

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al-Anbiyaa College of Advanced Technologies Department of Refrigeration and Air Conditioning Techniques Engineering	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Mechanical Drawing		Module Delivery	
Module Type	C		☐ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	HVAC201			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		1
Administering Department	M.SC-HVAC	College	Advanced Technologies	
Module Leader	Ali Hammoudi Alwazir		e-mail	ali.ham@uowa.edu.iq
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	M.Sc.	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	31 / 08/2026	Version Number	1.0	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims	To teach the student, 1. the basic skill of reading engineering drawing along with their simples and terms as well as the standards 2. . joining, bolts and gears, knowledge of assembly drawings 3. how to use ACD in mechanical drawing 4. fits and tolerances		
Module Learning Outcomes	Upon completion of the course, students should be able to: 1- Focus on engineering drawing along with their simples and terms as well as the standards 2- joining, bolts and gears, knowledge of assembly drawings. 3- how to use ACD in mechanical drawing 4- fits and tolerances.		
Indicative Contents	Indicative content includes the following. Application on computer, basic of engineering drawing with their simples and terms as well as their standards.[12hrs] using AutoCAD to draw an example of joining by bolts. [10 hrs] Classification of keys, pins and rivets. [10hrs] Application on computer, using AutoCAD to draw an example of joining of keys or pins. [10 hrs] Tolerances, basic size, limits of size and deviation. [10 hrs] Fits , classes of fit/ clearance. Transition. Interference. Calculation of fits & tolerance. [15 hrs] Assembly drawing using AutoCAD to draw general assembly. [10hrs]		

		Application on computer, using AutoCAD to draw an example of spur gear. [10 hrs]			
Learning and Teaching Strategies استراتيجيات التعلم والتعليم					
Strategies		Assessment is based on hand-in assignments, written exam, Case study, Quizzes, seminars, Practical testing and Online testing.			
Student Workload (SWL) الحمل الدراسي للطالب					
Structured SWL (h/sem)		87	Structured SWL (h/w)		8
Unstructured SWL (h/sem)		113	Unstructured SWL (h/w)		4
Total SWL (h/sem)		200			
Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (20)	3,5,6,10	LO #1,2,.....10
	Assignments	2	10% (10)	7, 8	LO # 8
	Seminar	1	10% (10)	11	LO # 11
Summative assessment	Midterm Exam	2 hr	10% (10)	12	LO # 1-12
	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			
Delivery Plan (Weekly Syllabus) theoretical and practical المناهج الاسبوعي النظري والعملي محتوى كل اسبوع يجب ان يغطي الوقت المحدد					
	Material Covered				
Week 1	Symbols, expressions, general review				
Week 2	Screws, bolts, studs and nuts, Keys.				
Week 3	Screws, bolts, studs and nuts, Keys.				
Week 4	pulleys				
Week 5	Gears(bevel gear, worm gear, spur gear)				
Week 6	Fit and tolerance				
Week 7	Surface finishing and part tables				
Week 8	Surface finishing and part tables				
Week 9	Assembly drawing and working drawing for advanced mechanisms				

Week 10	Assembly drawing and working drawing for advanced mechanisms
Week 11	Pipes and tubes
Week 12	Pipes and tubes
Week 13	Gears assembly
Week 14	Advanced machine assembly
Week 15	Advanced machine assembly

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Recommended Texts	➤ AutoCAD reference book	Yes

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.



المادة: م. علي حمودي الوزير

التاريخ: 31-8-2026



العميد : ا.م.د. علي باسم محمد

التاريخ : 31-8-2026



رئيس القسم: ا.م.د. محمد حسن عبود

التاريخ : 31-8-2026