Module Information معلومات المادة الدراسية					
Module Title	**Engineering Drawing with Auto CAD**			**Module Delivery**	
Module Type	**c**			☐ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**HTCMT 102**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**		1
Administering Department	Mechatronics Techniques Engineering		**College**	Technical College-Hawija	
Module Leader	Mahmood A.Jolan		**e-mail**	**mahmoud.A.julan@ntu.edu.iq**	
Module Leader's Acad. Title	assistant Lecturer		**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	15/08/2022		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite	None	**Semester**	None

module			
Co-requisites module	None	**Semester**	None

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	• Understand the basics of engineering drawing and the importance of using it in design. • Master the use of AutoCAD to draw and modify engineering shapes. • Learn the basic drawing tools in AutoCAD and apply them practically. • Acquire skills in using editing tools to organize and modify engineering drawings. • Learn how to use layers to organize and manage drawings effectively. • Apply precision in measurements and add dimensions to engineering drawings. • Insert texts and comments in drawings to better clarify information. • Prepare for practical tests that enhance practical understanding of the tools and skills acquired. • Acquire two- and three-dimensional drawing skills using advanced AutoCAD tools. • Learn how to create symbols and components and use them in engineering designs. • Prepare and prepare for printing and final output of drawings. Implement practical projects using the acquired skills to enhance understanding

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. .1Ability to install and use AutoCAD. 2. .2Master basic drawing and editing tools. 3. .3Organize drawings using layers. 4. .4Apply measurements and add dimensions accurately. 5. .5Insert text and comments into drawings. 6. .6Draw 2D and 3D shapes. 7. .7Create and use symbols and components. 8. .8Prepare drawings for printing and final output. 9. .9Implement integrated engineering design projects. 10. .10Pass practical tests covering acquired AutoCAD skills
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	The main strategy I have started in delivering this unit is to encourage student participation in discussions, while at the same time tacticizing critical thinking skills. I will achieve this through; 1- Lectures - highlighting the basic concepts and knowledge regarding engineering drawing. 2- Tutorials - are published to illustrate the application of basic knowledge of engineering drawing methods.

Student Workload (SWL) **الحمل الدراسي للطالب**

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	0
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 4
	Assignments	2	10% (10)	3, 13	LO # 1,2, 3, and 5
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 4 and 5
Summative assessment	**Midterm Exam**	3 hr	10% (10)	7	LO # 1-4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي المختبري	
	Material Covered
Week 1	Introduction to AutoCAD Engineering Drawing
Week 2	Basic drawing tools in AutoCAD
Week 3	Editing tools in AutoCAD
Week 4	Layers and organizing graphics
Week 5	Measurements and dimensions
Week 6	Writing texts and comments
Week 7	Midterm exam
Week 8	Advanced 2D Drawing
Week 9	Create Symbols and components
Week 10	3D drawing
Week 11	3D shape manipulation
Week 12	Print preparation and final output
Week 13	Small projects
Week 14	Comprehensive review of lessons
Week 15	Final semester exam
Week 16	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• المصادر: Engineering Drawing and Design" by David A. :Madsen and David P. Madsen This book is considered a comprehensive reference in the field of engineering drawing, as it covers the basic principles of engineering drawing in general and provides practical applications using AutoCAD. The book contains chapters dedicated to learning two-dimensional and three-dimensional drawing, in addition to organizing drawings .and preparing them for printing ISBN: 978-1111309572 Mastering AutoCAD 2021 and AutoCAD " • LT 2021" by Brian C. Benton and George :Omura This book is a comprehensive guide to learning AutoCAD, in which the authors cover the basic and advanced tools for engineering drawing and design. The book includes practical exercises and tips on how	NO

	to use various AutoCAD tools in engineering contexts. ISBN: 978-1119580089	
Recommended Texts	Technical Drawing with Engineering Graphics" by Frederick E. Giesecke, Alva Mitchell, Henry C. Spencer, Ivan L. Hill, John T. Dygdon, and James E. Novak: This book is a classic reference in the field of engineering drawing, and includes teaching traditional and digital drawing using tools such as AutoCAD. The book covers advanced topics such as 3D drawing, layers, and graphics control, making it suitable for engineering students.. **ISBN: 978-0134306414**	No
Websites	• **الموقع الإلكتروني "Techopedia"** رابط الموقع Techopedia : 	

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	راس ب	(0-44)	Considerable amount of work required
Note: Marks with 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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية