



Ministry of Higher Education and
Scientific Research - Iraq

University of Warith Alanbyaa
Aircraft engineering



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Eng. Drawing & Des. Geometry		Module Delivery
Module Type	CORE		Theory Practical
Module Code	EDDG114 / EDDG124		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Aircraft	College	Engineering
Module Leader	Asst. Lec. Basim Sachet	e-mail	basim.sa@uowa.edu.iq
Module Leader's Acad. Title	Asst. Lec.	Module Leader's Qualification	Masters
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Review Committee Approval	03/04/2024	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

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. Training the student in the first stage the usage of Eng. drawing equipment. 2. Educate the student in the first stage the fundamental of mechanical drawing like Lettering, Applied geometry Pictorial drawing (Real model in true dimension), Orthographic projection, first & third angle projection, Dimensions, Sections, Third view estimate.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Identify the components and basics of Engineering drawing. 2. Learn how to read the maps of mechanical engineering drawing. 3. Identify and knowing of all symbols and standers of Engineering drawing. 4. Identify the methods of engineering drawing and applied geometry. 5. Learn how to Pictorial drawing (Real model in true dimension) and Orthographic projection. 6. Identify all types of projection, First and third angle projection and Sections 7. The possibility of the student to draw the subject which explains to him. 8. Linking what his learning with reality. 9. Complete the drawing in specified time. 10. Student ability to learn and understand all the private belongings of mechanical drawing. 11. Develops student ability to using computers programs of drawing and conjugated with manual drawing.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>**Engineering drawing: Introduction. Standard drawing equipment.</p> <p>Lettering: Lines kinds in drawing. Kufi font in the writing of letters and numbers. The paper types and design with title table. Draw lines and circles. [10 hrs]</p> <p>**Descriptive Geometry: Introduction to descriptive geometry. Projection theory with standard planes. Methods of projection. Projection of a point. Exercise in projection of a point. [5 hrs]</p> <p>Introduction to CAD Packages [4.5 hrs] 1- Menus/ format/ Draw / Tools / Dimension / Modify 2- Tool bars 3- Drawing area 4- Command bar / Task bar 5- Drawing Grid / Snap Mode / Ortho Mode / Object Snap and Tutorials</p>

****Engineering drawing:**

Engineering Processes:

Applied geometry in eng. drawing. Exercise in important eng. geometry (Drawing a perpendicular line to bisector, Dividing a line, Drawing a tangent to circle from point, Drawing an ellipse). [5 hrs]

Introduction to (ISO); Pictorial drawing:

Real model in true dimensions. Draw cube shape with ovals by used four centers method. Exercise in pictorial drawing. [7 hrs]

****Descriptive Geometry:**

Projection of straight line. Exercise in projection of straight line. Exercise in projection of straight line by rotation method. The status of the straight line in space. [2 hrs]

**** CAD** [5.5 hrs]

Coordinate system (absolute and relative coordinate)

Cartesian / Polar Coordinates and Tutorials

Two Dimensional Drawing (Line , Circle , Rectangle , Arc , Polygon)

Modify (Erase , Copy , Rotate , Mirror , Offset) and Tutorials

****Engineering drawing:**

Exercises in Engineering Drawing (ISO).

Three Projections:

Three projections definition (front, top and side view). Draw in first angle.

Exercises in projection. [14.5 hrs]

****Descriptive Geometry:**

Projection of straight line. Exercise in projection of straight line. Exercise in projection of straight line by rotation method. The status of the straight line in space. [1.5 hrs]

**** CAD** [3.5 hrs]

Two Dimensional Drawing (Polyline , Helix , Donut , Ellipse)

Modify (Trim , Join , Chamfer , Fillet) and Tutorials

****Engineering drawing:**

Dimensioning:

Main rules in dimensions position and details in drawing. Rules in dimensions position for arcs and circles. Exercise in applied dimensions on projection view. [6 hrs]

Sections

Sections definition. Find sections and section planes and half section projection. Exercise in half section projection. [8 hrs]

	<p>**Descriptive Geometry: Definition and Description of the Auxiliary planes. Exercise in auxiliary planes. [3 hrs].</p> <p>**CAD [2.5 hrs] Draw Hatch / Line type / Line width / Color and Tutorials Array (Rectangular and Polar) and Tutorials</p> <p>**Engineering drawing: Third view estimate: Important steps to estimate third unknown projection depending on the known two projections. Exercise in estimate third unknown projection. [15 hrs]</p> <p>**Descriptive Geometry: Development of surface: Introduction and describe development of surface. Exercise in projection triangular shape. Exercise in projection quadrilateral shape by rotation method. [2 hrs]</p> <p>**CAD [2 hrs] Dimensions and Tutorials</p>
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	<ul style="list-style-type: none"> -Give the student theoretical lectures prepared by the lecture and explain the subject of drawing in details and draw it in front of the students. -Get some samples of the subject of drawing to the class to conform the understanding and to know how it works. -Discuss some student's mistakes and how to avoid them
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	6.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO # 1-11
	Assignments	10	15% (15)	Continuous	LO # 1-11
	Projects / Lab.	7	10% (10)	Continuous	LO # 1-11
	Report	10	5% (5)	Continuous	LO # 1-11
Summative assessment	Midterm Exam	1.5 hr	10% (10)	8	LO # 1-11
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

البرنامج الدراسي النظري

Material Covered :	
Week 1	<p>**Engineering drawing: Introduction. Standard drawing equipment.</p> <p>**Descriptive Geometry: Introduction to descriptive geometry.</p>
Week 2	<p>**Engineering drawing: Lettering: Lines kinds in drawing. Kufi font in the writing of letters and numbers. The paper types and design with title table.</p> <p>**Descriptive Geometry: Projection theory with standard planes.</p>
Week 3	<p>**Engineering drawing: Draw lines and circles.</p> <p>**Descriptive Geometry: Methods of projection. Projection of a point. Exercise in projection of a point.</p>
Week 4	<p>**Engineering drawing: Engineering Processes: Applied geometry in eng. drawing. Exercise in important eng. geometry (Drawing a perpendicular line to bisector, Dividing a line, Drawing a tangent to circle from point, Drawing an ellipse).</p> <p>**Descriptive Geometry: Projection of straight line. Exercise in projection of straight line.</p>

<p>Week 5</p>	<p><u>**Engineering drawing:</u> Introduction to (ISO); Pictorial drawing: Real model in true dimensions. Draw cube shape with ovals by used four centers method.</p> <p><u>**Descriptive Geometry:</u> Exercise in projection of straight line by rotation method.</p>
<p>Week 6</p>	<p><u>**Engineering drawing:</u> Exercise in pictorial drawing.</p> <p><u>**Descriptive Geometry:</u> The status of the straight line in space.</p>
<p>Week 7</p>	<p><u>**Engineering drawing:</u> Exercises in Engineering Drawing (ISO).</p>
<p>Week 8</p>	<p><u>**Engineering drawing:</u> Three Projections: Three projections definition (front, top and side view).</p>
<p>Week 9</p>	<p><u>**Engineering drawing:</u> Draw in first angle. Exercises in projection.</p>
<p>Week 10</p>	<p><u>**Engineering drawing:</u> Dimensioning: Main rules in dimensions position and details in drawing. Rules in dimensions position for arcs and circles. Exercise in applied dimensions on projection view.</p> <p><u>**Descriptive Geometry:</u> Definition and Description of the Auxiliary planes. Exercise in auxiliary planes.</p>
<p>Week 11</p>	<p><u>**Engineering drawing:</u> Sections Sections definition. Find sections and section planes and half section projection.</p> <p><u>**Descriptive Geometry:</u> Exercise in auxiliary planes.</p>
<p>Week 12</p>	<p><u>**Engineering drawing:</u> Exercise in half section projection.</p>
<p>Week 13</p>	<p><u>**Engineering drawing:</u> Third view estimate: (Part 1) Important steps to estimate third unknown projection depending on the known two projections.</p> <p><u>**Descriptive Geometry:</u> Development of surface: Introduction and describe development of surface. Exercise in projection quadrilateral shape by rotation method.</p>

Week 14	<p>**Engineering drawing: (Part 2) Important steps to estimate third unknown projection depending on the known two projections.</p> <p>**Descriptive Geometry: Exercise in projection triangular shape.</p>
Week 15	<p>**Engineering drawing: Exercise in estimate third unknown projection.</p> <p>**Descriptive Geometry: Exercise in projection quadrilateral shape by rotation method.</p>
Week 16	Preparatory week before the Final Exam

Delivery Plan (Weekly Lab. Syllabus) الجنهاج السيدوعى للمخندبر	
	Material Covered
Week 1	Introduction to CAD packages 1- Menus/ format/ Draw / Tools / Dimension / Modify 2- Tool bars
Week 2	Drawing area 1- Command bar / Task bar 2- Drawing Grid / Snap Mode / Ortho Mode / Object Snap and Tutorials
Week 3	Coordinate system 1- Absolute and relative Coordinate 2- Cartesian and Polar coordinates
Week 4	Two dimensional drawing 1- (Line , Circle , Rectangle , Arc , Polygon) 2- Modify (Erase , Copy , Rotate , Mirror , Offset) and Tutorials
Week 5	1 -Two Dimensional Drawing (Polyline , Helix , Donut , Ellipse) 2- Modify (Trim , Join , Chamfer , Fillet) and Tutorials
Week 6	1- Draw Hatch / Line type / Line width / Color and Tutorials 2- Array (Rectangular and Polar) and Tutorials
Week 7	Dimensions and Tutorials

Learning and Teaching Resources

مصادر التعلم والندرس

	Text	Available in the Library?
Required Texts	1- K. Venkata Reddy, "Text book of Engineering Drawing", BS Publications, 2008. 2- 1986 , كتاب الرسم الهندسي , عبد الرسول الخفاف 3- الهندسة الوصفية ، د. يوسف زبؤوال ،	Yes
Recommended Texts		
Websites	https://me.uotechnology.edu.iq/index.php/ar/	

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.