final Exam	3hr	25% (25)	15	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	DDA AND ELECTRICITY Algorithm for line, Bresenham Algorithm for arc, HC-Spline.
Week 2	Bezier spline, Preparing sheet and plane for drawing by SOLIDWORK program.
Week 3	2D and electricity drawing tools.
Week 4	2D and electricity drawing tools, 2D modify tools.
Week 5	3D and electricity drawing tools.
Week 6	3D and electricity drawing tools.
Week 7	3D drawing tools, Mid-Test.
Week 8	3D Modify-Features tools.
Week 9	Surfaces tools.
Week 10	Surfaces tools, Modify-Surfaces tools.
Week 11	Modify-Surfaces tools, Assembly tools.

Week 12	Assembly tools, Drawing Sheet tools.
Week 13	Feet and clearance tools.
Week 14	Bearing, Cams, and Gears tools
Week 15	Belts, Bolts, and Welding tools
Week 16	Final Exam.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Radhakrishnan, P., Subramanyan, S. and Raju, V., 2008. CAD/CAM/CIM. New Age International. Bethune, James D. Engineering Design and Graphics with SolidWorks 2016. United States: Pearson, 2016.	no
Recommended Texts	.	
Websites	-	

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
Note: 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.				