

	<p>Ministry of Higher Education and Scientific Research - Iraq</p> <p>University of Warith Al_Anbiyaa Engineering Department</p> <p>Refrigeration and Air Conditioning Techniques Engineering</p>	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	C		<input type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	MPAC101		
ECTS Credits	6		
SWL (hr/sem)	180		
Module Level	1	Semester of Delivery	
Administering Department	BSc-MPAC	College	Engineering
Module Leader	Hakim S. Sultan Aljibori	e-mail	Hakim.s@uowa.edu.iq
Module Leader's Acad. Title	Prof. Dr	Module Leader's Qualification	Doctor
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	2025/2024	Version Number	1
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	<ol style="list-style-type: none"> 1. This module describes the skills, knowledge, and attitude required to apply technical drawing. At the end of this module, learners will be able to Introduce technical drawings, apply principles of drawing, and project views. 2. to make the students know how to draw (Engineering Drawing) by using AUTOCAD program. 3. This course deals with the basic concept of Engineering Drawing. 4. Define the Engineering Drawing - The Tools used in Engineering Drawing - Types of drawing sheets, types of lines. 5. Learning 2D interface in AutoCAD. 6. Learning 3D interface in AutoCAD.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1- Define the Engineering Drawing - The Tools used in Engineering Drawing - Types of drawing sheets, types of lines 2-Introduction to AutoCAD and learning how to use the program interface 3-Learning how to use Draw toolbar and its content 4-Learning how to use modify toolbar and its content 5-Learning how to use dimension toolbar and its content and draw 2D exercises 6-Theory of projection, Theory of projection 1st angle 7-Theory of projection 3rd angle 7-Drawing the three projection views 8-Theory of Section and Drawing the three Section views 9-Learning 3D interface in AutoCAD and 3D tools, 3D exercises
Indicative Contents المحتويات الإرشادية	indicative contents include the following: <u>Part A: The Purpose of Engineering Drawings</u> An engineering drawing is a subcategory of technical drawings. The purpose is to convey all the information necessary for manufacturing a product or a part. Engineering drawings use standardized language and symbols. This makes

	<p>understanding the drawings simple with little to no personal interpretation possibilities.</p> <p><u>Part B:</u> understanding AutoCAD</p> <p>AutoCAD interface and Its usage like centers around drawing with electronic equivalents of real-life drafting tools. The added support of digital precision helps with measurements and calculations, 3D components, and data sharing.</p> <p><u>Part C:</u> 2D Drawings</p> <p>Using lines to make 2D drawings, apply dimensions rules, design 2d shapes and drawing projections and sectioning views.</p> <p><u>Part D:</u> 3D drawings</p> <p>3D CAD, or three-dimensional computer-aided design, is technology for design and technical documentation, which replaces manual drafting with an automated process.</p>		
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies	<p>The main strategy that will be adopted in delivering this module is to courage 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 considering type of simple experiments involving some sampling activities that are interesting to the students.</p> <p>YouTube channel for the teacher includes lessons to help the students in their studying https://www.youtube.com/channel/UCiUmlY4CLQn5ycY4von1P5g</p>		
Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	88	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

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	3	10% (10)	7	LO # 1-7
	Final Exam	3	50% (50)	16	All
Total assessment			100% (100 marks)		
Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر					
	Material Covered				
Week 1	Define the Engineering Drawing, tools, types of drawing sheets, and types of lines				
Week 2	Introduction to AutoCAD and learning how to use the program interface				
Week 3	Learning how to use Draw toolbar and its content				
Week 4	Learning how to use Draw toolbar and its content				
Week 5	Learning how to use modify toolbar and its content				
Week 6	Learning how to use dimension toolbar and its content and draw 2D exercises				
Week 7	Theory of projection, Theory of projection 1st angle				
Week 8	Find the 3rd project view from 2 views				
Week 9	Theory of projection 3rd angle				
Week 10	Drawing the three projection views				
Week 11	Theory of Section				
Week 12	Drawing the three Section views				
Week 13	Learning 3D interface in AutoCAD				
Week 14	3D tools, 3D exercises				
Week 15	Final Exam				
Learning and Teaching Resources					

مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	ملزمة الرسم الهندسي الخاصه بالكلية التقنية الهندسية بغداد/ قسم هندسة تقنيات المواد	Yes
Recommended Texts	K. Venkata Reddy "Textbook of Engineering Drawing second edition" 2008	No
Websites	https://www.autodesk.com/	

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.

