



3D EDUCATORS

Invest in People the Only Asset that Appreciates...

CERTIFIED ELECTRICIAN Training Program

LIVE ONLINE INSTRUCTOR LED
ONE TO ONE FACILITY AVAILABLE



BUILDING NATIONS A Professional Development Institute

This highly specialized and concentrated Program is ideally suited to following individuals who:

- A people who would like to become a professional Electrician.
- The people who are engaged in this profession, but not have the accredited certification can join.
- The professionals, who have sound experience and exposure, but cannot excel due to good certification, may join.

ACCREDITED FROM USA



COURSE OBJECTIVES:



Electrical works are the core requirement for any building construction and technicians are high in demand in all over the world. Modern society needs the state of art work related to electrical technology and due to innovation of electrical items and accessories, their fixtures are most important to know that how to install and run with all safety measures.

Program Details

Inauguration

Training Program will be inaugurated by a senior member of 3DEducators

Program Structure

Details of the programs	
Number of classes in a week	1
Duration of each class	3
Guided Hours	16
Non Guided Hours	8
Total Hours	24 hours

Other Learning Activities

Activities that have been required	
Classroom Assignment	4
Presentation By Trainees	1
Project	1

Program Syllabus

COURSE CONTENT:

Module 1: Safety and Communication

Module 2: Electrical/Electronic Principle

Module 3: Electrical/Electronic Principle and Technology

Module 4: Electrical Wiring

Module 5: PLC Programming

Module 6: Estimation and Installations

Students who are unable to appear for the final exam are required to submit a written application stating the reason for not appearing for the exam. 3D Educators reserves the right to approve or deny such applications. If approved, the student will be allowed to sit for the exam within one month. Failure to do so, the student will be resubmit the examination fee and sit the future schedule exam. Without passing of the exams no certification will be awarded.

Overall objective of the course

The main objective of this course is to experience and understand real life situations in industrial organizations and their related environments and accelerating the learning process of how student's knowledge could be used in a realistic way.

Job Opportunities available immediately and in future

- After completing this course, learner will have following career opportunities:
- Offer services as an electrician to an electrical shop, industry and to building contractors.
- Work as an Assistant Electrician in Public and Private Organizations.
- Seek employment in Industries (manufacture/assembly)
- Set up of his or her enterprise.

- Work as Contractor for Annual Maintenance/Repair of residential/institutional/ commercial buildings.

Skill Standards

The certificate in the occupation of General Electrician will be awarded to those who are competent in the following four units:

- Carry out Industrial electrical installations
- Install , service and repair/replace electrical control system and protective switch-gear
- Install industrial safety /security and communication System
- Prepare estimates for electrical installations

Module 1: Safety and Communication

1) Types of electrical hazards

- Electrical burn
- Increasing heart beat
- Flash burn
- Thermal contact burn

2) How to identify different voltages

- AC Supply
- Single phase supply
- Three phase supply DC supply

3) Identification of equipment's

- Basic units of measurement
- Inside and outside calipers
- Vernier caliper and vises
- Micrometer and gauges
- Drilling, filling and soldering tools
- Digital measuring instruments
- Care and maintenance of measuring tools Identifying
- and using different types of screw drivers
- Identifying and using different types of pliers, wrenches, L-keys,
- Spanners, bearing pullers
- Using and servicing line tester 2-Pole tester

- Using and servicing hand drill and electric drill machines
- Using and servicing different kinds of soldering iron, blow torch
- and safety goggles
- Using bradawl and mandrel

4) Electric shock can cause

- Stopping of breathing
- Burns
- Muscle spasms
- Abnormal heart beat

5) Associated risks and forces of electricity

- What are the risks from electricity
- Who is most at risks from electricity
- Legal duties and obligations around electricity
- Assessing the risks from electricity

6) Participants in work place communication

- Obtain and convey workplace communication
- Participate in meetings and discussions
- Complete work related documents

7) Work in team environment

- Identify and describe team role and responsibility
- Work as team leader
- Work as team member
- Effective form of communication

8) Practice occupational health and safety

- Safety precautions and practices
- Work according to safety rules
- Identify risks and hazards
- Safety goggles and other protective devices
- Hand tools

9) Practice general workshop rules and regulations

- Memorize workshops rules and regulations
- List tool required for job
- Working to safety regulations
- Elementary first aid in electrical shops

10) Practices for preventing electrical accidents

- Report hazards
- Use equipment properly
- Inspect and test equipment regularly
- Use power cords and outlets properly
- Avoid overloading circuits

Module 2: Electrical/Electronic Principle

1) Introduction to electric circuits

- Electrical/Electronic symbols
- Electric current and quantity of electricity
- Potential difference and resistance
- Electrical measuring instrument
- Linear and non linear devices
- Ohm's law
- Conductors, Insulators and semi conductor
- Electrical Power and energy
- Resistance and resistivity
- Temperature coefficient of resistance
- Resistor color coding and ohmic values

2) Series and parallel networks

- Series circuits
- Potential divider
- Parallel network
- Current division
- Loading effect
- Potential meters and rheostats
- Relative and absolute and short circuits
- Wiring lamps in series and in parallel

3) Capacitor and capacitance

- Introduction to capacitor
- Electrostatic field
- Electric field strength
- Capacitance
- Permittivity
- Parallel plate capacitor
- Series and parallel combination of capacitors
- Color coding of capacitor
- Energy stores

4) Magnetic circuits

- Magnetism and magnetic circuits
- Magnetic field and magneto motive force
- Reluctance

5) Electromagnetism

- Introduction of electromagnetism
- Electromagnetism Induction
- Inductor and Inductance
- Self and mutual Inductance

6) Semi conductor devices

- Semi conductor material
- Conduction in semi conductor materials
- P-N Junction
- Forward and reverse bias
- Rectify diode and zener diode
- Bi polar junction
- Transistor (PNP, NPN)
- Transistor Action
- Transistor Biasing
- Transistor characteristics
- FET biasing
- Field effect transistor
- FET characteristics

Module 3: Electrical/Electronic Principle and Technology

1) AC/DC circuit theory

- General DC circuit theory
- Kirchoff's voltage law
- Kirchoff's current law
- RC time constant
- LR time constant
- AC wave form and values
- Equation of sinusoidal waveform
- Rectification
- Half wave rectification
- Full wave rectification
- Bridge Rectification
- Filtration
- Power supply
- Purely resistive AC circuit
- Purely inductive AC circuit
- Purely capacitive AC circuit
- R-L series AC circuit
- R-C series AC circuit
- R-L-C series AC
- circuit Resonance
- Q Factor
- Power triangle and power
- Factor Star connection load
- Delta connection load
- Power in three phase system
- Measurement of power in three phase system and
- tool Advantages of three phase system

Module 4: Electrical Wiring

1) AC/DC Wiring

- Single phase wiring
- Three phase wiring
- Star delta wiring
- Contactor wiring
- Relay wiring

- Protective devices wiring
- Single phase motor wiring
- Three phase motor wiring
- VFD power wiring
- DC supply wiring
- Controller wiring
- Input/output Module wiring
- Function Module wiring
- VFD control wiring
- Transformer wiring

2) Test the Electrical/Electronic Installations

- Conductor continuity
- Polarity
- Phase sequence
- Earth fault
- Diode test
- Transistor test
- FET test
- Resistor test
- Capacitor test
- Inductor test
- Bridge test
- Transformer test

Module 5: PLC Programming

- What is microcontroller
- Difference between microcontroller and PLC
- Compact and modular PLC
- Block diagram of PLC
- Input/output module
- Function module
- Programming

Module 6: Estimation and Installations

1) Collect information for the electrical installation work

- Gather information from the customer

- Enlist the material required for the installation work
- Obtain and compare current market prices of material, goods and switch gear of appropriate quality from several suppliers

2) Prepare estimate for the installation

- Calculate no of labor hours & its costs according to current labor rates
- Calculate Transport cost
- Calculate profit margins
- Calculate and prepare document of total estimate

3) Obtain customers approval to commence the work

- Present estimate to the customer in a standard format
- Understands customer feedback
- Make adjustments in estimate to accommodate customers feedback and obtain approval

Live Online Class Facility Available

INSTRUCTIONS

- ❖ Instructor Led Training
- ❖ Real Time Presentations available at our official website of 3D EDUCATORS
- ❖ Interactive Classes
- ❖ Complete Notes and Other Stuff shall be provided through our Secure Student Login Member's Area
- ❖ For Online Live Classes, you may please download the Admission Form through our website <http://www.3deducators.com>. Fill it properly and attached the required document along with Picture and send back to info@3deducators.com with scanned fee submitted voucher in the bank.
- ❖ For Pakistan you may submit the fee at any MCB Branch with the title of "3D EDUCATORS-TRAINERS & CONSULTANTS".
- ❖ If you are outside Pakistan then you may transfer via Bank to Bank or any western union, Fast Track, Money Gram or else International Transfer Body.
- ❖ After Admission, if you don't have GMAIL Account then you are requested to kindly make one GMAIL Account and shared it info@3deducators.com. Then further correspondence shall be made by our institute official.
- ❖ Extra Bandwidth Charges shall be incurred.
- ❖ If you are outside country or city then extra courier charges shall be incurred for Certificate.
- ❖ Medium shall be used gotomeeting.com

IMPORTANT INSTRUCTIONS FOR LIVE CLASSES

- ❖ During Classes, you are requested to make sure that you are in isolated room, where no noise should be there except your voice.
- ❖ Kindly Switch Off your Cell Phone during the class, because it will disturb the quorum of class.
- ❖ If you have taken the admission in the course online, ethically it is recommended and suggested that you only avail this facility.
- ❖ Recording of Lectures are not allowed at your end.

This world is emerging and growing in the 21st Century very rapidly because of latest and remarkable technologies and its advancement. Due to advancement of technology, we 3D EDUCATORS offer Live Interactive class sessions. 3D EDUCATORS believe on Information Technology and its systems. Now you can also avail this facility at your home.

JOIN US FROM ANYWHERE

Call: 9221-34141329, 9221-34857148

Cell: 0333-2402474

Cell: 0322-2083032

Contact: info@3deducators.com

Web: <http://www.3deducators.com>

Admission Form: [Admission Form](#) (Press Control to download)

MANAGEMENT

3D EDUCATORS – TRAINERS & CONSULTANTS

TERMS & CONDITIONS

WITHDRAWAL FROM THE CERTIFICATION OR DIPLOMA

Students are not allowed to withdraw from the CERTIFICATION/DIPLOMA. If a student cannot continue the CERTIFICATION his/her fee will be forfeited.

CONDUCT AND DISCIPLINE

A disciplinary action, leading to rustication, will be taken against students whose conduct is found objectionable at any time during the course of study. Reference will be made to 3D Educators code of conduct.

EVALUATION AND GRADING

The performance of students is evaluated through continuous observation of a student's performance in the CERTIFICATION/DIPLOMA – class participation, submission of assignments, quizzes and exercises.

The student will be examined through three hourly exams conducted at the midterm and a final exam at the end of the program. Total marks for passing the CERTIFICATION/DIPLOMA will be 70 out of a total of 100.

Students who do not meet the attendance or any other eligibility criteria will not be allowed to appear in the final examination.

The following grading plan will be applicable for the CERTIFICATION/DIPLOMA:

A	87 - 100
B+	81 -86
B	72 - 80
C+	66 - 71
C	60 - 65
F	below 60

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Global Recognized Certification from IMRTC USA

**CERTIFICATE
OF EXCELLENCE**

IMRTC USA Recognized

CERTIFICATION



This is to Certify That
Mr. Danny Jones Wales
*has successfully met the certification requirements as outlined in
IMRTC content and the policies adopted thereunder, hereby grants the certification of*

Certified Electrician

Student ID: IM864532201

Date of Commencement: May 4, 2014

Date of Ending: July 4, 2014



Cheryyel Rhodes

Principal of Institute

Director Affiliations and Official Affairs

INTERNATIONAL MANAGEMENT RESEARCH & TECHNOLOGY CONSORTIUM

IMRTC - UNITED STATES OF AMERICA - <http://www.imrtc.org>

Chapter ID: AS2933770
Partnership ID: AS5588322_Pakistan
Verification@imrtc.org

**CERTIFICATE
OF AUTHORIZATION**

IMRTC USA Recognized

CERTIFICATE OF AUTHORIZATION



This is to Certify That IMRTC Authorized

3D EDUCATORS - TRAINERS & CONSULTANTS

*to work as Training & Research Partner in capacity of
PARTNER THROUGH PAKISTAN CHAPTER*

*for the scope of activity shown below in accordance with the applicable rules of
the IMRTC. The use of this certification and the authority granted by this
Certificate of Authorization are subject to the provision of agreement set
forth in the application.*

*The validity of this certificate is for Five Years from the date of Issuance
and will increase according to the performance*

Issuance Date: 16 May 2014

Cheryyel Rhodes

Director Affiliations and Official Affairs



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