MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Drawing and AutoCAD**			**Module Delivery**	
Module Type	**Core**			☒**Theory** ☒**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ENDA114**				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**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. Creating accurate and detailed technical drawings: AutoCAD enables users to produce precise 2D drawings with accurate dimensions, annotations, and symbols. It allows for the creation of technical drawings that can be used for construction, manufacturing, or documentation purposes. 2. Designing 3D models: AutoCAD supports the creation of three-dimensional models of objects, structures, or products. Users can visualize and analyze designs in 3D, enhancing their understanding of spatial relationships and enabling better communication of design intent. 3. Streamlining the design process: AutoCAD offers features like parametric design, which allows for easy modification of designs by changing parameters. It also provides tools for automating repetitive tasks and customizing the software to suit specific workflows, reducing manual effort and increasing efficiency. 4. Collaborating and sharing designs: AutoCAD enables collaboration among team members by facilitating the sharing of drawings, allowing for markups, and tracking revisions. It supports interoperability with other software applications, enabling seamless exchange of design data. 5. Generating presentation and visualization materials: AutoCAD includes rendering capabilities to create realistic visual representations of designs. Users can generate high-quality renderings, animations, and walkthroughs for presentations or marketing purposes.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Proficiency in creating 2D drawings: Users will learn how to create accurate and detailed 2D drawings using AutoCAD. This includes skills in drawing lines, shapes, dimensions, annotations, and symbols. 2. Ability to design in 3D: AutoCAD enables users to create three-dimensional models of objects and structures. Users will develop the skills to design and manipulate 3D objects, apply materials, add textures, and set up lighting for enhanced visual representation. 3. Understanding of parametric design principles: AutoCAD offers parametric design capabilities, allowing users to associate parameters and constraints with design elements. Users will learn how to create intelligent designs that can be easily modified by adjusting parameters. 4. Proficiency in using drafting tools and commands: AutoCAD provides a wide range of tools and commands for drafting and editing. Users will gain proficiency in using these tools to accurately create, modify, and organize elements within a drawing. 5. Visualization and rendering skills: AutoCAD includes rendering capabilities that allow users to generate realistic visual representations of their designs. Users will learn how to apply materials, set up lighting, and create high-quality renderings for presentations or visualization purposes.
Indicative Contents المحتويات الإرشادية	1. Introduction to AutoCAD: - Overview of AutoCAD and its applications - User interface and navigation - Drawing and editing tools

	2. Basic 2D Drawing: - Creating basic shapes (lines, circles, rectangles, etc.) - Modifying objects (trimming, extending, filleting, etc.) - Adding annotations and dimensions 3. Advanced 2D Drawing: - Working with layers and layer properties - Creating and using blocks and attributes - Advanced editing commands (offset, array, mirror, etc.) 4. Project Work and Case Studies: - Applying AutoCAD skills to complete real-world projects.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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 considering types of simple experiments involving some sampling activities that are interesting to the students.

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	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**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**
	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11

Formative assessment	**Assignments**	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to AutoCAD- Overview of AutoCAD and its interface
Week 2	Object Properties Layers and layer properties Applying colors, linotypes, and line weights Managing object properties
Week 3	Text and Annotations Adding and formatting text in drawings Creating and editing dimensions Using dimension styles and tolerances
Week 4	Drawing Basics- Creating lines.
Week 5	Drawing Basics- Creating arcs.
Week 6	Drawing Basics- Creating circles.
Week 7	Drawing Basics- Creating POLYLINE
Week 8	Drawing Basics- Creating ELLIPSE
Week 9	Drawing Basics- Creating POLYGON
Week 10	Drawing Basics- Creating RECTANGLE
Week 11	Modify Tools- Copy (cp) or (co), Mirror (mi)& Offset (o)
Week 12	Modify Tools- Array (ar), Move (m) &Scale (sc)
Week 13	Modify Tools- Stretch (s), Trim (tr)& Extend (ex)
Week 14	Modify Tools- Break (br) ,Join (j), Chamfer (cha) & Fillet (f)
Week 15	Review for over all
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered

Week 1	Creating- lines.
Week 2	Creating- arcs.
Week 3	Creating- circles.
Week 4	Creating -POLYLINE
Week 5	Creating- ELLIPSE
Week 6	Creating -POLYGON
Week 7	Creating -RECTANGLE

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		Yes
Recommended Texts		No
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.