

## FIRST TRAINING SEMESTER

Course Title	Electrical Circuits (1)		
Course Code	EG 101	Credits	4
Lecture Hours	4	Practical Hours	0
		Total Hours	4
<b>Course Description</b>			
This course gives the trainer the basic principles of Direct Current Circuits. He studies the definition of voltage, current and resistance. Then he studies the connection of resistance, series, parallel, series unparallel and the star-delta connection. He studies the concepts of power energy.			

Course Title	General Workshop		
Course Code	EG 103	Credits	3
Lecture Hours	0	Practical Hours	6
		Total Hours	6
<b>Course Description</b>			
Basic Skills - Knowing Hand Tools - The use of measuring and planning tools - the use of the file - the use of a hand saw Electrical extensions -			

Course Title	Electrical Materials		
Course Code	EG 102	Credits	2
Lecture Hours	2	Practical Hours	0
		Total Hours	2
<b>Course Description</b>			
It explains the nature of materials and their classifications in terms of being conductive and insulating materials for electricity and semiconductors. It also deals with the uses of different materials and examples of them, their properties and uses in the field of electricity.			

Course Title	Engineering Drawing		
Course Code	EG 105	Credits	2
Lecture Hours	0	Practical Hours	4
		Total Hours	4
<b>Course Description</b>			
course presents the basic drawing skills of engineering shapes and methods using basic tools such as pencil, T square, protractor, and compass. Also, it underlines the isometric planes by applying exercises.			

Course Title	Computer (1)		
Course Code	CS 101	Credits	1
Lecture Hours	0	Practical Hours	2
		Total Hours	2
<b>Course Description</b>			
In this course the students will learn about computer history and its components as a fundamental introduction, which is the theoretical part of the course. Then they will learn how to use Microsoft Windows and Microsoft Word, which is the practical part of the course.			

Course Title	Mathematics (1)		
Course Code	MA104	Credits	4
Lecture Hours	4	Practical Hours	0
		Total Hours	4
<b>Course Description</b>			
This course introduces arithmetic skills, including polynomials factoring, polynomials operations, coordinate system, and statistics.			

Course Title	English Language (1)		
Course Code	EN 126	Credits	3
Lecture Hours	2	Practical Hours	2
		Total Hours	4
<b>Course Description</b>			
This course introduces a domain of vocabulary items, structural themes, language functions and listening/speaking /writing as well as evaluation. The ultimate goal of teaching such course is enabling the trainees to express themselves in English in a simple way and to create short sentences about their relatives, friends, hobbies and homeland in a sound comprehended language.			

Course Title	Electrical Circuits Lab		
Course Code	EG 111	Credits	1
Lecture Hours	0	Practical Hours	2
		Total Hours	2
<b>Course Description</b>			
This course gives the trainer the basic principles of Direct Current Circuits. He studies the definition of voltage, current and resistance in lab. Then he studies the connection of resistance, series, parallel and how to connect it in lab, and short and open circuits, also understanding and solving all experiments above.			

Course Title	Physics Lab		
Course Code	EG 112	Credits	1
Lecture Hours	0	Practical Hours	2
		Total Hours	2
<b>Course Description</b>			
Conduct experiments on the electromagnetism phenomenon by experimenting the magnetic field generated by current passing through conductor. apply practical experiments to verify the electromagnetic force to move mechanical lever used on actual electromagnetic induction using two coils, self-induction, and coils. Identify the effect of resistance coils in DC and Ac circuits.			

## SECOND TRAINING SEMESTER

Course Title	Electrical Circuits (2)		
Course Code	ES 151	Credits	5
Lecture Hours	4	Practical Hours	2
		Total Hours	6
<b>Course Description</b>			
Introduction to AC current. Resistance, inductive reactance, capacitive reactance, impedance. Impedance connection in series, parallel, and combined. Admittance connection in series, parallel, and combined. Star and delta connection of impedance. Electromagnetic inductance. Active power, reactive power, apparent power, and power factor. Operations of single-phase transformers. Resonant circuit.			

Course Title	Electrical Installation workshop (1)		
Course Code	ES 153	Credits	4
Lecture Hours	0	Practical Hours	8
		Total Hours	8
<b>Course Description</b>			
Electrical installation work shop 1 extend the skills and knowledge of the previous workshop by demonstrate the practical wiring using the distribution board to feed the light and power circuit with electricity using uPVC and galvanized conduit with its accessories , also explain the discharge lamp and the component of the D.B ,as well the course cover the practical skills of installing the power and the light circuit directly with the D.B by understanding the MCB, ELCB , Busbars , main switch and its function .			

Course Title	Electrical Measuring Instruments		
Course Code	ES 152	Credits	3
Lecture Hours	2	Practical Hours	2
		Total Hours	4
<b>Course Description</b>			
This course covers the theory of different measuring instruments for voltage, current, resistance, power factor, and kWh. Students learn the function of the clamp ammeter, megger, phase rotation, and cable route locator.			

Course Title	Electrical Drawings		
Course Code	ES 154	Credits	2
Lecture Hours	0	Practical Hours	4
		Total Hours	4
<b>Course Description</b>			
This course covers the drawing and the understanding of electrical installation symbols			

Course Title	Mathematics (2)		
Course Code	MA158	Credits	3
Lecture Hours	3	Practical Hours	0
		Total Hours	3
<b>Course Description</b>			
This course introduces arithmetic skills, including trigonometry, vectors, complex numbers and derivatives and integration.			

Course Title	English Language (2)		
Course Code	EN 166	Credits	2
Lecture Hours	3	Practical Hours	0
		Total Hours	3
<b>Course Description</b>			
This course introduces different vocabulary items, structures, language functions and listening/ speaking /writing as well as evaluation. It aims at familiarizing the trainees with the forms of (be) (do)&(Have) as auxiliary verbs as well as full verbs. Trainees also learn to make questions, replying with questions, the use of passive forms in the present and in the past. In addition to future tense which is used in expressing decisions and intentions in the future using (will) and (going to).			

Course Title	Computer (2)		
Course Code	CS 151	Credits	1
Lecture Hours	0	Practical Hours	2
		Total Hours	2
<b>Course Description</b>			
In this course the students will learn about computer and its components and the use of MS-Excel and windows to manage file then introduction to MS-Word.			

### THIRD TRAINING SEMESTER

Course Title		Electrical Circuits (3)	
Course Code	ES 201	Credits	5
Lecture Hours	4*	Practical Hours	2
		Total Hours	6
<b>Course Description</b>			
Voltage and current in star connections. Three and four wires electrical systems. Voltage and current in delta connections. Active and reactive power in three phase connections. Power in three phase circuits. Phase sequence. Power factor improvement. Power transformers operation.			

Course Title		Electrical Installation workshop (2)	
Course Code	ES 203	Credits	4
Lecture Hours	0	Practical Hours	8
		Total Hours	8
<b>Course Description</b>			
Electrical installation work shop 2 extend the skills and knowledge of the previous workshop by demonstrate the practical wiring using the Main distribution board to feed the electricity to the Distribution board at the building with all knowledge needed for the functionality of the main component as MCCB ,Main switch and the way of the cable fitting into the board, also explain the controlling by using , float switch, photocell switch , contactors and double pushbutton box ,as well install and wiring the double poll switch for water heater and cocker.			

Course Title		Electrical Control	
Course Code	ES 205	Credits	3
Lecture Hours	2	Practical Hours	2
		Total Hours	4
<b>Course Description</b>			
Study the various control elements of relays, contactors, end-of-journey switches, floats, pressure, and thermostats and their relationship to each other, read different control schemes, and study different control circuits in electric motors in different industry sites.			

Course Title		AutoCAD (1)	
Course Code	ES 207	Credits	2
Lecture Hours	1	Practical Hours	2
		Total Hours	3
<b>Course Description</b>			
This course is part of the area of Electrical Installation program. It introduces the basic concepts of Technical Drawing using a Computer Assisted Drafting (CAD) program. This course is designed for using AutoCAD to applied Electrical installation rules in civil drawing.			

Course Title		Drawings Design (1)	
Course Code	ES 209	Credits	2
Lecture Hours	0	Practical Hours	4
		Total Hours	4
<b>Course Description</b>			
Introduction in electrical circuits. Designing current calculation, adjusting current depending on temperature.			

Course Title		Installations Rules (1)	
Course Code	ES 211	Credits	2
Lecture Hours	2	Practical Hours	0
		Total Hours	2
<b>Course Description</b>			
General Knowledge of all electrical installation in buildings in the state of Kuwait.			

Course Title		English Language (3)	
Course Code	EN 222	Credits	2
Lecture Hours	1	Practical Hours	2
		Total Hours	3
<b>Course Description</b>			
This course introduces a domain of Technical vocabulary items, structural themes, language functions and listening/speaking /writing as well as evaluation, enables the trainees to identify the technical terms in English in a simple way and to express themselves in their jobs, in a sound comprehended language.			

### FOURTH TRAINING SEMESTER

Course Title		Public Relations	
Course Code	ES 252	Credits	2
Lecture Hours	2	Practical Hours	0
		Total Hours	2
<b>Course Description</b>			
The purpose of this course is to teach the trainee about the maters of public relations, and other skills related to it.			

Course Title		Electrical Installation workshop (3)	
Course Code	ES 253	Credits	4
Lecture Hours	0	Practical Hours	8
		Total Hours	8
<b>Course Description</b>			
Electrical installation workshop 3 extend the skills and knowledge of the previous workshop and it is the final step before graduating, it includes the major project of electric installation for a building, the course includes the testing instruments such as the multimeter, clamp meter and the Megger. also extend the knowledge about the earthing system, testing by using the earth tester instrument and the trouble shooting, and the final project will be the subject of the final exam with the final report and the electrical drawing.			

Course Title		Protection	
Course Code	ES 255	Credits	3
Lecture Hours	2	Practical Hours	2
		Total Hours	4
<b>Course Description</b>			
Specifications and classifications of fuses. Insulators. Current Cutters. Theory, specifications, and classifications of relays. Theory, specifications and classifications of contactors and signal transmitters. Applications to control circuits. Control circuits for three-phase motors. DC motor control circuits.			

Course Title		AutoCAD (2)	
Course Code	ES 257	Credits	2
Lecture Hours	1	Practical Hours	2
		Total Hours	3
<b>Course Description</b>			
This course is part of the area of Electrical Installation program. It introduces the basic concepts of Technical Drawing using a Computer Assisted Drafting (CAD) program. This course is designed for using AutoCAD to applied Electrical installation rules in civil drawing.			

Course Title		Buildings Technology	
Course Code	ES 254	Credits	4
Lecture Hours	4	Practical Hours	0
		Total Hours	4
<b>Course Description</b>			
Engineering contracts. Scheme and diagrams. Concrete structures. Bricks works Mechanical and electrical works, ceiling and floors, painting and interior finishing, outside buildings finishing.			

Course Title		Drawings Design (2)	
Course Code	ES 259	Credits	2
Lecture Hours	0	Practical Hours	4
		Total Hours	4
<b>Course Description</b>			
This course gives the student the ability and the knowledge of designing larger electrical installation drawings with all necessary electrical calculations.			

Course Title		Installations Rules (2)	
Course Code	ES 261	Credits	2
Lecture Hours	2	Practical Hours	0
		Total Hours	2
<b>Course Description</b>			
Definitions, general requirement for electrical installations. Sockets, high current protection. Earthing, earth fault protection. Distribution for wires, cables, connections points, plastic popes and iron pipes, manholes, and cable tunnels. Connection for final electrical circuits.			

Course Title		English Language (4)	
Course Code	ES 268	Credits	2
Lecture Hours	2	Practical Hours	0
		Total Hours	2
<b>Course Description</b>			
This course introduces a domain of Technical vocabulary items, structural themes, language functions and listening/speaking /writing as well as evaluation. The ultimate goal of teaching such course is enabling the trainees to identify the technical terms in English in a simple way and to express themselves in their jobs, in a sound comprehended language.			

Course Title		Field Training	
Course Code	EM 300	Credits	15
Lecture Hours	0	Practical Hours	30
		Total Hours	30
<b>Course Description</b>			
Training in power station at Ministry of Energy			