Electrotechnology is a multibillion dollar industry in Australia that impacts on almost every aspect of daily life. The technologies cover traditional light and power, air conditioning, refrigeration, audio/video and data systems, computer and network hardware, security systems, wireless and cabled communications systems, electronic aspects of medical equipment and sustainable/renewable energies. People in this industry install, service, repair and maintain electrical and electronic equipment for industrial, commercial and domestic purposes. The digital age is creating an unprecedented demand for electricians specialising in telecommunications, instrumentation, security and electronic control systems.

**JOB EXAMPLE:**
**ELECTRICIAN**

Electricians design, assemble, install, test, commission, diagnose, maintain and repair electrical networks, systems, circuits, equipment, components, appliances and facilities for industrial, commercial and domestic purposes.

**Tasks**
- Read and interpret drawings/wiring diagrams and specifications to determine sequences and methods of operation.
- Measuring and laying out installation reference points.
- Selecting, cutting and connecting wire and cable to terminals and connectors.
- Using electrical and electronic test instruments to trace and diagnose faults.
- Repairing and replacing faulty wiring and defective parts.
- Positioning and installing electrical switchboards.
- Connecting electrical systems to power supply.
- Compliance and functionality testing of installations.

**Job Prospects**
- Employment for this occupation rose strongly in the past five years. Looking forward, employment for Electricians is expected to grow strongly.
- The most common level of educational attainment is Certificate III/IV.
- Electricians are mainly employed in Construction, Manufacturing and Electricity, Gas, Water and Waste Utilities Services.

**JOB EXAMPLE:**
**AIR-CONDITIONING AND REFRIGERATION MECHANICS**

Air-conditioning and Refrigeration Mechanics assemble, install, maintain and repair industrial, commercial and domestic air-conditioning and refrigeration systems and equipment.

**Tasks**
- Read and interpret drawings/piping and circuit diagrams and specifications to determine sequences and methods of operation.
- Installing and repairing equipment such as air conditioners, cool rooms, refrigerators, ventilation systems and beverage dispensers.
- Installing and repairing components such as compressors, motors, condensers, evaporators, switches and gauges, and copper lines for refrigerant, oil and chilled water.
- Cutting, bending and joining piping.
- Fixing, soldering, welding and brazing pipes to connect equipment, and checking alignment and accuracy of fit.
- Using pressure gauges/manifold, hoses and vacuum pumps to pressure test, evacuate and fill a system with refrigerant gas.
- Test-operating refrigeration systems, checking mechanisms and making adjustments.
- Using electrical and electronic test instruments to trace and diagnose faults.
- Checking and overhauling refrigeration systems, diagnosing faults and repairing and replacing defective components.
- Adjusting system controls and mechanisms and reassembling systems.
- Recording causes of malfunctioning and action taken.

**Job Prospects**
- Employment for this occupation rose strongly in the past five years. Looking forward, employment for Air-conditioning and Refrigeration Mechanics is expected to grow moderately.
- The most common level of educational attainment is Certificate III/IV.
- Air-conditioning and Refrigeration Mechanics are mainly employed in Other Services, Construction and Retail Trade.

JOB OPPORTUNITIES IN ELECTROTECHNOLOGY

Certificate III Air-Conditioning and Refrigeration (UEE32211)
Certificate III Electrical Fitting (UEE33011)
Certificate III Instrumentation and Control (UEE31211)
Certificate III Electrical Machine Repair (UEE30611)
Certificate III Electrician (UEE30811)
Certificate IV Electrical – Instrumentation (UEE40411)

Employment in electrotechnology sector in customer service or sales in a wholesaler
Small business owner
Technician special class gas and oil
Large diversified business owner

Electrotechnology traineeship or apprenticeship
Employment as licensed electrician, refrigeration technician, instrumentation electrician or electrical ritter
Workplace supervisor and/or leading hand

Complete TAFE Course

TALK TO US
1300 823 393
Visit your local TAFE Western college
www.tafewestern.edu.au