



## MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	ENGINEERING DRAWING	Module Delivery	
Module Type	Core learning activity	<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	END1030		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	SSWR1969, PLPR1966, HOLA1974, FORE1964, FOSC1965, FICR1973, ANPR1964, AGECE1979, AETT1979, AGME1986	College	AGFO1964
Module Leader	Alla Mohamed Abdullah Omar Dheyaa Mohammed Asmaa Mohammed Adil Moyassar Mohammed Aziz <b>Nofal Issa Mohamed</b> sumyia khalaf Badawi Firas Kadhim Dawoo Aljuboori Khaled Anwer Khaled ALKHALED Talal Saeed Hameed Muzahim Saeed Al-Bek	e-mail	<a href="mailto:ala.mohammed58@uomosul.edu.iq">ala.mohammed58@uomosul.edu.iq</a> <a href="mailto:dr.omarallah@uomosul.edu.iq">dr.omarallah@uomosul.edu.iq</a> <a href="mailto:asmaama@uomosul.edu.iq">asmaama@uomosul.edu.iq</a> <a href="mailto:moyassar_aziz@uomosul.edu.iq">moyassar_aziz@uomosul.edu.iq</a> <a href="mailto:nofelemh@uomosul.edu.iq">nofelemh@uomosul.edu.iq</a> <a href="mailto:dr.sumyia_khalf@uomosul.edu.iq">dr.sumyia_khalf@uomosul.edu.iq</a> <a href="mailto:firasaljuboori@uomosul.edu.iq">firasaljuboori@uomosul.edu.iq</a> <a href="mailto:khalid.anwar31@uomosul.edu.iq">khalid.anwar31@uomosul.edu.iq</a> <a href="mailto:stalal1982@uomosul.edu.iq">stalal1982@uomosul.edu.iq</a> <a href="mailto:muzahim_saeed@uomosul.edu.iq">muzahim_saeed@uomosul.edu.iq</a>
Module Leader's Acad. Title	<b>Professor</b> <b>Assistant Professor</b>	Module Leader's Qualification	
		Ph.D. <b>MSc.</b>	
Module Tutor	Saleh Sabry Ali	e-mail	<a href="mailto:Ssah69@uomosul.edu.iq">Ssah69@uomosul.edu.iq</a>
Peer Reviewer Name	Layth mahmood yahya	e-mail	<a href="mailto:laithmy@uomosul.edu.iq">laithmy@uomosul.edu.iq</a>
Scientific Committee Approval Date	15/10/2024	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	<ol style="list-style-type: none"> <li>1. To develop the Agricultural student's ability to imagine projections and their models.</li> <li>2. Exercising hand movement in engineering drawing to complete quick sketches.</li> <li>3. This course deals with the theory of Orthographic Projection and the basic subject of isometric drawing.</li> <li>4. To teach students engineering drawings using the AutoCAD program, which includes both theoretical lectures and labs.</li> </ol>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<p><b>LO#1:</b> Absorbing all the engineering characteristics of an object or a product in a clear manner.</p> <p><b>LO#2:</b> Know the tools used in engineering drawing and how to use them correctly,</p> <p><b>LO#3:</b> Understand and apply the basics of engineering processes.</p> <p><b>LO#4:</b> Conclude projections and isometrics for each geometric figure and recognize its dimensions.</p>
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p><b>Part A: Engineering Drawing Basics and Tools</b></p> <ul style="list-style-type: none"> <li>• Introduction and Definition of Engineering Drawing • Engineering Drawing Tools and Their Uses • Explanation of Sheet Dimensions, Information Table, and Letter Writing. • Types of Lines and Basic Geometric Operations: Introduction to different types of lines (continuous, dashed, center lines) and their specific uses in drawings. Performing basic geometric operations such as measuring, dividing, and marking. • Arcs and Tangents: Defining and drawing arcs and tangents in engineering drawings, including field applications. [20 hrs.]</li> <li>• Classwork: Practical Applications of Previous Topics Hands-on practice applying learned techniques (lines, arcs, sheet setup) [4 hrs.]</li> </ul> <p><b>Part B: Engineering Projections and Operations:</b></p> <ul style="list-style-type: none"> <li>• Engineering Projections: Understanding projection techniques, especially orthographic projections. Learning how to project an object's views from different angles. • Mid-term Exam: Assessment covering the topics learned in Part A and initial projection skills. • Deducing the Third Projection Based on Two Projections: Skill development in visualizing and drawing the third projection when given two views of an object. [12 hrs.]</li> <li>• Classwork: Practical Applications of Deducing the Third Projection: Applying concepts learned in projection drawing. [4 hrs.]</li> </ul> <p><b>Part C: Advanced Drawing Techniques and CAD Software</b></p> <ul style="list-style-type: none"> <li>• Drawing Engineering Perspective (Isometric): Introduction to isometric drawing techniques. Drawing objects in isometric view for accurate 3D representation. • Review of Isometric Engineering Perspective: Revisiting the principles of isometric drawing and its application in technical drawings. Understanding the connection between isometric drawings and orthographic projections. [8 hrs.]</li> </ul>

	<ul style="list-style-type: none"> <li>• Introduction to Computer-Aided Drawing (CAD): Overview of computer-aided drawing, emphasizing its importance in modern engineering. Introduction to software tools like AutoCAD and SolidWorks, including their hardware components and versions.</li> <li>• AutoCAD Interface and Main Commands: Learning the basic interface of AutoCAD, including the drawing and modification toolbar. Explanation of key commands and their uses.</li> <li>• Drawing Simple Geometric Shapes Using AutoCAD: Hands-on practice with AutoCAD to draw basic geometric shapes. [12 hrs]</li> </ul> <p>Total hrs = 63 = SSWL - (Exam hrs) = 63 - 3 = 60 hr (Time table hrs x 15 weeks)</p>
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	<p><b>1. Lecture-based Teaching:</b></p> <ul style="list-style-type: none"> <li>Explaining concepts and demonstrate tools, techniques, and software in real-time, allowing students to observe the process before applying it themselves.</li> </ul> <p><b>2. Hands-on Practice:</b></p> <ul style="list-style-type: none"> <li><b>Lab Sessions:</b> Providing practical sessions where students work with drawing tools and software like AutoCAD or SolidWorks to develop their skills.</li> <li><b>Guided Exercises:</b> Offering step-by-step instructions to complete specific tasks such as drawing isometric views or projections.</li> </ul> <p><b>3. Interactive Class Discussions:</b></p> <ul style="list-style-type: none"> <li><b>Question and Answer Sessions:</b> Actively engaging students in discussions where they can ask questions and clarify doubts about topics like projection techniques or CAD tools.</li> </ul> <p><b>4. Assessment and Evaluation:</b></p> <ul style="list-style-type: none"> <li><b>Project-based Assessments:</b> Assigning projects that require students to apply the concepts they've learned, like creating detailed engineering drawings using both manual and software-based techniques.</li> </ul>

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل		<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل		<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل			

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10% (10)	4,8,12	
	Assignments	10	5% (5)	2 to 12	
	Projects / Lab.	2	25% (25)	Continuous	All
	Report	0	0% (0)	----	-----

<b>Summative assessment</b>	<b>Midterm Exam</b>	2hr	10% (10)	7	LO #1, #2
	<b>Final Exam</b>	3hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly, Syllabus)</b> المنهاج الاسبوعي	
	<b>Material Covered</b>
<b>Week 1</b>	Introduction and definition of engineering drawing
<b>Week 2</b>	Engineering drawing tools and their uses, knowing types of pens used, Drawing board layout.
<b>Week 3</b>	Explanation of sheet dimensions, information table, and letter writing
<b>Week 4</b>	Types of lines, their applications, and basic geometric operations
<b>Week 5</b>	Arcs and tangents
<b>Week 6</b>	Classwork: Practical applications of previous topics
<b>Week 7</b>	Engineering projections
<b>Week 8</b>	Mid-term Exam
<b>Week 9</b>	Deducing the third projection based on the other two
<b>Week 10</b>	Classwork: Practical applications of deducing the third projection
<b>Week 11</b>	Drawing engineering perspective (isometric)
<b>Week 12</b>	Review of isometric engineering perspective and its relation to deducing the third projection
<b>Week 13</b>	Introduction to the importance of computer-aided drawing and the types of software used for engineering drawing, such as AutoCAD and SolidWorks, including their hardware components and versions.
<b>Week 14</b>	Introduction to the AutoCAD interface and main commands: (Drawing toolbar and its uses, modification toolbar and its uses).
<b>Week 15</b>	Drawing simple geometric shapes using AutoCAD.
<b>Week 16</b>	<b>Preparatory week before the Final Exam</b>

<b>Delivery Plan (Weekly Practical Syllabus)</b> المنهاج الاسبوعي للتطبيق العملي	
	<b>Material Covered</b>
<b>Week 1</b>	Familiarization with different drawing tools, including pens, and setting up the drawing board layout.
<b>Week 2</b>	Practice drawing sheets according to standard dimensions, setting up an information table, and writing technical letters.
<b>Week 3</b>	Identify different line types and execute basic geometric operations (e.g., drawing straight lines, circles).
<b>Week 4</b>	Practice drawing arcs and tangents using drawing tools .
<b>Week 5</b>	Consolidate skills by applying learned techniques (lines, arcs, tangents) in a project or assignment.
<b>Week 6</b>	Start drawing orthographic projections of simple objects, projecting different views.



<b>Week 7</b>	Assessment based on skills acquired in previous weeks, focusing on projections, lines, and geometric operations.
<b>Week 8</b>	Visualize and draw the third projection based on two given views.
<b>Week 9</b>	Work on exercises that reinforce the ability to deduce the third projection, applying this to different objects.
<b>Week 10</b>	Learn to draw isometric projections, emphasizing proper axis alignment and scaling.
<b>Week 11</b>	Review and reinforce isometric drawing techniques and their connection to orthographic projections.
<b>Week 12</b>	Introduction to AutoCAD and SolidWorks; learning the basic interface, including drawing and modification toolbars.
<b>Week 13</b>	Practice using the AutoCAD interface, focusing on drawing commands (e.g., lines, circles) and modification commands (e.g., trim, extend).
<b>Week 14</b>	Create simple geometric drawings using AutoCAD, including 2D shapes like squares, rectangles, and circles.
<b>Week 15</b>	Work on exercises that reinforce the ability to Create simple geometric drawings using AutoCAD.

<b>Learning and Teaching Resources</b> مصادر التعلم والتدريس		
	<b>Text</b>	<b>Available in the Library?</b>
<b>Required Texts</b>	الرسم الهندسي لطلبة كليات الزراعة, د. ناطق صبري حسن, 1990	Yes
<b>Recommended Texts</b>	Textbook of Engineering k. Venkata reddy , 2008	
<b>Websites</b>		

<b>Grading Scheme</b> مخطط الدرجات				
<b>Group</b>	<b>Grade</b>	<b>التقدير</b>	<b>Marks %</b>	<b>Definition</b>
<b>Success Group (50 - 100)</b>	<b>A - Excellent</b>	امتياز	90 - 100	Outstanding Performance
	<b>B - Very Good</b>	جيد جدا	80 - 89	Above average with some errors
	<b>C - Good</b>	جيد	70 - 79	Sound work with notable errors
	<b>D - Satisfactory</b>	متوسط	60 - 69	Fair but with major shortcomings
	<b>E - Sufficient</b>	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group (0 – 49)</b>	<b>FX – Fail</b>	راسب (قيد المعالجة)	(45-49)	More work is required but credit awarded
	<b>F – Fail</b>	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.



رئيس قسم الاقتصاد الزراعي  
أ.م.د. زويد فتحي عبد  
قسم الاقتصاد الزراعي  
التوقيع :

رئيس اللجنة العلمية :  
أ.د. قيس ناظم غزال  
التوقيع :

