



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Electrical technology		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	RETE 102		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	RETE	College	College of Oil & Gas Techniques Engineering/Kirkuk
Module Leader	Naseer Tawfeeq Alwan	e-mail	naseer.t.alwan@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PhD
Module Tutor	Naseer Tawfeeq Alwan	e-mail	naseer.t.alwan@ntu.edu.iq
Peer Reviewer Name	Name	e-mail	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	



Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1- Connect electrical circuits and compare theoretical results with practical 2- Introduce the student to understand electrical theories and prove them in practice
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. To familiarize the student with the importance of the most important electrical principles 2. Learning Outcomes, Teaching, Learning and Assessment Methods 3. To distinguish the electrical components and parts and their working principle.
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p><u>Part A - Principles of circuits</u></p> <p>To develop the student's mental ability to connect simple and complex circuits. The student learns how to develop a strategy to change a complex circuit to a simple circuit with the same results.</p> <p><u>Part B – Principles to connect circuits.</u></p> <p>The student learns to connect circuits according to the circuit diagram.</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	<p>Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.</p>
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعاً

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.8
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	2	10% (10)	5, 10	LO #2 and #3
	Assignments	2	5% (5)	2, 12	LO #2 and #3
	Projects / Lab.	8	15% (15)	Continuous	LO #1 and #3
	Report	4	10% (10)	3,6,9,13	LO #2, #5, #8, #12
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO #1 - #2
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	How to use measuring devices for the purpose of measuring (R, I, V)
Week 2	Ohm's law Connecting resistors to mixed parallel
Week 3	Kirchhoff's law for voltage and current
Week 4	Applications of Kirchhoff's law
Week 5	Thevenin Theory
Week 6	Norton Theory
Week 7	Tractorism Theory
Week 8	Nodal theory
Week 9	Series circuits consisting of a coil
Week 10	Parallel circuits consisting of a coil
Week 11	Series circuits consisting of a capacitor
Week 12	Parallel circuits consisting of a capacitor
Week 13	Resonant circuit
Week 14	Applications of series circuits
Week 15	Applications of parallel circuits



Week 16	Preparatory week before the final Exam
Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر	
	Material Covered
Week 1	Connecting avow-meter with resistance
Week 2	Connecting resistance with power supply
Week 3	Applications
Week 4	Connecting two circuits and measuring the voltage for each resistance
Week 5	Applications
Week 6	Connecting two circuits and measuring the current at each resistance
Week 7	Applications
Week 8	Resonance Theory for electrical circuits
Week 9	Resonance circuits and their applications
Week 10	Make a simple equivalent circuit equivalent to the original circuit
Week 11	Applications
Week 12	Making half and full rectifier wave circuits
Week 13	Applications
Week14	Find a load that draws a voltage equal to the source voltage
Week 15	Applications
Week16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?



Required Texts	“Basic Electrical Engineering”, THERAJA.	Yes
Recommended Texts	“Electrical and Electronic Principles and Technology”, John Bird	Yes
Websites	Basic Electrical Circuits website tutorials	

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.				