

	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	
---	--	---

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Applications 3		Module Delivery
Module Type	S		☐ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	HVAC403		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	4	Semester of Delivery	
Administering Department	BSC-HVAC	College	Advanced Technologies
Module Leader	Amin Sami Amin	e-mail	
Module Leader's Acad. Title	Ass. Lecturer	Module Leader's Qualification	MS.c
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	31-8-2026	Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MPAC101	Semester	1
	MPAC201		3
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	AutoCAD 3d course teaches students to create basic 2D and 3D drawings using drawing and editing tools, organizes drawing objects on solids, basic dimensions, and prepares to plot. This course is designed for Mechanical Engineers.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	AutoCAD 3D certificate goal is to educate individuals on extra-advanced functions, the strategy, how to design and model items in the 3D design software program, enveloping surface areas, and solids in visualizing engineering designs.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part 1 – 3d solids</u> Drawing the basic components of 3d solids in space. <u>Part 2 – 3d operations</u> Enable to make operations on the 3d solids. <u>Part 3 – Solid editing</u> Enable to editing on 3d solids, faces and edges. <u>Part 4- User coordinate system UCS</u> Types of UCS and their applications on 3d solids. <u>Part 5- Advanced 3d commands</u> (Extrude, revolve, sweep and loft), 2d drawings and UCS . <u>Part 6 – Surface</u> Drawing different types of surfaces in space.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in this module is to encourage students participation in the exercises, in the same time refining and expanding their critical thinking skills. This will be achieved through classes and interactive tutorials.
-------------------	---

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	60	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	15	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4
Total SWL (h/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, 4
	Assignments	2	10% (10)	2, 12	LO # 3, 5
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 1, 2m 3, 4, 5
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-3
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الأسبوعي النظري	
	Material Covered
Week 1	Introduction to AutoCAD -3D, workspace, visual style, 3d views, view ports, right hand rule, world coordinate and user coordinate systems and types of coordinate systems. 3D solids (box, wedge and cylinder).

Week 2	3D solids (cone and tours). 3D solids (sphere and pyramid).
Week 3	Examples to 3D solids. Basic solid editing (union, subtract and intersect) with examples.
Week 4	Fillet and chamfer with applied examples. 3D operations (3d move and 3d rotate) with examples.
Week 5	3D operations (3d align and 3d mirror) with examples. 3D operations (3d array and slice) with examples.
Week 6	More applied examples. User coordinate system (origion, face and objects) with examples.
Week 7	User coordinate system (view, world ,x-y-z) with examples. User coordinate system (z-axis and 3 points) with examples.
Week 8	Advanced 3d commands (extrude and loft) with examples.
Week 9	Advanced 3d commands (revolve, sweep) with examples. Advanced 3d commands (presspull and section plane) with examples.
Week 10	Advanced solid editing/face (extrude, move,rotate and offest).
Week 11	Advanced solid editing/face (taper, delete, copy, color, material, undo and exit).
Week 12	Applied examples. Advanced solid editing/edge (copy and color).
Week 13	Advanced solid editing/body (imprint, separate, shell, clean and check).
Week 14	Surface (box, cone, dome and mesh). surface (pyramid and sphere)
Week 15	surface (torus and wedge) with examples.
Week 16	The preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المناهج الأسبوعي للمختبر	
	Material Covered
Week 1	examples on coordinate systems
Week 2	examples on box, wedge and cylinder
Week 3	examples on cone and tours examples on sphere and pyramid
Week 4	applied examples examples on asic solid editing
Week 5	examples on fillet and chamfer examples on 3d move and 3d rotate
Week 6	examples on 3d align and 3d mirror examples on 3d array and slice
Week 7	applied examples on ucs
Week 8	applied examples on ucs
Week 9	examples on extrude and loft
Week 10	examples on revolve and sweep presspull and section plane
Week 11	examples on advanced solid editing/face (extrude, move, rotate and offset)
Week 12	Advanced solid editing/face (taper, delete, copy, color,).material, undo and exit
Week 13	Applied examples.
Week 14	examples
Week 15	examples on 3d surface Surface (box, cone, dome and mesh)

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Autocad user manual	Yes

Recommended Texts	Introduction to AutoCAD 2009	Yes
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 is 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.				

العميد: ا.م.د. علي باس

رئيس القسم: ا.م.د. محمد حسن عبود

استاذ المادة: م.م. حسين علي جعفر

التاريخ: ٢٠٢٦-٨-٣١

التاريخ: ٢٠٢٦-٨-٣١