



Ministry of Higher Education and
Scientific Research - Iraq
Al-Mansour University College
Department of Communication Engineering



MODULE DESCRIPTION FORM

نموذج 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 type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	COM11004		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UGI	Semester of Delivery	
Administering Department	BSc – COMM	College	Al-Mansour University College
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	01/06/2023	Version Number	1.0
Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	



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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. Understanding the basis for any geometric shape or system, so teaching and training the student on engineering drawing will be able to perform engineering drawing or understand and read engineering drawings.2. To have the knowledge of interpretation of dimensions of different quadrant projections.3. To understand the basic principles of engineering drawing4. To have the knowledge of generating the pictorial views5. To understand the development of surfaces6. To understand projections concept7. To use the drawing tools professionally8. To grow the ability of free hand sketching
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none">1. Understanding the components of an engineering drawing and how to implement an engineering drawing2. Learn engineering drawing and complete simple and complex engineering drawings3. Prepare and understand drawings.4. Identify various D curves used in Engineering Drawing and their applications.5. Use the principles of orthographic projections.6. By studying about projections of solids, students will be able to visualize three-dimensional objects and that will enable them to design new products.7. Design and fabricate surfaces of different shapes.8. Represent the objects in three-dimensional appearances.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p><u>Part A - Introduction</u> Introduction to Engineering Drawing and Drawing Instruments, Conventions, Viewing of engineering drawing sheets, Method of Folding of printed Drawing sheet , Drawing</p>



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board, T-square, Drafter (Drafting M/c), Set squares, Protector, Drawing Instrument Box (Compass, Dividers, Scale, and Diagonal Scales etc.), pencils of different grades, Drawing pins/ Clips. [18 hrs.]

Part B - Free hand drawing

Lines, polygons, ellipse etc., Geometrical figures and blocks with dimension, transferring measurement from the given object to the free hand sketches., Solid objects, Cube, Cuboids, Cone, Prism, Pyramid, Frustum of Cone with dimensions, Free hand drawing of hand tools and measuring tools, simple fasteners (nuts, bolts, rivets etc.) trade related sketches. [16 hrs.]

Part C - Method of presentation of Engineering Drawing

Pictorial View, Orthographic View [12 hrs.].

Symbolic representation – different symbols used in the trades: Fastener (Rivets, Bolts and Nuts), Bars and profile sections, Weld, Brazed and soldered joints, Electrical and electronics element, Piping joints and fitting [18hrs.]

Part D - Projections

Concept of axes plane and quadrant, Orthographic projections, Method of first angle and third angle projections (definition and difference), Symbol of 1st angle and 3rd angle projection in 3rd angle [24 hrs.]

Orthographic projection from isometric projection, reading of fabrication drawing Sign and Symbols of Electrical, Electronics and related trades, Sketch of Electrical and Electronics/ trade related components, Electrical and Electronics wiring diagram/ trade related Layout diagram, Electrical earthing diagram – Drawing the schematic diagram of plate and pipe earthing., Electrical, Electronics/ trade related circuit diagram, Block diagram of Instruments/ equipment of related trade [8 hrs.]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies

1. Behavior management

Behavior management strategies foster an atmosphere of mutual respect, reduce disruptive behavior and ensure students have an equal opportunity to fulfill their potential in the classroom. It's crucial to provide them with both a positive and productive learning environment. Examples include establishing a reward system with an interactive chart where students move up or down depending on their performance and behavior in class.

2. Blended learning

With a blended learning teaching strategy, technology is incorporated with traditional learning. This allows students to work at their own pace, research their ideas and become



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more physically engaged during lessons. Examples include providing interactive tablets or whiteboards with engaging activities and posting classwork online for easier access.

3. Cooperative learning

Group work is a cooperative learning strategy that allows students with various learning levels to work together. By encouraging them to express their own ideas and listen to others' ideas as a group, you help students develop communication and critical thinking skills. Examples include solving math puzzles together, performing skits as a team or working on group presentations.

4. Formative assessment

A formative assessment is used periodically to monitor student learning incrementally. This can more effectively measure the process of learning as opposed to end-of-unit tests and can help you to improve your teaching methods throughout the year. Examples of this teaching strategy include self-evaluation exercises and summarizing a topic in multiple ways.

5. Student-led teaching

The student-led teaching strategy lets students become the teacher. In a classroom with learners at different levels, you can better engage those learning faster by showing them how to teach and give feedback to their peers. They may team-teach or work in groups to teach a new topic. Examples include letting a student teach an entire lesson or having advanced writers lead a peer-editing session as well as provide constructive criticism.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	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/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #4 and #8, #11
	Assignments	2	10% (10)	3 and 13	LO #3, #4 and #10, #14
	Homework	8	20% (20)	Continuous	All
Summative assessment	Midterm Exam	2hr	10% (10)	12	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي العملي

Material Covered	
Week 1	Engineering Drawing – Introduction <ul style="list-style-type: none"> Introduction to Engineering Drawing and Drawing Instruments Conventions Viewing of engineering drawing sheets Method of Folding of printed Drawing sheet
Week 2	Drawing Instrument <ul style="list-style-type: none"> Drawing board, T-square, Drafter (Drafting M/c), Set squares, Protector, Drawing Instrument Box (Compass, Dividers, Scale, and Diagonal Scales etc.), pencils of different grades, Drawing pins/ Clips.
Week 3	Free hand drawing <ul style="list-style-type: none"> Lines, polygons, ellipse etc. Geometrical figures and blocks with dimension. Transferring measurement from the given object to the free hand sketches. Solid objects – Cube, Cuboids, Cone, Prism, Pyramid, Frustum of Cone with dimensions. Free hand drawing of hand tools and measuring tools, simple fasteners (nuts, bolts, rivets etc.) trade related sketches
Week 4	Lines <ul style="list-style-type: none"> Definition, types and applications in drawing as per BIS: 46-2003



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	<ul style="list-style-type: none"> • Classification of lines (Hidden, center, construction, extension, Dimension, Section) • Drawing lines of given length (Straight, curved). • Drawing of parallel lines, perpendicular line • Methods of Division of line segment
Week 5	<p>Drawing of Geometrical figures:</p> <ul style="list-style-type: none"> • Definition, nomenclature and practice of – • Angle: Measurement and its types, method of bisecting. • Triangle: different types • Rectangle, Square, Rhombus, Parallelogram. • Circle and its elements • Different polygon and their values of included angles. Inscribed and circumscribed polygons
Week 6	<p>Dimensioning , Lettering & Numbering</p> <ul style="list-style-type: none"> • Single Stroke, Double Stroke, Inclined. • Definition, types and methods of dimensioning (functional, non-functional and auxiliary) • Position of dimensioning (Unidirectional, Aligned) • Types of arrowheads • Leader line with text • Symbols preceding the value of dimension and dimensional tolerance
Week 7	<p>Sizes and layout of drawing sheets</p> <ul style="list-style-type: none"> • Selection of sizes • Title Block, its position and content • Item Reference on Drawing Sheet (Item list)
Week 8	<p>Method of presentation of Engineering Drawing</p> <ul style="list-style-type: none"> • Pictorial View • Orthographic View • Isometric View
Week 9	<p>Symbolic representation – different symbols used in the trades</p> <ul style="list-style-type: none"> • Fastener (Rivets, Bolts and Nuts) • Bars and profile sections • Weld, Brazed and soldered joints • Electrical and electronics element • Piping joints and fitting
Week 10	<p>Projections</p> <ul style="list-style-type: none"> • Concept of axes plane and quadrant • Orthographic projections • Method of first angle and third angle projections (definition and difference)



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	<ul style="list-style-type: none"> • Symbol of 1st angle and 3rd angle projection in 3rd angle
Week 11	<ul style="list-style-type: none"> • Orthographic projection from isometric projection • Reading of fabrication drawing
Week 12	Mid – term Exam
Week 13	<ul style="list-style-type: none"> • Sign and Symbols of Electrical, Electronics and related trades • Sketch of Electrical and Electronics/ trade related components • Electrical and Electronics wiring diagram/ trade related Layout diagram
Week 14	<ul style="list-style-type: none"> • Electrical earthing diagram – Drawing the schematic diagram of plate and pipe earthing. • Electrical, Electronics/ trade related circuit diagram • Block diagram of Instruments/ equipment of related trade
Week 15	<ul style="list-style-type: none"> • Maps, and Charts, Reading Datasheets and Manuals
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<ul style="list-style-type: none"> • الرسم الهندسي، عبد الرسول الخفاف، 2003 • تمارين في الرسم الهندسي (متوفر في مكتبة كلية الهندسة) تأليف: سليمان توفيق احمد الناشر: دار الاعصار العلمي للنشر والتوزيع / الاردن 	Yes
Recommended Texts	Colin H. Simmons, Dennis E. Maguire, Manual Of Engineering Drawing to British and International Standards, Elsevier Newnes, second edition, 2004, Typeset by Replika Press Pvt Ltd, India, Printed and bound in Great Britain	No
Websites	http://www.kutub.info/library	



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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.