MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Mechanical Drawing			Module Delivery	
Module Type	**Core**			☒Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	RETE 201				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	2		Semester of Delivery	3	
Administration Department	RETE		College	College of Oil and Gas Techniques Engineering – Kirkuk (COGTEK)	
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		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Engineering Drawing	Semester	2
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims **أهداف المادة الدراسية**	1. to train students: to read the technical drawings through the application of techniques. 2. Learn students to read symbols, technical terms, standard specifications. 3. To understand the basic principle for descriptive geometry. 4. This course deals with the basic concept of the computer in mechanical drawing. 5. To be able to communicate with manufacturers of mechanical systems. 6. To understand standard specifications, draw simple and complex assembly drawings. 7. To be able to communicate with other mechanical engineering professionals regardless of their spoken language.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Capability to use AutoCAD for 2-D representations. 2. To make the students understand all about the screw threads and their definitions also to teach the students all common types for screw threads and the common types for bolts and nuts with overview in details. 3. To make the students understand all about the Keys, types of keys, spline shaft and hub concept, and the basic definitions for Keys also the correct manner for Keys drawing. 4. Enables the students to learn the techniques and standard practices of technical graphics. 5. To make the students understand all about the riveting and types of rivets. 6. Read a working or assembly drawing (blueprint) 7. Represent mechanical components in multi view orthographic representation 8. understanding all about the welding, types of weld joints and the basic definitions for welding also the correct manner for all types of welding symbol drawing. 9. To help students understand all about the Gears classification, draw spur gear, definitions, formulas and calculations.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - Introduction to (CAD), components of computer aided drawing (CAD), Exercises. [4 hrs] Screw threads, forms of screw thread, international metric threads (ISO screw), Common types of fasteners. [8hrs] Method of drawing (Hexagonal & Square headed bolts and nuts) Screw threads, Nuts, Forms and types of screw threads and types of nuts, ISO. Also method of drawing (Hexagonal & Square headed bolts and nuts), with an exercise for these objects. [8 hrs] general introduction for Keys, types of keys, spline shaft and hub Drawing, and the basic definitions for Keys also the correct manner for Keys drawing. The common types for Keys also an explanation in detail. Also the pin and cotter joint [12hrs] Revision and quiz [8hrs] Part B –

	Fundamentals of rivets and riveted joints, types of riveted joints, Conventional rivet symbol, and the basic definitions for riveting also the correct manner for all types of rivets drawing, also an explanation in details for all types. [10 hrs] general introduction for Welding, type of welding, welding symbols standard. [4 hrs] general introduction for Pulleys, types of pulleys. location and dimension of Pulleys, and the basic definitions for Pulleys also the correct manner for all types of Pulleys drawing, also an explanation in details for all types. [10 hrs] Gears classification of gears, Assembly and details of common mechanical unit [15 hrs] Pipes and pipe joints, piping fittings, pipe symbols standard. [10 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The student work will be assessed according to the module tasks. The excises in the drawing hall will be marked weekly. And the homework will be assessed next lecture. During both assessments the student will give the oral and written feedback in order to improve their skills. The final exam will be done at the end of the semester. Note: the late work will not be marked.

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 أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	3,6,8,10,11 and12	LO #4, #7, #9, #11 and #13
	Assignments	5	10% (10)	2, 5,9, 11 and 14	LO #3, #5, #7 #8 and #9

	Lab Report	10	20% (20)	Continuous	LO #2,3,4,5,6,7,8,9,10,11,12
Summative assessment	Mid Term exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
100% (100 Marks)					

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week 1	Introduction to (CAD), components of computer aided drawing (CAD), Exercises
Week 2	Screw threads, forms of screw thread, international metric threads (ISO screw), Common types of fasteners
Week 3	Method of drawing (Hexagonal & Square headed bolts and nuts)
Week 4	Keys, types of keys.
Week 5	Pins and Cotters.
Week 6	Rivets and riveted joints
Weeks 7	Mid-Term Exam
Weeks 8	Types of riveted joints, Conventional rivet symbol, working drawing.
Week 9	Welding, type of weld joints, welding symbols standard, location and dimension of weld.
Week 10	Pulleys, types of pulleys.
Week 11	Gears classification of gears, spur gear, definitions, formulas and calculations.
Week 12	Assembly and details of common mechanical units. Screw Jack (Assembly and details).
Week 13	Power screw (Assemble and details)
Week 14	Coupling, Types of coupling, Bearings, types of bearings.
Week 15	Preparatory week before the 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	k. l. Narayana p. kannaiah k. venketa reddy mechanical engineering.	Yes
Recommended Texts	Up.and.Running.with.AutoCAD.2012.2D.and.3D.Drawing.a nd.Modeling	No

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.