



Ministry of Higher Education and
Scientific Research - Iraq
University of Diyala
College of Engineering
Department of Materials Engineering



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	MATE107		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	
Administering Department	Materials Engineering	College	College of Engineering
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	13/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	2



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Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Objectives أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To know about different types of lines & use of different types of pencils in an Engineering Drawing 2. To know about different types of projection 3. To know projection of points, straight lines, solids etc. 4. To know development of different types of surfaces. 5. To know about isometric projection. Basics of dimensioning, Lettering& representation of lines. Different lines used for representation of different Engineering Sections. 6. To know different angle of projection. 7. To develop a knowledge and Understand of both manual drawing and features of Auto CAD. 8. To create, edit and print a variety of technical drawings using CAD system.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<p>At the end of this course the students will be able to:</p> <ol style="list-style-type: none"> 1- Get information about the important tools for engineering drawing. This will give student basic knowledge of technical drawings professions and means of communications to others. 2- Learning how to draw the shapes, angles and lines and others which is essential for engineer 3- Understand the main idea of using dimension for engineering drawing 4- Familiarize with different drawing equipment, technical standards and procedures for construction of geometric figures. This will give students ability to draw three dimension objects on the paper and to draw the pectoral drawings. 5- Explain the principle of projection 6-Explain the principle of sectioning 7-Explain the principles of engineering geometry and isometric views as they apply to engineering drawings 8-Learning the main idea from assembly and detail drawing 9- Identify the important tools used to create technical drawings in CAD 10-Apply basic CAD concepts to develop and construct accurate 2D geometry through creation of basic geometric constructions. 11-Apply elements of mechanical drafting such as layers, dimensions, drawing formats, and 2D figures in projects with a focus on ANSI industry standards.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p>



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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	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, assignments and by using computers to draw handmade complicated drawings that are interesting to the students.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ 15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	108	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	8	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Class work	4	10% (20)	Continuous	LO #1 to #8
	Practical	3	5% (10)	Continuous	All
	Lab. / Tutorial	2	15% (15)	Continuous	All
	Report	0	0%		
Summative assessment	Midterm Exam	2hr	30% (30)	6,13	All
	Final Exam	3hr	40% (50)	16	All
Total assessment			100% (100 Marks)		



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Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي العملي

	Material Covered
Week 1	Introduction to engineering drawing and its uses as engineering language in industry, Drawing Instruments , Types of Engineering Tools and Their Uses
Week 2	Lines - definition and applications
Week 3	Engineering Operations (Geometrical figures) : types of angle and triangle,
Week 4	Engineering Operations :Geometrical figures - Polygon, square, rectangle, and circle
Week 5	Engineering Operations : Practice of ellipse
Week 6	Dimensions: definition, types of dimensioning, arrow heads and leaderline, Types of arrowhead. Leader Line with text, Practice of dimensioning
Week 7	Projection : projection of views using first or third angle projection methods
Week 8	projection of views
Week 9	projection of views
Week 10	Development of lateral surfaces of solids with cut-outs and holes
Week 11	Sectional views
Week 12	Sectional views
Week 13	Lost views
Week 14	Lost views
Week 15	Isometric drawing,

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر (الايوتوكاد)

	Material Covered
Week 1	Introduction to basic CAD concepts using AutoCAD
Week 2	Use AutoCAD Draw Commands 1.Line Command 2.Cartesian Coordinate System 3.Orthogonal Lines 4.Polar Tracking.
Week 3	5. Circles 6. Arc Command7. Spline Command 8. Explode Command 9. Polygon 10. Rectangle 11. Spline Donut 13Ellipse



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Week 4	Use AutoCAD Edit commands. 1.The Move Command 2.The Copy Command 3.The Offset Command
Week 5	4.The Extend Command 5. Trim Command 6.The Erase Command 7 .The Zoom Command 8 .The Pan Command
Week 6	9 .The Mirror Command 10 .The Rotate Command 11 .The Scale Command
Week 7	Create/edit basic block
Week 8	Create isometric drawings in 2D AutoCAD
Week 9	Use of polar and circle array
Week 10	Introduction to dynamic blocks
Week 11	Create/edit basic block
Week 12	Create and use templates which will set the drawing environment ready for your projects, and an understanding of the benefits of using templates.
Week 13	Use a layering system and different linetype styles and assign lineweights
Week 14	Practical CAD drawing exercises
Week 15	Practical CAD drawing exercises

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	A Textbook of Engineering Drawing: for Undergraduate Engineering Students Paperback – June 23, 2020 by Addisu Dagne Zegeye (Author) Textbook of Engineering Drawing with AutoCad 4th edn Paperback by Venkata Reddy (Author)	NO
Recommended Texts	A Textbook of Engineering Drawing: Along with an Introduction to AutoCAD by Lal Roop (Author)	No
Websites	https://www.youtube.com/watch?v=UzZpMOHvtNg	



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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.