

MODULE DESCRIPTOR

وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing	Module Delivery	
Module Type	BASIC	<input type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	EPE 106		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester (s) offered	2
Administering Department	Electronics Engineering	College	Engineering
Module Leader	Yaser I. Jasem	e-mail	Yaser_ij@uodiyala.edu.iq
Module Leader's Acad. Title	Assist. Proff.	Module Leader's Qualification	MS.c.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Review Committee Approval		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, Indicative Contents and Brief Description			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية مع وصف مختصر			

<p>Module Aims أهداف المادة الدراسية</p>	<p>Engineering drawing is the principal method of communication for engineers, the objective is to introduce the students, to the techniques of constructing the various types of polygons, curves and scales.</p> <p>In addition to engineering drawing, students become familiar with the AutoCAD user interface. Understand the fundamental concepts and features of AutoCAD. Use the precision drafting tools in AutoCAD to develop accurate technical drawings—present drawings in a detailed and visually impressive manner.</p>
<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, angels and lines and others which is essential for engineer 3- Develop student’s imagination and ability to represent the shape size and specifications of physical objects. 4- Understand the main idea of using dimension for engineering drawing 5- 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. 6- Explain the principle of projection and sectioning 7- Utilize the power and precision of AutoCAD as a drafting and design tool used in the mechanical design and manufacturing industries. 8- Apply basic CAD concepts to develop and construct accurate 2D geometry through creation of basic geometric constructions. 9- Create, manipulate and edit 2D drawings and figures. 10- Apply elements of mechanical drafting such as layers, dimensions, drawing formats, and 2D figures in projects.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <ul style="list-style-type: none"> • Paper size, Lettering & title blocks • Orthographic projection • Isometric and oblique projection • Perspective drawing • Basic geometrical solids • Development of surfaces • Creating Basic Drawings • Manipulating Objects • Implementing Drawing Organization and Inquiry Commands • Altering Objects • Annotate a Drawing

	<ul style="list-style-type: none"> • Dimension Drawings • Hatching Objects • Creating Additional Drawing Objects and working on Projects • Plotting the Drawing Output
Course Description	<p>This course introduces students to the introduction to the drawing tools and how to use them, lines drawing, Basic engineering processes, Composition of the engineering drawings, Letters, numbers, dimensions, Projection, Sectioning, Isometric drawing.</p> <p>Understand the fundamental concepts and features of AutoCAD. Use the precision drafting tools in AutoCAD to develop accurate technical drawings. Present drawings in a detailed and visually impressive manner. Develop a level of comfort and confidence with AutoCAD through hands-on experience.</p>
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	<p>Begin to establish a strong conceptual understanding of the principles of engineering drawing. Use the reality of work examples and measurements to help students relate abstract concepts to the planning. Encourage discussions and questions to clear up any misconceptions. In addition, provide students with the tool to deal with schematic problems. Encourage active participation and group discussions to enhance critical thinking and problem-solving skills. Guide students through the problem-solving process and provide constructive feedback.</p>

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل In class lectures Lab Practical In class tests Final Exam	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل Library, dorm, home memorizing Preparation for tests Homework	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.5

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100
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Module Evaluation تقييم المادة الدراسية					
		Time (hr)	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 12	LO #1, 2, 3,7,8 and LO# 4,5,6,9,10
	Assignments	6	5% (5)	7, 12	LO # 7, 8 and LO# 9,10
	Homework	2	20% (20)	Continuous	
Summative assessment	Midterm Exam	2	10% (10)	7	LO #1, 2, 3,4,7,8 and LO# 4,5,6,9,10
	Final Exam	3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	<ul style="list-style-type: none"> - Definition of tools and how to use them, - Introduction 1. Status Bar and Command Prompt 2. AutoCAD Commands 3. Dynamic Input 4. Menus, Ribbons, and Toolbars 5. Cursor and Colors 6. Undo and Redo
Week 2	<ul style="list-style-type: none"> - Initial principles of drawing, - Drawing Aids 1. Open Existing Drawings 2. Creating a New Drawing 3. Saving Drawings 4. Exiting AutoCAD
Week 3	<ul style="list-style-type: none"> - Letters and numbers, 5. SNAP Command 6. Grid Command 7. Running Object Snaps

	8. Osnap Settings 9. UNITS Command
Week 4	- Dimensions, - Draw Commands 1. Line Command 2. Cartesian Coordinate System 3. Orthogonal Lines 4. Polar Tracking
Week 5	- Line drawing, - 5. Circles 6. Arc Command 7. Polyline Command 8. Explode Command
Week 6	- Line drawing, 9. Rectangle 10. Ellipse
Week 7	- Engineering operations, - Edit Commands 1. The Move Command 2. The Copy Command 3. The Offset Command 4. The Extend Command 5. Trim Command
Week 8	- Engineering operations, 6. The Erase Command 7. The Zoom Command 8. The Pan Command 9. The Mirror Command 10. The Rotate Command 11. The Scale Command
Week 9	- Projection drawing, 12. The Break Command 13. The Stretch Command 14. The Explode Command
Week 10	- Projection drawing, 15. The Fillet Command 16. The Chamfer Command 17. The Array Command 18. The Lengthen Command
Week 11	- Projection drawing, - Dimensions 1. Linear Dimensions
Week 12	- Drawing of sectional Views, 2. Aligned Dimensions

	3. Radial Dimensions
Week 13	- Drawing of sectional Views, 4. Angular Dimensions 5. Continued and Baseline Dimensions
Week 14	- Isometric, 6. Modifying Dimensions
Week 15	- Isometric, 7. Dimension Styles * Creating
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Parkinson, A.C., 1961. A First Year Engineering Drawing 2. J Luzadder, W., 1965. Fundamentals of Engineering Drawing, by Warren J. Luzadder. Prentice-hall. 3. Text book 1: James A. Leach, "AutoCad 2002 companion", 2003. 4. Text book 2: AutoCAD 2D Tutorials, AutoCAD 2013, By Kristen S. Kurland, 2012.	Yes

Recommended Texts	3. Text book 3: 2D_AutoCAD.	Yes
Websites		

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB 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.