

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawings I		Module Delivery
Module Type	Support		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	CREQ110		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department		College	BENG
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		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 و نتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	To teach the students the ability to read and implement technical design drawing which is the most important requirement of all technical people in any profession. Drawings prepared in one country may be utilized in any other country irrespective of the language spoken. Hence, engineering drawing is called the universal language of engineers. Any language to be communicative should follow certain rules so that it conveys the same meaning to everyone. Similarly, drawing practice must follow certain rules, if it is to serve as a means of communication. Lectures have been prepared to help students how to learn and understand the basic concepts and application of engineering drawing and its importance and application in the design and implementation of the biomedical engineering profession.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. CLO-1: Understanding the principles and conventions of engineering drawing and acquiring knowledge of different types of engineering drawings and their applications as well as dimensioning and tolerancing principles to ensure proper communication of design specifications. 2. CLO-2: Developing proficiency in creating accurate and detailed technical drawings using appropriate drafting tools and software and gaining familiarity with various drawing standards and practices followed in engineering and manufacturing industries. 3. CLO-3: Gaining skills in interpreting and understanding engineering drawings created by others. Demonstrating the ability to create and interpret different views, sections, and projections of objects. 4. CLO-4: Developing spatial visualization skills to translate 2D drawings into 3D representations.

Indicative Contents

Indicative content includes the following.

Part A – Engineering Drawing Principle

In this part the student will be introduced to the purpose of engineering drawing with the required tools and instructions related to using different tools for different designs. [4 hrs]

In course Description and Introduction to engineering drawing Instruments and Accessories the drawing board and paper preparation will be explained with the instructions and required information to be included in the table. In addition to Writing letters rules and handwriting. [5 hrs]

Lines, Dimensions, Scales will be explained including different line types and how to include dimensions and scale in the design drawing in addition, Practicing on

	different types of lines and their application. [5 hrs]
	Geometrical Shapes and related Calculations will be explained including basic and complicated geometrical shapes using different methods to demonstrate the geometrical shapes in the engineering design representation. [8 hrs]
	Part B – Projection Drawing Principle Theoretical concept of projection will be explained including how to transform shapes and Standards for drawing projections. In this part the students will apply the learning outcome from part A to be implemented in drawing different projections. [6 hrs] Projections will also be explained on how the most efficient method is and to understand the third projection from the other two and how to include the minimum required projections to represent a 3D object into 2D representation. This part also includes the introduction to cross-sectional representation in projection drawing. [10 hrs]
	Part C – Isometric Drawing Principle Theoretical concept of isometric will be explained including how to transform shapes and Standards for drawing isometrics. In this part the students will apply the learning outcome from part A and B to be implemented in drawing different isometrics. [4 hrs] Isometrics will also be explained on how the most efficient method is and to understand the third projection from the other two and how to include the minimum required projections to represent a 3D object into 2D representation. This part also includes the introduction to cross-sectional representation in isometric drawing. [7 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Assessment is based on hand-in assignments, written exam, Case study, Quizzes, seminars, Practical testing and Online testing.

Student Workload (SWL) الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي الغير منتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي الغير منتظم للطالب اسبوعيا	5.8
Total SWL (h/sem) الحمل الدراسي الكامل للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO # 2, and 3
	Assignments	12	10% (10)	Continuous	LO # 1, 2, 3 and 4
	Projects / Lab.	1	10% (10)	Continuous	LO # 1, 2, 3 and 4
	Report	1	10% (10)	13	LO # 4, and 5
Summative assessment	Midterm Exam	3 hr	10% (10)	7,13	LO # 1-4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Course Description and Introduction to engineering drawing Instruments and Accessories
Week 2	Drawing board and paper preparation with the information table
Week 3	Writing letters rules and handwriting

Week 4	Lines, Dimensions, Scale: Explaining and Practicing on different types of lines and their application
Week 5	Geometrical Shapes and related Calculations: Explaining and Practicing (Basic geometrical shapes)
Week 6	Geometrical Shapes and related Calculations: Explaining and Practicing on different types of lines and their application (basic and advanced geometrical shapes)
Week 7	Projections: Theoretical concept
Week 8	Projection: Shapes and Standards for drawing projections
Week 9	Projections: application of lines, scales, and shapes in projections
Week 10	Projection: Application of Cross-section
Week 11	Isometric drawing: Theoretical concept
Week 12	Isometric drawing: application of lines, shapes, and scales in engineering designs
Week 13	Isometric drawing: application of lines, shapes, and scales in engineering designs (Practice)
Week 14	Projections and isometric design applications
Week 15	Review for the concepts applied in engineering drawing design
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Course Description and Introduction to engineering drawing Instruments and Accessories
Week 2	Lines, Dimensions, Scale: Explaining and Practicing
Week 3	Lines, Dimensions, Scale: Further Practicing on different types of lines and their application

Week 4	Geometrical Shapes and related Calculations: Explaining and Practicing (Basic geometrical shapes)
Week 5	Geometrical Shapes and related Calculations: Further Practicing on different types of lines and their application (advanced geometrical shapes)
Week 6	Geometrical Shapes and related Calculations: Further Practicing on different types of geometrical shapes and their application in engineering design drawing
Week 7	Projections: Theoretical concept
Week 8	Projection: Shapes and Standards for drawing projections
Week 9	Projections: application of lines, scales, and shapes in projections
Week 10	Projections: application of lines, scales, and shapes in projections (practice)
Week 11	Projection: Application of Cross-section
Week 12	Isometric drawing: Theoretical concept
Week 13	Isometric drawing: application of lines, shapes, and scales in engineering designs
Week 14	Isometric drawing: application of lines, shapes, and scales in engineering designs (Practice)
Week 15	Review for the concepts applied in engineering drawing design
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts		

Websites	
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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.				

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