

**Victorian Purchasing Guide
for
UEE07 Electrotechnology Training Package
Version No 4**

January 2012





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Victorian Purchasing Guide — Version History

| Training Package Version | Date VPG Approved | Comments |
|---|-------------------|---|
| UEE07 Electrotechnology Training Package V4 | 6/1/2012 | 12 new qualifications <ul style="list-style-type: none"> • UEE20110; UEE32110; UEE32210; UEE42710; UEE42810; UEE42910; UEE51110; UEE51210; UEE62210; UEE62310; UEE62410; UEE62510 11 deleted qualifications <ul style="list-style-type: none"> • UEE20107; UEE21810; UEE30510; UEE31307; UEE41310; UEE42310; UEE42510; UEE50610; UEE60110; UEE60710; UEE61910 129 new units of competency |
| UEE07 Electrotechnology Training Package V3.1 | Not published | Modifications to qualification to meet NQC requirements |
| UEE07 Electrotechnology Training Package V3 | 16/03/2010 | Transition period extended |
| UEE07 Electrotechnology Training Package V3 | 21/10/2010 | <ul style="list-style-type: none"> • 62 revised qualifications • 3 new qualifications • 89 new units of competency • 52 new imported units of competency |
| UEE07 Electrotechnology Training Package V2 | 10/09/2009 | 1 new qualification <ul style="list-style-type: none"> • UEE42009 Certificate IV in Electrical – Photovoltaic Systems 1 new unit of competency |
| UEE07 Electrotechnology Training Package V1 | 15/09/2008 | Minor changes |
| UEE07 Electrotechnology Training Package V1 | 26/04/2008 | Initial release |

UEE07 Electrotechnology Training Package Victorian Purchasing Guide

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INTRODUCTION

What is a Victorian Purchasing Guide?

The Victorian Purchasing Guide provides information for use by Registered Training Organisations (RTOs) in the provision of Victorian government subsidised training.

Specifically the Victorian Purchasing Guide provides the following information related to the delivery of nationally endorsed Training Packages in Victoria:

- The nominal hour range (minimum-maximum) available for each qualification.
- Nominal hours for each unit of competency within the Training Package.
- Sample Training Programs

Registration

RTOs must be registered by either the Victorian Registration and Qualifications Authority (VRQA) or the Australian Skills Qualification Authority (ASQA) regulatory body to be eligible to issue qualifications and statements of attainment under the Australian Quality Framework (AQF).

The VRQA is the regulatory authority for Victoria that registers VET training organisations who provide courses to domestic students only and who only offer training in Victoria.

To register to provide training to international students and in other Australian states and territories you will need to apply with ASQA.

QUALIFICATIONS

| Code | Title | Qualification Nominal Hour Range | |
|----------|---|----------------------------------|---------|
| | | Minimum | Maximum |
| UEE10110 | Certificate I in ElectroComms Skills | 180 | 180 |
| UEE20111 | Certificate II in Split Air-conditioning and Heat Pump Systems | 360 | 360 |
| UEE20207 | Certificate II in Business Equipment Servicing | 400 | 400 |
| UEE20407 | Certificate II in Winding and Assembly | 360 | 360 |
| UEE20510 | Certificate II in Computer Assembly and Repair | 360 | 360 |
| UEE20607 | Certificate II in Custom Electronics Assembly and Setup | 400 | 400 |
| UEE20707 | Certificate II in Data and Voice Communications | 420 | 420 |
| UEE20810 | Certificate II in Electrical Wholesaling | 380 | 380 |
| UEE20907 | Certificate II in Electronic Assembly | 420 | 420 |
| UEE21007 | Certificate II in Fire Alarms Servicing | 460 | 460 |
| UEE21107 | Certificate II in Gaming Machines Servicing | 400 | 400 |
| UEE21207 | Certificate II in Antennae Equipment | 400 | 400 |
| UEE21310 | Certificate II in Remote Area Essential Service | 500 | 500 |
| UEE21407 | Certificate II in Remote Area Power Supply Maintenance | 400 | 400 |
| UEE21510 | Certificate II in Renewable Energy | 460 | 460 |
| UEE21610 | Certificate II in Security Assembly and Setup | 380 | 380 |
| UEE21710 | Certificate II in Technical Support | 360 | 360 |
| UEE21910 | Certificate II in Electronics | 360 | 360 |
| UEE22010 | Certificate II in Electrotechnology (Career Start) | 360 | 360 |
| UEE22107 | Certificate II in Sustainable Energy (Career Start) | 420 | 420 |
| UEE30107 | Certificate III in Business Equipment | 1080 | 1080 |
| UEE30210 | Certificate III in Computer Systems Equipment | 980 | 980 |
| UEE30310 | Certificate III in Custom Electronics Installations | 980 | 980 |
| UEE30407 | Certificate III in Data and Voice Communications | 1020 | 1020 |
| UEE30607 | Certificate III in Electrical Machine Repair | 1100 | 1100 |
| UEE30707 | Certificate III in Switchgear and Control Gear | 1100 | 1100 |
| UEE30807 | Certificate III in Electrotechnology Electrician | 1060 | 1060 |
| UEE30910 | Certificate III in Electronics and Communications | 1020 | 1020 |
| UEE31007 | Certificate III in Fire Protection Control | 1020 | 1020 |
| UEE31107 | Certificate III in Gaming Electronics | 1100 | 1100 |
| UEE31210 | Certificate III in Instrumentation and Control | 1140 | 1140 |
| UEE31410 | Certificate III in Security Equipment | 1020 | 1020 |
| UEE31507 | Certificate III in Rail – Communications and Networks | 1100 | 1100 |
| UEE31710 | Certificate III in Hazardous areas – Electrician | 1060 | 1060 |
| UEE31810 | Certificate III in Hazardous areas – Instrumentation | 1140 | 1140 |
| UEE31910 | Certificate III in Explosion-protected equipment overhaul | 1000 | 1000 |
| UEE32010 | Certificate III in Renewable Energy – ELV | 1040 | 1040 |
| UEE32111 | Certificate III in Appliance Service | 1020 | 1020 |
| UEE32211 | Certificate III in Air-conditioning and Refrigeration | 1020 | 1020 |
| UEE40110 | Certificate IV in Computer Systems | 1280 | 1280 |
| UEE40210 | Certificate IV in Electrical – Data and Voice Communications | 1400 | 1400 |
| UEE40310 | Certificate IV in Electrical Installation Inspection and Audits | 1400 | 1400 |
| UEE40410 | Certificate IV in Electrical – Instrumentation | 1400 | 1400 |

| | | | |
|----------|--|------|------|
| UEE40510 | Certificate IV in Electrical – Air-conditioning Systems | 1400 | 1400 |
| UEE40610 | Certificate IV in Electrotechnology – Systems Electrician | 1400 | 1400 |
| UEE40710 | Certificate IV in Electronics and Communications | 1300 | 1300 |
| UEE40810 | Certificate IV in Electrical – Fire Protection Control Systems | 1400 | 1400 |
| UEE40910 | Certificate IV in Industrial Electronics and Control | 1400 | 1400 |
| UEE41010 | Certificate IV in Energy Management and Control | 1400 | 1400 |
| UEE41110 | Certificate IV in Electrical – Lift Systems | 1400 | 1400 |
| UEE41210 | Certificate IV in Electrical – Rail Signalling | 1400 | 1400 |
| UEE41510 | Certificate IV in Video and Audio Systems | 1340 | 1340 |
| UEE41610 | Certificate IV in Renewable Energy | 920 | 920 |
| UEE41710 | Certificate IV in Rail – Communications and Network Systems | 1400 | 1400 |
| UEE41910 | Certificate IV in Electrical – Renewable Energy | 1420 | 1420 |
| UEE42010 | Certificate IV in Electrical – Photovoltaic Systems | 1380 | 1380 |
| UEE42110 | Certificate IV in Electrotechnology – Electrical Contracting | 1400 | 1400 |
| UEE42210 | Certificate IV in Instrumentation and Control | 1480 | 1480 |
| UEE42410 | Certificate IV in Hazardous areas – Industrial control | 1340 | 1400 |
| UEE42610 | Certificate IV in Hazardous areas – Electrical | 1400 | 1400 |
| UEE42711 | Certificate IV in Air-conditioning and Refrigeration Servicing | 1280 | 1280 |
| UEE42811 | Certificate IV in Air-conditioning Systems Energy Management and Control | 1280 | 1280 |
| UEE42911 | Certificate IV in Refrigeration and Air-conditioning Systems | 1280 | 1280 |
| UEE50110 | Diploma of Computer Systems Engineering | 1600 | 1600 |
| UEE50210 | Diploma of Electrical and Instrumentation | 1890 | 1920 |
| UEE50310 | Diploma of Electrical and Refrigeration and Air-conditioning | 2050 | 2080 |
| UEE50410 | Diploma of Electrical Engineering | 1710 | 1740 |
| UEE50510 | Diploma of Electronics and Communications Engineering | 1600 | 1600 |
| UEE50710 | Diploma of Renewable Energy Engineering | 1710 | 1740 |
| UEE50810 | Diploma of Research and Development | 1550 | 1580 |
| UEE50910 | Diploma of Industrial Electronics and Control Engineering | 1710 | 1740 |
| UEE51010 | Diploma of Instrumentation and Control Engineering | 1770 | 1800 |
| UEE51111 | Diploma of Engineering Technology - Refrigeration and Air-conditioning | 1550 | 1550 |
| UEE51211 | Diploma of Air-conditioning and Refrigeration Engineering | 1600 | 1600 |
| UEE60210 | Advanced Diploma of Electronics and Communications Engineering | 2160 | 2160 |
| UEE60410 | Advanced Diploma of Computer Systems Engineering | 2160 | 2160 |
| UEE60610 | Advanced Diploma of Industrial Electronics and Control Engineering | 2360 | 2390 |
| UEE60910 | Advanced Diploma of Renewable Energy Engineering | 2360 | 2390 |
| UEE61110 | Advanced Diploma of Automated Systems Maintenance Engineering | 2140 | 2170 |

| | | | |
|----------|---|------|------|
| UEE61210 | Advanced Diploma of Engineering Explosion protection | 2290 | 2310 |
| UEE61410 | Advanced Diploma of Engineering – Explosion protection - Industrial control | 2130 | 2150 |
| UEE61510 | Advanced Diploma of Instrumentation and Control Engineering | 2380 | 2410 |
| UEE61710 | Advanced Diploma of Engineering Technology - Electronic | 1920 | 1990 |
| UEE61810 | Advanced Diploma of Engineering Technology - Computer Systems | 1860 | 1930 |
| UEE62010 | Advanced Diploma of Engineering Technology - Renewable Energy | 2040 | 2110 |
| UEE62110 | Advanced Diploma of Engineering Technology – Electrical | 1900 | 1970 |
| UEE62211 | Advanced Diploma of Electrical – Engineering | 2100 | 2100 |
| UEE62311 | Advanced Diploma of Electrical Engineering – Coal Mining | 2100 | 2100 |
| UEE62411 | Advanced Diploma of Engineering Technology – Air-conditioning and Refrigeration | 2050 | 2050 |
| UEE62511 | Advanced Diploma of Air-conditioning and Refrigeration Engineering | 2060 | 2060 |

UNITS OF COMPETENCY AND NOMINAL HOURS

RTOs are advised that there is a mapping inside the Training Package that describes the relationship between new units and superseded or replaced units from the previous version of UEE07 Electrotechnology Training Package. Information regarding transition arrangements can be obtained from the state or national VET Regulating Authority (see Contacts and Links section).

You must be sure that all training and assessment leading to qualifications or Statements of Attainment from the Training Package is conducted against the Training Package units of competency and complies with the requirements in the assessment guidelines.

Listing of the Units of Competency and Nominal Hours

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEA001B | Assemble electronic apparatus | 40 |
| UEENEEA002B | Select electronic components | 20 |
| UEENEEA003B | Set up and check electronic component placement machines | 40 |
| UEENEEA004B | Rework electronic sub assemblies | 40 |
| UEENEEA005B | Conduct functional and quality tests on assembled electronic apparatus | 20 |
| UEENEEA006B | Apply lead-free soldering techniques | 40 |
| UEENEEA010B | Assemble, mount and connect switchgear and controlgear | 120 |
| UEENEEA012B | Make up and assemble bus bars | 60 |
| UEENEEA013B | Assemble and wire control panels | 60 |
| UEENEEB001B | Operate and maintain an amateur radio communication station | 40 |
| UEENEEC001B | Maintain documentation | 20 |
| UEENEEC002B | Source and purchase material/parts for installation or service jobs | 20 |
| UEENEEC003B | Provide quotations for installation or service jobs | 20 |
| UEENEEC004B | Prepare specifications for the supply of materials and equipment for electrotechnology projects | 40 |
| UEENEEC005B | Estimate electrotechnology projects | 40 |
| UEENEEC006B | Prepare tender submissions for electrotechnology projects | 60 |
| UEENEEC007B | Manage contract variations | 40 |
| UEENEEC008B | Receive and store materials and equipment for electrotechnology work | 20 |
| UEENEEC009B | Provide quotations for inspection and compliance audit services | 40 |
| UEENEEC010B | Deliver a service to customers | 20 |
| UEENEEC012B | Direct technical and non-technical enquiries to appropriate personnel | 20 |
| UEENEEC013B | Participate in business equipment work and competency development activities | 20 |
| UEENEEC014B | Participate in computer equipment work and competency development activities | 20 |
| UEENEEC015B | Participate in custom electronic installations work and competency development activities | 20 |
| UEENEEC016B | Participate in voice and data communications work and competency development activities | 20 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEC017B | Participate in appliance servicing work and competency development activities | 20 |
| UEENEEC018B | Participate in electrical machine repair work and competency development activities | 20 |
| UEENEEC019B | Participate in switchgear and controlgear work and competency development activities | 20 |
| UEENEEC020B | Participate in electrical work and competency development activities | 20 |
| UEENEEC021B | Participate in electronics and communications work and competency development activities | 20 |
| UEENEEC022B | Participate in fire protection control work and competency development activities | 20 |
| UEENEEC023B | Participate in gaming electronic work and competency development activities | 20 |
| UEENEEC024B | Participate in instrumentation and control work and competency development activities | 20 |
| UEENEEC025B | Participate in refrigeration and air conditioning work and competency development activities | 20 |
| UEENEEC026B | Participate in security equipment work and competency development activities | 20 |
| UEENEEC027B | Participate in rail communications and networks work and competency development activities | 20 |
| UEENEEC028B | Participate in hazardous areas work and competency development activities | 20 |
| UEENEEC029B | Participate in explosion-protected equipment overhaul work and competency development activities | 20 |
| UEENEED001B | Use basic computer applications relevant to a workplace | 20 |
| UEENEED002B | Assemble, set up and test personal computers | 80 |
| UEENEED003B | Evaluate and modify programs written in object oriented code | 40 |
| UEENEED004B | Use engineering applications software | 40 |
| UEENEED005B | Enter and verify operating instructions in microprocessor equipped devices | 20 |
| UEENEED007B | Develop, enter and verify programs for programmable logic controllers using ladder instruction set | 60 |
| UEENEED008B | Develop, enter and verify programs in Supervisory Control and Data Acquisition systems | 60 |
| UEENEED009B | Develop, enter and verify programs for industrial control systems using high level instructions | 60 |
| UEENEED010B | Set up and create content for a web server | 120 |
| UEENEED011B | Develop object oriented code | 140 |
| UEENEED012B | Support computer hardware and software | 120 |
| UEENEED013B | Install and administer Unix based computers | 80 |
| UEENEED014B | Design and manage enterprise networks | 80 |
| UEENEED015B | Administer user networks | 80 |
| UEENEED016B | Develop network services | 120 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEED017B | Install and configure Internetworking systems | 120 |
| UEENEED018B | Design and implement Internetworking systems | 120 |
| UEENEED019B | Design and implement Internetworking systems — advanced routing | 100 |
| UEENEED020B | Design and implement Internetworking systems — remote access | 100 |
| UEENEED021B | Design and implement Internetworking systems — multi-layer switching | 100 |
| UEENEED022B | Design and implement Internetworking systems — security | 100 |
| UEENEED023B | Design and implement Internetworking systems — wireless LANs/WANs | 100 |
| UEENEED024B | Integrate multiple computer operating systems on a client server network | 80 |
| UEENEED025B | Design and configure Human-Machine Interface networks | 60 |
| UEENEED026B | Design a computer based control system | 120 |
| UEENEED027B | Develop structured programs to control external devices | 40 |
| UEENEED028B | Develop and test code for microcontroller devices | 60 |
| UEENEED029B | Develop basic web pages for engineering applications | 40 |
| UEENEED030B | Select, install, configure and test multimedia devices | 40 |
| UEENEED031B | Develop and validate basic integrated systems | 60 |
| UEENEED032B | Design integrated systems | 60 |
| UEENEED033B | Design complex integrated systems | 60 |
| UEENEED034B | Configure and maintain industrial control system networks | 60 |
| UEENEED043B | Install and configure a computer operating system and software | 40 |
| UEENEED044B | Commission computer systems | 20 |
| UEENEED045B | Modify-redesign of computer system | 20 |
| UEENEED046B | Set up and configure basic local area network | 40 |
| UEENEED048B | Plan computer systems projects | 60 |
| UEENEED050B | Develop control programs for micro-computer equipped devices | 60 |
| UEENEED051B | Provide programming solution for engineering problems | 60 |
| UEENEED052B | Design embedded controller systems | 80 |
| UEENEED053B | Set up and test biometric devices | 40 |
| UEENEED054B | Analyse and implement biometric techniques and applications | 120 |
| UEENEED055B | Develop and validate biometric systems installation instructions | 120 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE004B | Solve problems in multiple path d.c. circuits | 40 |
| UEENEEE005B | Fix and secure equipment | 20 |
| UEENEEE006B | Apply methods to maintain currency of industry developments | 20 |
| UEENEEE007B | Use drawings, diagrams, schedules and manuals | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEE008B | Lay wiring/cablings and terminate accessories for extra-low voltage circuits | 40 |
| UEENEEE009B | Comply with scheduled and preventative maintenance program processes | 20 |
| UEENEEE010B | Develop and implement maintenance programs | 60 |
| UEENEEE011C | Manage risk in electrotechnology activities | 60 |
| UEENEEE012B | Manage electrotechnology projects | 40 |
| UEENEEE013B | Plan electrotechnology projects | 60 |
| UEENEEE014B | Supervise and coordinate work activities | 40 |
| UEENEEE015B | Develop design briefs for electrotechnology projects | 40 |
| UEENEEE016B | Write specifications for electrotechnology projects | 40 |
| UEENEEE017B | Implement and monitor OHS policies and procedures | 20 |
| UEENEEE018B | Establish, maintain and evaluate OHS systems | 60 |
| UEENEEE019C | Solve problems in multiple path a.c. circuits | 40 |
| UEENEEE020B | Provide basic instruction in the use of electrotechnology apparatus | 20 |
| UEENEEE021B | Plan an integrated cabling system | 40 |
| UEENEEE022B | Carry out preparatory electrotechnology work activities | 60 |
| UEENEEE023B | Solve basic problems in electronic and digital equipment | 80 |
| UEENEEE024C | Compile and produce an electrotechnology report | 60 |
| UEENEEE025B | Solve problems in complex multiple path circuits | 60 |
| UEENEEE026B | Provide computational solutions to basic engineering problems | 40 |
| UEENEEE027B | Use advanced computational processes to provide solutions to engineering problems | 80 |
| UEENEEE028B | Develop engineering solutions to photonic problems | 80 |
| UEENEEE029B | Solve electrotechnical problems | 60 |
| UEENEEE030B | Provide solutions to and report on routine electrotechnology problems | 60 |
| UEENEEE032B | Document occupational hazards and risks in computer systems | 20 |
| UEENEEE033B | Document occupational hazards and risks in electrical | 20 |
| UEENEEE034B | Document occupational hazards and risks in electronics | 20 |
| UEENEEE035B | Document occupational hazards and risks in instrumentation | 20 |
| UEENEEE036B | Document occupational hazards and risks in refrigeration and air-conditioning | 20 |
| UEENEEE037B | Document occupational hazards and risks in electrotechnology | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEEE041B | Use of routine equipment/plant/technologies in an electrotechnology environment | 60 |
| UEENEEE042B | Produce routine products for carrying out electrotechnology work activities | 80 |
| UEENEEE043B | Produce routine tools/devices for carrying out electrotechnology work activities | 120 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEE044B | Apply technologies and concepts to electrotechnology work activities | 120 |
| UEENEEE045B | Apply computation when using equipment, materials and concepts in an electrotechnology environment | 160 |
| UEENEEE046B | Identify affects of energy on machinery and materials in an electrotechnology environment | 120 |
| UEENEEE047B | Identify building techniques, methods and materials used in electrotechnology work activities | 120 |
| UEENEEE048C | Carry out routine work activities in an electrotechnology environment | 40 |
| UEENEEE049B | Contribute to the operation of support plant and equipment used in electricity supply | 120 |
| UEENEEE050B | Undertake computations in an electrotechnology environment | 120 |
| UEENEEE051B | Transport apparatus and materials | 60 |
| UEENEEE060B | Provide solutions for uses of materials and thermodynamic effects | 100 |
| UEENEEE061B | Analyse static and dynamic parameters of equipment | 80 |
| UEENEEE062B | Select drive components for equipment design | 80 |
| UEENEEE063B | Analyse materials for suitability in equipment | 80 |
| UEENEEE064B | Design machine drives and production layout plans | 80 |
| UEENEEE070B | Write specifications for computer systems engineering projects | 40 |
| UEENEEE071B | Write specifications for electrical engineering projects | 40 |
| UEENEEE072B | Write specifications for electronics and communications engineering projects | 40 |
| UEENEEE073B | Write specifications for refrigeration and air conditioning engineering projects | 40 |
| UEENEEE074B | Write specifications for renewable energy engineering projects | 40 |
| UEENEEE075B | Write specifications for industrial electronics and control projects | 40 |
| UEENEEE077B | Write specifications for automated systems projects | 40 |
| UEENEEE078B | Contribute to risk management in electrotechnology systems | 20 |
| UEENEEE079A | Identify and select components, accessories and materials for electrotechnology work activities | 20 |
| UEENEEE080A | Apply industry and community standards to engineering activities | 20 |
| UEENEEE081A | Apply material science to solving electrotechnology engineering problems | 60 |
| UEENEEE082A | Apply physics to solving electrotechnology engineering problems | 60 |
| UEENEEE083A | Establish and follow a competency development plan in an electrotechnology engineering discipline | 20 |
| UEENEEE084A | Write specifications for electrotechnology engineering projects | 40 |
| UEENEEE101A | Apply Occupational Health and Safety regulations, codes and practices in the workplace | 20 |
| UEENEEE102A | Fabricate, assemble and dismantle utilities industry components | 40 |
| UEENEEE104A | Solve problems in d.c. circuits | 80 |
| UEENEEE105A | Fix and secure electrotechnology equipment | 20 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEE107A | Use drawings, diagrams, schedules, standards, codes and specifications | 40 |
| UEENEEE125A | Provide engineering solutions for problems in complex multiple path circuit | 60 |
| UEENEEE126A | Provide solutions to basic engineering computational problems | 60 |
| UEENEEE137A | Document and apply measures to control OHS risks associated with electrotechnology work | 20 |
| UEENEEF002B | Lay and connect cables for multiple access to telecommunication services | 120 |
| UEENEEF003B | Install and maintain cabling for telecommunication services in lifts | 40 |
| UEENEEF004B | Install and modify performance data communication structured cabling | 40 |
| UEENEEF005B | Install and modify performance data communication optical fibre cabling | 40 |
| UEENEEF006B | Solve problems in data and voice communications circuits | 40 |
| UEENEEF007B | Set up the wireless capabilities of communications and data storage devices | 40 |
| UEENEEF008B | Select and arrange equipment for wireless networks | 60 |
| UEENEEF009B | Install and connect voice and data communications equipment | 60 |
| UEENEEF010B | Select and arrange equipment for local area networks | 120 |
| UEENEEF011B | Test, report and rectify faults in voice and data installations | 60 |
| UEENEEF012B | Install aerial communication cables | 40 |
| UEENEEF013B | Install below ground communication cables | 40 |
| UEENEEF014B | Set up and configure basic data communications systems | 40 |
| UEENEEF015B | Assemble and connect communication frames and cabinets | 60 |
| UEENEEF016A | Lay and connect cabling for direct access to telecommunications services | 20 |
| UEENEEG001B | Solve problems in electromagnetic circuits | 60 |
| UEENEEG002B | Solve problems in single and three phase low voltage circuits | 80 |
| UEENEEG003B | Install wiring and accessories for low voltage circuits | 80 |
| UEENEEG004B | Install low voltage electrical apparatus and associated equipment | 80 |
| UEENEEG005B | Verify compliance and functionality of general electrical installations | 40 |
| UEENEEG006A | Solve problems in single and three phase low voltage machines | 80 |
| UEENEEG007B | Select and arrange equipment for general electrical installations | 120 |
| UEENEEG008B | Find and repair faults in electrical apparatus and circuits | 100 |
| UEENEEG009B | Develop and connect control circuits | 60 |
| UEENEEG010B | Find and repair faults in d.c. electrical apparatus and circuits | 60 |
| UEENEEG011B | Carry out basic repairs to electrical apparatus | 40 |
| UEENEEG012B | Solve fundamental problems in electrical systems | 60 |
| UEENEEG013B | Install and maintain emergency systems | 60 |
| UEENEEG015B | Find and rectify faults in energy supply network equipment | 120 |
| UEENEEG016B | Diagnose and rectify faults in lift systems | 80 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEG017B | Install electrical power and control equipment for rail network signalling | 40 |
| UEENEEG018B | Maintain operation of electrical mining equipment | 60 |
| UEENEEG019B | Maintain operation of electrical marine equipment | 60 |
| UEENEEG020B | Select and arrange equipment for special electrical installations | 60 |
| UEENEEG021B | Verify compliance and functionality of special electrical installations | 40 |
| UEENEEG022B | Conduct compliance inspection of single phase electrical installations | 60 |
| UEENEEG023B | Conduct compliance inspection of electrical installations with demand exceeding 100 A per phase | 40 |
| UEENEEG024B | Conduct compliance inspection of special electrical installations | 60 |
| UEENEEG025B | Plan electrical installations with a LV demand up to 400 A per phase | 40 |
| UEENEEG026B | Install and maintain field power and distribution systems with a LV demand up to 200 A per phase | 80 |
| UEENEEG027B | Design electrical installations with a LV demand greater than 400 A per phase | 40 |
| UEENEEG028B | Plan switchboard and control panel layouts | 40 |
| UEENEEG029B | Overhaul and repair major switchgear/controlgear | 60 |
| UEENEEG030B | Design switchboards rated for high fault levels | 60 |
| UEENEEG031B | Evaluate performance of electrical apparatus | 40 |
| UEENEEG032B | Carry out electrical field testing and report findings | 60 |
| UEENEEG033A | Solve problems in single and three phase low voltage electrical apparatus and circuits | 60 |
| UEENEEG034B | Perform high voltage field switching to a given schedule | 40 |
| UEENEEG035B | Diagnose and rectify faults in a.c. motor drive systems | 60 |
| UEENEEG036B | Diagnose and rectify faults in d.c. motor drive systems | 60 |
| UEENEEG037B | Diagnose and rectify faults in energy supply apparatus | 60 |
| UEENEEG038B | Diagnose and rectify faults in electrical energy distribution systems | 60 |
| UEENEEG039B | Diagnose and rectify faults in distributed generation systems | 60 |
| UEENEEG040B | Develop engineering solutions for energy supply power transformer problems | 60 |
| UEENEEG041B | Diagnose and rectify faults in servo drive systems | 60 |
| UEENEEG042B | Diagnose and rectify faults in electrical energy supply transmission systems | 60 |
| UEENEEG043B | Develop engineering solution for synchronous machine problems | 60 |
| UEENEEG044B | Develop engineering solutions for d.c. machine problems | 60 |
| UEENEEG045B | Develop engineering solutions for induction motor problems | 60 |
| UEENEEG046B | Develop engineering solutions for energy supply system protection problems | 60 |
| UEENEEG047B | Provide computational solutions to power engineering problems | 60 |
| UEENEEG048B | Solve problems in complex multiple path power circuits | 60 |
| UEENEEG049B | Solve problems in complex polyphase power circuits | 60 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEG050B | Wind coils | 40 |
| UEENEEG051B | Place and connect coils | 40 |
| UEENEEG052B | Rewind single phase induction machines | 120 |
| UEENEEG053B | Rewind three phase induction machines rated for low voltage | 120 |
| UEENEEG054B | Rewind direct current machines rated for low voltage | 120 |
| UEENEEG055B | Rewind three phase induction machines rated for high voltage to 3.3 kV | 60 |
| UEENEEG056B | Rewind three phase induction machines rated for high voltage above 3.3 kV | 60 |
| UEENEEG057B | Conduct electrical tests on low voltage electrical machines | 40 |
| UEENEEG058B | Conduct electrical tests on high voltage electrical machines | 60 |
| UEENEEG059B | Conduct mechanical tests on electrical machines | 40 |
| UEENEEG060B | Evaluate performance of electrical machines | 40 |
| UEENEEG061B | Design and develop modifications to electrical machines | 60 |
| UEENEEG062B | Set up and place electrical apparatus and associated circuits into service | 40 |
| UEENEEG063A | Arrange circuits, control and protection for general electrical installations | 40 |
| UEENEEG064B | Repair mechanical components of electrical machines | 60 |
| UEENEEG065B | Maintain and service traction lifts | 40 |
| UEENEEG066B | Installation and maintenance of escalators, moving walks and tread ways | 40 |
| UEENEEG067B | Align and install lift equipment | 40 |
| UEENEEG068B | Diagnose and rectify faults in complex lift systems | 40 |
| UEENEEG069B | Manage electrical projects | 40 |
| UEENEEG070B | Plan electrical projects | 60 |
| UEENEEG071C | Install and set up interval metering | 20 |
| UEENEEG072C | Investigate and report on electrical incidents | 60 |
| UEENEEG075A | Develop compliance policies and plans to conduct a contracting business | 80 |
| UEENEEG076A | Install and replace low voltage current transformer metering | 20 |
| UEENEEG101A | Solve problems in electromagnetic devices and related circuits | 60 |
| UEENEEG102A | Solve problems in low voltage a.c. circuits | 80 |
| UEENEEG103A | Install low voltage wiring and accessories | 20 |
| UEENEEG104A | Install appliances, switchgear and associated accessories for low voltage electrical installations | 20 |
| UEENEEG105A | Verify compliance and functionality of low voltage general electrical installations | 40 |
| UEENEEG106A | Terminate cables, cords and accessories for low voltage circuits | 60 |
| UEENEEG107A | Select wiring systems and cables for low voltage general electrical installations | 60 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEG108A | Trouble-shoot and repair faults in low voltage electrical apparatus and circuits | 60 |
| UEENEEG109A | Develop and connect electrical control circuits | 80 |
| UEENEEG149A | Provide engineering solutions to problems in complex polyphase power circuits | 60 |
| UEENEEG171A | Install, set up and commission interval metering | 20 |
| UEENEEH001B | Carry out basic repairs to computer equipment by replacement of modules/sub-assemblies | 40 |
| UEENEEH002B | Carry out basic repairs to electronic apparatus by replacement of components | 40 |
| UEENEEH003B | Carry out routine repairs to business equipment | 120 |
| UEENEEH004B | Set up and test residential audio/video equipment | 40 |
| UEENEEH005B | Verify compliance and functionality of custom electronic installations | 40 |
| UEENEEH006B | Assemble and set up fixed audio/video components and systems in buildings and premises | 120 |
| UEENEEH007B | Carry out repairs of predictable faults in general electronic apparatus | 40 |
| UEENEEH008B | Assemble and erect reception antennae and signal distribution equipment | 60 |
| UEENEEH009B | Set up and test gaming/games equipment | 60 |
| UEENEEH010B | Install commercial audio/video system components | 120 |
| UEENEEH011B | Troubleshoot d.c. power supplies with single phase input | 40 |
| UEENEEH012B | Troubleshoot digital subsystems | 80 |
| UEENEEH013B | Troubleshoot amplifiers | 80 |
| UEENEEH014B | Troubleshoot frequency dependent circuits | 80 |
| UEENEEH015B | Develop software solutions in microcontroller based systems | 60 |
| UEENEEH016B | Find and repair faults in the microwave amplifier sections in electronic apparatus | 40 |
| UEENEEH017B | Carry out repairs of predictable faults in audio and video replay/recording apparatus | 120 |
| UEENEEH018B | Find and repair faults in electronic apparatus | 40 |
| UEENEEH019B | Carry out repairs of predictable faults in television receivers | 120 |
| UEENEEH020B | Find and repair faults in gaming and games equipment | 80 |
| UEENEEH021B | Find and repair faults in high volume office equipment | 120 |
| UEENEEH022B | Find and repair faults in remote control apparatus | 60 |
| UEENEEH023B | Find and repair faults in microwave heating apparatus | 40 |
| UEENEEH024B | Carry out repairs of predictable faults in audio components | 40 |
| UEENEEH025B | Provide solutions to single phase electronic power control problems | 60 |
| UEENEEH026B | Provide solutions to polyphase electronic power control problems | 60 |
| UEENEEH027B | Commission commercial radio frequency (RF) transmission and reception systems | 60 |
| UEENEEH028B | Install microwave and antennae and waveguides | 60 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEH029B | Diagnose and rectify faults in navigation systems | 60 |
| UEENEEH030B | Diagnose and rectify faults in satellite-based surveillance and observation systems | 60 |
| UEENEEH031B | Diagnose and rectify faults in radar apparatus and systems | 120 |
| UEENEEH032B | Diagnose and rectify faults in global positioning systems | 60 |
| UEENEEH033B | Diagnose and rectify faults in telecommunication apparatus and systems | 60 |
| UEENEEH034B | Diagnose and rectify faults in electronic medical equipment | 120 |
| UEENEEH035B | Design custom electronic installations | 120 |
| UEENEEH036B | Design commercial audio/video installations | 120 |
| UEENEEH037B | Program and commission commercial audio/video systems | 40 |
| UEENEEH038B | Find and repair faults in complex power supplies | 40 |
| UEENEEH039B | Troubleshoot basic amplifiers | 40 |
| UEENEEH040B | Diagnose and rectify faults in sonar apparatus and systems | 120 |
| UEENEEH041B | Manage electronics/computer systems projects | 40 |
| UEENEEH042B | Troubleshoot oscillators | 40 |
| UEENEEH043B | Diagnose and rectify faults in digital subsystems of electronic controls | 60 |
| UEENEEH044B | Diagnose and rectify faults in analogue circuits and components in electronic control systems | 60 |
| UEENEEH045B | Develop solutions to analogue electronic problems | 80 |
| UEENEEH046B | Solve fundamental problems in electronic communications systems | 40 |
| UEENEEH047B | Assess compliance of electronic apparatus | 60 |
| UEENEEH048B | Design and develop advanced digital systems | 40 |
| UEENEEH049B | Develop solutions to audio electronic problems | 60 |
| UEENEEH050B | Assemble and set up basic wired and wireless security systems | 80 |
| UEENEEH051B | Install large wired and wireless security systems | 100 |
| UEENEEH052B | Enter instructions and test basic wired and wireless security systems | 40 |
| UEENEEH053B | Program and test large wired and wireless security systems | 120 |
| UEENEEH054B | Program and commission commercial security alarm systems | 60 |
| UEENEEH055B | Program and commission commercial security access control systems | 60 |
| UEENEEH056B | Program and commission commercial security closed circuit television (CCTV) systems | 60 |
| UEENEEH057B | Develop basic integrated security systems plan | 40 |
| UEENEEH058B | Design integrated security systems for a single site | 40 |
| UEENEEH059B | Design integrated complex security systems | 60 |
| UEENEEH060B | Plan electronic projects | 60 |
| UEENEEH061B | Position and terminate fire detection and warning system apparatus | 40 |
| UEENEEH062B | Verify compliance and functionality of fire protection installations | 60 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEH063B | Enter and verify programs in preparation for commissioning fire protection systems | 40 |
| UEENEEH064B | Commission commercial fire protection systems | 40 |
| UEENEEH065B | Find and repair faults in fire protection systems | 40 |
| UEENEEH066B | Fault find Microcontroller based hardware | 40 |
| UEENEEH067B | Commission electronics and communications systems | 20 |
| UEENEEH068B | Modify-redesign of electronics and communications system | 20 |
| UEENEEH069B | Solve problems in electronic circuits | 100 |
| UEENEEH070B | Terminate and connect components, conductors, wiring and cables for electronic circuits | 40 |
| UEENEEH071B | Find and repair faults in television receivers | 120 |
| UEENEEH072C | Find and repair faults in communication systems | 80 |
| UEENEEH073B | Find and repair faults in professional audio reproduction components | 120 |
| UEENEEH074B | Find and repair faults in audio/video recording equipment | 120 |
| UEENEEH075B | Find and rectify faults and malfunctions in security system installations | 60 |
| UEENEEH076B | Diagnose and rectify faults in display circuits | 60 |
| UEENEEH077B | Diagnose and rectify faults in recording and replay apparatus | 60 |
| UEENEEH078B | Diagnose and rectify faults in camera circuits | 60 |
| UEENEEH079B | Diagnose and rectify faults in digital television apparatus | 80 |
| UEENEEH080B | Diagnose and rectify faults in digital transmission systems | 80 |
| UEENEEH081B | Design printed circuit boards | 40 |
| UEENEEH082B | Develop solutions to RF amplifiers problems | 40 |
| UEENEEH083B | Analyse the performance of wireless-based electronic systems | 40 |
| UEENEEH084B | Modify DSP based sub-systems | 80 |
| UEENEEH085B | Design a signal-conditioning subsystem | 80 |
| UEENEEH086B | Commission microwave and satellite communication systems | 40 |
| UEENEEH087B | Solve problems in musical equipment circuits | 40 |
| UEENEEH088B | Design and develop electronics/computer systems project | 40 |
| UEENEEH090A | Provide solutions to air traffic control system problems | 40 |
| UEENEEH091A | Diagnose and rectify faults in air navigation systems | 120 |
| UEENEEH092A | Develop engineering solutions for air surveillance apparatus and systems | 120 |
| UEENEEI001B | Install and set up transducers and sensing devices | 40 |
| UEENEEI002B | Solve problems in pressure measurement systems | 40 |
| UEENEEI003B | Solve problems in density/level measurement systems | 40 |
| UEENEEI004B | Solve problems in flow measurement systems | 40 |
| UEENEEI005B | Solve problems in temperature measurement systems | 40 |
| UEENEEI006B | Solve problems in process controllers, transmitters and converters | 120 |
| UEENEEI007C | Install process instrumentation and control cabling and tubing | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEI008C | Install process control apparatus and associated equipment | 40 |
| UEENEEI009B | Set up process measuring and control instruments | 120 |
| UEENEEI010B | Set up and adjust process control loops | 40 |
| UEENEEI011B | Find and rectify faults in process control valve and associated equipment | 40 |
| UEENEEI012B | Verify compliance and functionality of process control installations | 40 |
| UEENEEI013B | Select equipment for process control systems | 80 |
| UEENEEI014B | Find and rectify faults in process control systems | 60 |
| UEENEEI015B | Find and rectify faults in medical equipment control systems | 120 |
| UEENEEI017B | Calibrate and test measuring instruments | 40 |
| UEENEEI019B | Set up field control devices | 60 |
| UEENEEI020B | Provide solutions to problems in basic industrial control systems | 60 |
| UEENEEI021B | Find and repair faults in measuring and analysis systems | 40 |
| UEENEEI022B | Assist in commissioning process control systems | 40 |
| UEENEEI023B | Design electronic control systems | 60 |
| UEENEEI025B | Provide solutions to fluid circuit operations | 60 |
| UEENEEI026B | Provide solutions to pneumatic/hydraulic system operations | 80 |
| UEENEEI027B | Analyse complex electronic circuits controlling fluids | 80 |
| UEENEEI028B | Set up controls on complex fluid systems | 80 |
| UEENEEI029B | Set up electronically controlled mechanically operated complex systems | 80 |
| UEENEEI030B | Set up electronically controlled robotically operated complex systems | 80 |
| UEENEEI034B | Manage control projects | 40 |
| UEENEEI035B | Plan control projects | 60 |
| UEENEEI036B | Manage automated systems projects | 40 |
| UEENEEI037B | Plan automated systems projects | 60 |
| UEENEEI038A | Provide solutions to ELV electro-pneumatic control systems and drives | 60 |
| UEENEEI040A | Plan the installation of integrated systems | 20 |
| UEENEEI041A | Develop integrated systems | 20 |
| UEENEEI042A | Develop an integrated system interface for access through a touch screen | 20 |
| UEENEEI043A | Develop access control of integrated systems using logic-based programming tools | 20 |
| UEENEEI044A | Develop interfaces for multiple access methods to monitor, schedule and control an integrated system | 20 |
| UEENEEJ002B | Prepare refrigerant tubing and fittings | 40 |
| UEENEEJ003B | Determine the basic operating conditions of vapour compression systems | 60 |
| UEENEEJ004B | Determine the basic operating conditions of air conditioning systems | 20 |
| UEENEEJ005B | Position, assemble and start up split air conditioning systems | 60 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEJ006B | Install pipework for refrigeration and air conditioning systems | 30 |
| UEENEEJ007B | Install refrigeration and air conditioning systems, major components and associated equipment | 30 |
| UEENEEJ008B | Recover, pressure and leak test, evacuate and charge refrigerants | 40 |
| UEENEEJ009B | Verify compliance and functionality of refrigeration and air conditioning installations | 20 |
| UEENEEJ010B | Select refrigerant pipe/tube, accessories and associated controls | 120 |
| UEENEEJ011B | Diagnose and rectify faults in refrigeration and air conditioning systems and components | 60 |
| UEENEEJ013B | Commission refrigeration and air conditioning systems | 40 |
| UEENEEJ015B | Solve problems in beverage dispensers | 40 |
| UEENEEJ018B | Solve problems in post mix refrigeration systems | 40 |
| UEENEEJ019B | Solve problems in ice making systems | 40 |
| UEENEEJ020B | Solve problems in industrial refrigeration systems | 40 |
| UEENEEJ021B | Monitor and adjust energy management systems on refrigeration systems | 40 |
| UEENEEJ040B | Manage refrigeration and air conditioning projects | 40 |
| UEENEEJ053B | Find and rectify faults in appliance motors and associated controls | 120 |
| UEENEEJ067B | Solve problems in central plant air conditioning systems | 20 |
| UEENEEJ069B | Plan refrigeration and air conditioning projects | 60 |
| UEENEEJ070B | Diagnose and rectify faults in refrigeration and air conditioning control systems | 40 |
| UEENEEJ072B | Recover, pressure and leak test, evacuate and charge refrigerants – split air conditioning systems | 60 |
| UEENEEJ102A | Prepare and connect refrigerant tubing and fittings | 30 |
| UEENEEJ103A | Establish the basic operating conditions of vapour compression systems | 60 |
| UEENEEJ104A | Establish the basic operating conditions of air conditioning systems | 20 |
| UEENEEJ105A | Position, assemble and start up single head split air conditioning and water heating heat pump systems | 70 |
| UEENEEJ106A | Install refrigerant pipe work, flow controls and accessories | 60 |
| UEENEEJ107A | Install air conditioning and refrigeration systems, major components and associated equipment | 80 |
| UEENEEJ108A | Recover, pressure test, evacuate, charge and leak test refrigerants | 60 |
| UEENEEJ109A | Verify functionality and compliance of refrigeration and air conditioning installations | 20 |
| UEENEEJ110A | Select refrigerant piping, accessories and associated controls | 50 |
| UEENEEJ111A | Diagnose and rectify faults in air conditioning and refrigeration systems and components | 40 |
| UEENEEJ112A | Diagnose and rectify faults in complex air conditioning/ refrigeration systems | 100 |
| UEENEEJ113A | Commission air conditioning and refrigeration systems | 40 |
| UEENEEJ114A | Resolve problems in hydronic systems | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEJ115A | Resolve problems in beverage dispensers | 40 |
| UEENEEJ116A | Resolve problems in transport refrigeration systems | 20 |
| UEENEEJ117A | Resolve problems in ultra-low temperature refrigeration systems | 20 |
| UEENEEJ118A | Resolve problems in post mix refrigeration systems | 20 |
| UEENEEJ119A | Resolve problems in ice making systems | 20 |
| UEENEEJ121A | Monitor and adjust refrigeration energy management systems | 40 |
| UEENEEJ122A | Diagnose faults in complex HVAC /refrigeration control systems | 80 |
| UEENEEJ123A | Commission complex (HVAC) heating, ventilation and air conditioning systems | 80 |
| UEENEEJ124A | Commission refrigeration/air conditioning hydronic systems | 80 |
| UEENEEJ125A | Commission complex refrigeration systems and equipment | 80 |
| UEENEEJ126A | Commission complex refrigeration/air conditioning control systems | 80 |
| UEENEEJ127A | Establish the thermodynamic parameters of refrigeration and air conditioning systems | 80 |
| UEENEEJ128A | Produce HVAC/R system design drawings | 80 |
| UEENEEJ129A | Establish heat loads for commercial refrigeration and/or air conditioning applications | 80 |
| UEENEEJ130A | Produce HVAC/R control system diagrams | 40 |
| UEENEEJ131A | Determine noise and vibration encountered in HVAC/R applications | 40 |
| UEENEEJ132A | Design commercial refrigeration systems and select components | 80 |
| UEENEEJ133A | Design industrial refrigeration systems and select components | 80 |
| UEENEEJ134A | Design heating, ventilation and air conditioning (HVAC) systems and select components | 60 |
| UEENEEJ135A | Design control systems for refrigeration or heating, ventilation and air conditioning systems | 80 |
| UEENEEJ136A | Evaluate and report on building services energy management systems | 80 |
| UEENEEJ137A | Evaluate and report on the indoor air quality of buildings | 40 |
| UEENEEJ138A | Analyse vibration and noise in refrigeration and air conditioning systems | 80 |
| UEENEEJ139A | Develop specifications and prepare drawings for HVAC/Refrigeration projects | 60 |
| UEENEEJ141A | Design complex commercial refrigeration systems and select equipment | 40 |
| UEENEEJ142A | Design complex industrial refrigeration systems and select equipment | 40 |
| UEENEEJ143A | Design complex air conditioning systems and select equipment | 120 |
| UEENEEJ144A | Design mechanical ventilation/exhaust systems and select equipment | 40 |
| UEENEEJ145A | Design hydronic systems and select equipment | 80 |
| UEENEEJ146A | Design complex control systems for refrigeration or heating, ventilation, air conditioning systems | 80 |
| UEENEEJ147A | Audit energy use for commercial HVAC/Refrigeration systems | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEJ148A | Audit HVAC/R control systems for compliance with regulations and standards | 60 |
| UEENEEJ149A | Develop heat exchanger design specifications | 80 |
| UEENEEJ150A | Evaluate new and alternative technologies applicable to electrotechnology applications | 40 |
| UEENEEJ151A | Service small electrical appliances and power tools | 60 |
| UEENEEJ153A | Find and rectify faults in motors and associated controls in refrigeration and air conditioning systems | 50 |
| UEENEEJ154A | Find and rectify faults in appliance control systems and devices | 60 |
| UEENEEJ155A | Service refrigeration appliances | 60 |
| UEENEEJ156A | Service clothes washing machines and dryers | 40 |
| UEENEEJ157A | Service electrical heating appliances | 60 |
| UEENEEJ158A | Service dishwasher machines | 40 |
| UEENEEJ159A | Service gas heating appliances | 40 |
| UEENEEJ161A | Verify functionality and compliance of appliances | 20 |
| UEENEEJ162A | Recover, pressure test, evacuate, charge and leak test refrigerants — appliances | 50 |
| UEENEEJ164A | Analyse the operation of HVAC air and hydronic systems | 80 |
| UEENEEJ165A | Evaluate thermodynamic and fluid parameters of refrigeration systems | 100 |
| UEENEEJ166A | Resolve problems in dairy refrigeration systems | 20 |
| UEENEEJ167A | Resolve problems in central plant air conditioning systems | 40 |
| UEENEEJ168A | Maintain microbial control of refrigeration and air conditioning systems | 20 |
| UEENEEJ170A | Diagnose and rectify faults in air conditioning and refrigeration control systems | 70 |
| UEENEEJ171A | Resolve problems in refrigerated beverage vending cabinets | 20 |
| UEENEEJ172A | Recover, pressure test, evacuate, charge and leak test refrigerants — split systems | 60 |
| UEENEEJ173A | Service and repair microwave ovens | 40 |
| UEENEEJ174A | Apply safety awareness and legal requirements for hydrocarbon refrigerants | 10 |
| UEENEEJ175A | Service and repair self contained hydrocarbon air conditioning and refrigeration systems | 20 |
| UEENEEJ176A | Install and commission hydrocarbon refrigerant systems, components and associated equipment | 20 |
| UEENEEJ177A | Design hydrocarbon refrigerant systems | 40 |
| UEENEEJ178A | Apply safety awareness and legal requirements for ammonia refrigerant | 10 |
| UEENEEJ179A | Repair and service ammonia refrigeration systems | 20 |
| UEENEEJ180A | Install and commission ammonia refrigeration systems, components and associated equipment | 20 |
| UEENEEJ181A | Design ammonia refrigerated systems | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEJ182A | Repair and service secondary refrigeration systems | 20 |
| UEENEEJ183A | Design secondary refrigerant systems | 40 |
| UEENEEJ184A | Apply safety awareness and legal requirements for carbon dioxide refrigerant | 10 |
| UEENEEJ185A | Repair and service carbon dioxide refrigeration systems | 20 |
| UEENEEJ186A | Install and commission carbon dioxide refrigeration systems, components and associated equipment | 20 |
| UEENEEJ187A | Design carbon dioxide refrigerated systems | 40 |
| UEENEEJ188A | Repair and service self contained carbon dioxide refrigeration and heat pump systems | 20 |
| UEENEEJ189A | Service room air conditioners | 30 |
| UEENEEJ190A | Select basic commercial refrigeration system equipment, components and accessories | 40 |
| UEENEEJ191A | Select residential air conditioning system equipment, components and accessories | 40 |
| UEENEEJ192A | Analyse the psychrometric performance of HVAC/R systems | 50 |
| UEENEEJ193A | Analyse the thermodynamic performance of HVAC/R systems | 40 |
| UEENEEJ194A | Solve problems in low voltage refrigeration circuits | 40 |
| UEENEEJ195A | Establish the basic operating conditions of vapour compression systems - appliances | 50 |
| UEENEEJ196A | Operate Ammonia Refrigeration Plant | 40 |
| UEENEEK001B | Maintain safety and tidiness of remote area power supply (RAPS) systems | 20 |
| UEENEEK002B | Work safely with remote area power supply (RAPS) systems | 20 |
| UEENEEK003B | Conduct periodic maintenance of remote area power supply (RAPS) battery banks | 40 |
| UEENEEK004B | Conduct periodic maintenance of remote area power supply (RAPS) generator sets | 40 |
| UEENEEK005B | Conduct periodic maintenance of remote area power supply (RAPS) photo voltaic arrays | 40 |
| UEENEEK006B | Conduct periodic maintenance of remote area power supply (RAPS) wind generators | 40 |
| UEENEEK007B | Conduct checks in the demand side use of remote area power supplies | 40 |
| UEENEEK008B | Plan periodic maintenance schedules of remote area power supplies | 40 |
| UEENEEK009B | Attend to breakdowns in remote area power supplies | 20 |
| UEENEEK010B | Coordinate maintenance of renewable energy apparatus and systems | 20 |
| UEENEEK011B | Assemble and connect remote area power supplies (RAPS) | 60 |
| UEENEEK012B | Provide basic sustainable energy solutions for energy reduction in domestic premises | 40 |
| UEENEEK013B | Apply sustainable energy practice in daily activities | 100 |
| UEENEEK014B | Promote sustainable energy practice in the community | 40 |
| UEENEEK016A | Maintain and repair remote area power generation facilities | 120 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEK017B | Maintain and repair facilities associated with remote area essential services operation | 120 |
| UEENEEK020B | Maintain operation of remote area power plant | 120 |
| UEENEEK021B | Manage renewable energy projects | 40 |
| UEENEEK022B | Plan renewable energy projects | 60 |
| UEENEEK023B | Carry out basic repairs to renewable energy apparatus by replacement of components | 80 |
| UEENEEK025C | Solve basic problems in photovoltaic energy apparatus | 20 |
| UEENEEK026B | Install and set up grid connected photovoltaic power systems | 40 |
| UEENEEK027B | Diagnose faults in renewable energy control systems | 60 |
| UEENEEK028B | Solve problems in stand-alone renewable energy systems | 60 |
| UEENEEK029B | Design renewable energy heating systems | 120 |
| UEENEEK030B | Solve problems in wind energy conversion systems | 60 |
| UEENEEK031B | Design wind energy conversion systems rated to 10 kW | 60 |
| UEENEEK032B | Develop strategies to address sustainability issues | 20 |
| UEENEEK033B | Design set up hybrid power systems | 80 |
| UEENEEK034B | Install standalone photovoltaic power systems | 60 |
| UEENEEK035C | Design grid connected power supply systems | 60 |
| UEENEEK036B | Prepare grid connected photovoltaic power systems for LV connection | 40 |
| UEENEEK037B | Install and set up micro-hydro systems | 20 |
| UEENEEK038B | Design micro-hydro systems | 60 |
| UEENEEK039B | Design stand-alone renewable energy systems | 40 |
| UEENEEK040B | Develop engineering solution to renewable energy problems | 60 |
| UEENEEK042A | Participate in environmentally sustainable work practices | 20 |
| UEENEEK043A | Install small wind energy conversion systems for stand-alone applications | 20 |
| UEENEEK045A | Implement & monitor, policies & procedures for environmentally sustainable electrotech work practice | 20 |
| UEENEEK046A | Design energy management controls for electrical installations in buildings | 80 |
| UEENEEK047A | Maintain and monitor remote area essential service operations | 120 |
| UEENEEK048A | Install, configure and commission grid connected photovoltaic power systems | 80 |
| UEENEEK049A | Verify compliance and functionality of a renewable energy installation | 20 |
| UEENEEK050A | Assemble and set up photovoltaic apparatus in a domestic dwelling | 20 |
| UEENEEK051A | Develop effective strategies for energy reduction in buildings | 120 |
| UEENEEM019A | Attend to breakdowns in hazardous areas — coal mining | 20 |
| UEENEEM020A | Attend to breakdowns in hazardous areas — gas atmospheres | 20 |
| UEENEEM021A | Attend to breakdowns in hazardous areas — dust atmospheres | 20 |
| UEENEEM022A | Attend to breakdowns in hazardous areas — pressurisation | 20 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEM023A | Install explosion-protected equipment and wiring systems — coal mining | 60 |
| UEENEEM024A | Install explosion-protected equipment and wiring systems — gas atmospheres | 60 |
| UEENEEM025A | Install explosion-protected equipment and wiring systems — dust atmospheres | 60 |
| UEENEEM026A | Install explosion-protected equipment and wiring systems — pressurisation | 60 |
| UEENEEM027A | Maintain equipment in hazardous areas — coal mining | 60 |
| UEENEEM028A | Maintain equipment in hazardous areas — gas atmospheres | 60 |
| UEENEEM029A | Maintain equipment in hazardous areas — dust atmospheres | 60 |
| UEENEEM030A | Maintain equipment in hazardous areas — pressurisation | 60 |
| UEENEEM031A | Overhaul and repair of explosion-protected equipment — coal mining | 60 |
| UEENEEM032A | Overhaul and repair of explosion-protected equipment — flameproof enclosures | 60 |
| UEENEEM033A | Overhaul and repair of explosion-protected equipment — gas atmospheres | 60 |
| UEENEEM034A | Overhaul and repair of explosion-protected equipment — dust atmospheres | 60 |
| UEENEEM035A | Conduct a conformity assessment of explosion-protected equipment — coal mining | 40 |
| UEENEEM036A | Conduct a conformity assessment of explosion-protected equipment — gas atmospheres | 40 |
| UEENEEM037A | Conduct a conformity assessment of explosion-protected equipment — dust atmospheres | 40 |
| UEENEEM038A | Conduct testing of hazardous areas installations — coal mining | 40 |
| UEENEEM039A | Conduct testing of hazardous areas installations — gas atmospheres | 40 |
| UEENEEM040A | Conduct testing of hazardous areas installations — dust atmospheres | 40 |
| UEENEEM041A | Conduct testing of hazardous area installations — pressurisation | 40 |
| UEENEEM042A | Conduct visual inspection of hazardous areas installations | 40 |
| UEENEEM043A | Conduct detailed inspection of hazardous areas installations — coal mining | 40 |
| UEENEEM044A | Conduct detailed inspection of hazardous areas installations — gas atmospheres | 40 |
| UEENEEM045A | Conduct detailed inspection of hazardous areas installations — dust atmospheres | 40 |
| UEENEEM046A | Conduct detailed inspection of hazardous areas installations — pressurisation | 40 |
| UEENEEM047A | Develop and manage maintenance programs for hazardous areas electrical equipment — coal mining | 20 |
| UEENEEM048A | Develop and manage maintenance programs for hazardous areas electrical equipment — gas atmospheres | 20 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|---|---------------|
| UEENEEM049A | Develop and manage maintenance programs for hazardous areas electrical equipment — dust atmospheres | 20 |
| UEENEEM050A | Develop and manage maintenance programs for hazardous areas electrical equipment — pressurisation | 20 |
| UEENEEM052A | Classify hazardous areas — gas atmospheres | 40 |
| UEENEEM053A | Classify hazardous areas — dust atmospheres | 40 |
| UEENEEM054A | Plan electrical installations for hazardous areas — gas atmospheres | 20 |
| UEENEEM055A | Plan electrical installations for hazardous areas — dust atmospheres | 20 |
| UEENEEM056A | Plan electrical installations for hazardous areas — pressurisation | 20 |
| UEENEEM057A | Design explosion-protected electrical systems and installations — gas atmospheres | 20 |
| UEENEEM058A | Design explosion-protected electrical systems and installations — dust atmospheres | 20 |
| UEENEEM059A | Design explosion-protected electrical systems and installations — pressurisation | 20 |
| UEENEEM060A | Carry out overhaul and repair of explosion-protected equipment — coal mining | 60 |
| UEENEEM061A | Carry out overhaul and repair of explosion-protected equipment — flameproof enclosures | 60 |
| UEENEEM062A | Carry out overhaul and repair of explosion-protected equipment — gas atmospheres | 60 |
| UEENEEM063A | Carry out overhaul and repair of explosion-protected equipment — dust atmospheres | 60 |
| UEENEEM064A | Conduct audit of hazardous areas installations — coal mining | 60 |
| UEENEEM065A | Conduct audit of hazardous areas installations — gas atmospheres | 60 |
| UEENEEM066A | Conduct audit of hazardous areas installations — dust atmospheres | 60 |
| UEENEEM067A | Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — coal mining | 60 |
| UEENEEM068A | Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — gas atmospheres | 60 |
| UEENEEM069A | Assess the fitness-for-purpose of hazardous areas explosion-protected equipment — dust atmospheres | 60 |
| UEENEEM070A | Repair reeling, trailing and flexible cables | 60 |
| UEENEEM071A | Test reeling, trailing and flexible cables | 60 |
| UEENEEM072A | Inspect and fit plugs/couplers for reeling, trailing and flexible cables | 60 |
| UEENEEM073A | Verify compliance of repaired reeling, trailing and flexible cables | 60 |
| UEENEEM074A | Plan electrical installations in hazardous areas — Coal mining | 20 |
| UEENEEM075A | Design explosion-protected electrical systems — Coal mining | 20 |
| UEENEEM076A | Use and maintain the integrity of a portable gas detection device | 20 |
| UEENEEM077A | Install and maintain the integrity of fixed gas detection equipment | 20 |
| UEENEEM078A | Manage compliance of hazardous areas | 20 |
| UEENEEM079A | Design of gas detection systems | 20 |

| Unit Code | Unit Title | Nominal Hours |
|--------------|--|---------------|
| UEENEEM080A | Report on the integrity of explosion-protected equipment in a hazardous area | 20 |
| UEENEEN001B | Service mechanical signalling equipment and infrastructure | 20 |
| UEENEEN002B | Assemble and wire internal electrical signalling equipment | 20 |
| UEENEEN003B | Install and maintain track circuit leads and bonds | 20 |
| UEENEEN004B | Perform cable tests | 20 |
| UEENEEN005B | Install and maintain signalling power supplies | 20 |
| UEENEEN006B | Maintain remote control and non-vital interlocking control systems | 20 |
| UEENEEN007B | Maintain power signalling and protected level crossing equipment | 20 |
| UEENEEN008B | Maintain on-site power operated point-activating devices | 20 |
| UEENEEN009B | Maintain track circuit equipment | 20 |
| UEENEEN010B | Maintain electronic signalling and communication equipment | 20 |
| UEENEEN011B | Install and maintain power operated signalling equipment | 20 |
| UEENEEN012B | Maintain power signalling and protective relay interlocking systems | 20 |
| UEENEEN013B | Install and test computer based interlocking equipment | 20 |
| UEENEEN014B | Maintain computer based and solid state interlocking systems | 20 |
| UEENEEN015B | Conduct routine inspecting and testing of new signal cables and lines | 20 |
| UEENEEN016B | Maintain electronic switched and microprocessor-based remote control systems | 20 |
| UEENEEN017B | Install and maintain transmission interface equipment | 20 |
| UEENEEN018B | Find and repair wiring system faults | 20 |
| UEENEEN019B | Test equipment and isolate faults | 20 |
| UEENEEN020B | Install electrical power and control equipment for rail networks | 20 |
| UEENEEN021A | Repair rail signalling cables | 20 |
| UEENEEN025B | Coordinate and manage track protection | 20 |
| UEENEEN026B | Develop rail signalling maintenance programs | 20 |
| UEENEEN027B | Decommission electrical and electro-mechanical signalling from service | 20 |
| UEENEEN028B | Test and commission power signalling equipment | 20 |
| UEENEENP001B | Disconnect and reconnect fixed wired electrical equipment connected to a Low Voltage supply | 80 |
| UEENEENP002B | Attach cords and plugs to electrical equipment for connection to a single phase 250 Volt supply | 40 |
| UEENEENP003B | Attach cords and plugs to electrical equipment for connection to 1000 Va.c. or 1500 Vd.c. supply | 20 |
| UEENEENP004B | Disconnect and reconnect explosion-protected electrical equipment connected to Low Voltage supply | 60 |
| UEENEENP005B | Disconnect and reconnect 3.3 kV electric propulsion components of self-propelled earth moving vehicles | 60 |
| UEENEENP006B | Attach flexible cables and plugs to electrical equipment connected to a high voltage supply | 40 |

| Unit Code | Unit Title | Nominal Hours |
|-------------|--|---------------|
| UEENEEP007B | Locate and rectify faults in electrical low voltage equipment following prescribed procedures | 20 |
| UEENEEP008B | Conduct in-service safety testing of electrical cord assemblies and cord connected equipment | 20 |
| UEENEEP012A | Disconnect / reconnect composite appliances connected to low voltage installation wiring | 60 |
| UEENEEP017A | Locate and rectify faults in low voltage composite appliances using set procedures | 20 |
| UEENEEP024A | Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply | 20 |
| UEENEEP025A | Attach cords, cables and plugs to electrical equipment for connection to 1000 Va.c. or 1500 Vd.c. supply | 20 |
| UEENEER001B | Contribute to the planning of a research project | 80 |
| UEENEER002B | Contribute to the conduct of a research project | 80 |
| UEENEER003B | Contribute to the development of a product/application/service | 80 |
| UEENEER004B | Contribute to the trial of a product/application/service | 80 |
| UEENEER005B | Contribute to intellectual property management | 80 |
| UEENEER006B | Contribute to the commercialisation of products/applications/services | 80 |

SAMPLE TRAINING PROGRAMS

A range of Sample Training Plans have been provided to demonstrate the flexibility of qualifications contained in the **UEE07 Electrotechnology Training Package**, but are by no means mandatory.

| | | |
|-----------------------------------|---|--------------|
| Occupation / Work Function | Work Assistant | |
| Qualification Title | Certificate I in ElectroComms Skills | |
| Qualification Code | UEE10110 | |
| Description | People gaining this qualification will be able to perform basic work activities, including identifying and using a range of components, accessories, materials, tools, equipment, technologies, and customs for carrying out work in the Electrotechnology –Communications Industry. Sectors in the industry are electronics, electrical, communications, including telecommunications – voice, data, video and information technology, computer systems, instrumentation, lifts, refrigeration and air conditioning, and renewable/sustainable energy. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEE001B | Use basic computer applications relevant to a workplace | 20 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE079A | Identify and select components, accessories and materials for electrotechnology work activities | 20 |
| UEENEEE048C | Carry out routine work activities in an electrotechnology environment | 40 |
| UEENEEK042A | Participate in environmentally sustainable work practices | 20 |
| Electives Group A | | |
| UEENEE001B | Maintain documentation | 20 |
| Electives Group B | | |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| Total hours | | 180 |

| | | |
|-----------------------------------|--|--------------|
| Occupation / Work Function | Computer Assembler | |
| Qualification Title | Certificate II in Computer Assembly and Repair | |
| Qualification Code | UEE20510 | |
| Description | Persons gaining this qualification will be able to select components and assemble computer to customer specifications and carry out routine hardware repairs (generally by replacement) of known faulty components following prescribed routines | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENED002B | Assemble, set up and test personal computers | 80 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE032B | Document occupational hazards and risks in computer systems | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEEK042A | Participate in environmentally sustainable work practices | 20 |
| Electives Group B | | |
| UEENED012B | Support computer hardware and software | 120 |
| Total hours | | 360 |

| | | |
|-----------------------------------|--|--------------|
| Occupation / Work Function | Electrician | |
| Qualification Title | Certificate III in Electrotechnology Electrician | |
| Qualification Code | UEE30807 | |
| Description | Persons gaining this qualification will be able to select, install, set up, test, fault find, repair and maintain electrical systems and equipment in building and premises. They will also have fulfilled ERAC requirements for an 'Electrician's licence'. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEEC020B | Participate in electrical work and competency development activities | 20 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE004B | Solve problems in multiple path d.c. circuits | 40 |
| UEENEEE005B | Fix and secure equipment | 20 |
| UEENEEE007B | Use drawings, diagrams, schedules and manuals | 40 |
| UEENEEE008B | Lay wiring/cabling and terminate accessories for extra-low voltage circuits | 40 |
| UEENEEE033B | Document occupational hazards and risks in electrical | 20 |
| UEENEEG001B | Solve problems in electromagnetic circuits | 60 |
| UEENEEG002B | Solve problems in single and three phase low voltage circuits | 80 |
| UEENEEG003B | Install wiring and accessories for low voltage circuits | 80 |
| UEENEEG004B | Install low voltage electrical apparatus and associated equipment | 80 |
| UEENEEG005B | Verify compliance and functionality of general electrical installations | 40 |
| UEENEEG007B | Select and arrange equipment for general electrical installations | 120 |
| UEENEEG008B | Find and repair faults in electrical apparatus and circuits | 100 |
| UEENEEG009B | Develop and connect control circuits | 60 |
| Stream Core | | |
| UEENEEC003B | Provide quotations for installation or service jobs | 20 |
| UEENEEED001B | Use basic computer applications relevant to a workplace | 20 |
| Electives | | |
| UEENEEF002B | Lay and connect cables for multiple access to telecommunication services | 120 |
| Total hours | | 1060 |

| | | |
|-----------------------------------|---|--------------|
| Occupation / Work Function | Refrigeration and Air-Conditioning Mechanic | |
| Qualification Title | Certificate III in Air-conditioning and Refrigeration | |
| Qualification Code | UEE32211 | |
| Description | Persons gaining this qualification will be able to select components, install, set up, test, fault find, repair and maintain refrigeration systems and equipment that apply to food storage and preservation and air conditioning and air distribution equipment in buildings and premises. They will also have fulfilled the regulatory requirements for purchasing and handling refrigerants. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEEC025B | Participate in refrigeration and air conditioning work and competency development activities | 20 |
| UEENEEE101A | Apply Occupational Health and Safety regulations, codes and practices in the workplace | 20 |
| UEENEEE102A | Fabricate, assemble and dismantle utilities industry components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE105A | Fix and secure electrotechnology equipment | 20 |
| UEENEEE107A | Use drawings, diagrams, schedules, standards, codes and specifications | 40 |
| UEENEEE137A | Document and apply measures to control OHS risks associated with electrotechnology work | 20 |
| UEENEEJ102A | Prepare and connect refrigerant tubing and fittings | 30 |
| UEENEEJ103A | Establish the basic operating conditions of vapour compression systems | 60 |
| UEENEEJ104A | Establish the basic operating conditions of air conditioning systems | 20 |
| UEENEEJ106A | Install refrigerant pipe work, flow controls and accessories | 60 |
| UEENEEJ107A | Install air conditioning and refrigeration systems, major components and associated equipment | 80 |
| UEENEEJ108A | Recover, pressure test, evacuate, charge and leak test refrigerants | 60 |
| UEENEEJ109A | Verify functionality and compliance of refrigeration and air conditioning installations | 20 |
| UEENEEJ110A | Select refrigerant piping, accessories and associated controls | 50 |
| UEENEEJ111A | Diagnose and rectify faults in air conditioning and refrigeration systems and components | 40 |
| UEENEEJ113A | Commission air conditioning and refrigeration systems | 40 |
| UEENEEJ153A | Find and rectify faults in motors and associated controls in refrigeration and air conditioning systems | 50 |

| Qualification Title | | UEE31307 Certificate III in Refrigeration and Air-Conditioning (continued) |
|----------------------------|--|---|
| Unit Code | Unit Title | Hours |
| UEENEEJ170A | Diagnose and rectify faults in air conditioning and refrigeration control systems | 70 |
| UEENEEJ194A | Solve problems in low voltage refrigeration circuits | 40 |
| UEENEEK042A | Participate in environmentally sustainable work practices | 20 |
| UEENEEP012A | Disconnect / reconnect composite appliances connected to low voltage installation wiring | 60 |
| UEENEEP017A | Locate and rectify faults in low voltage composite appliances using set procedures | 20 |
| UEENEEP024A | Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply | 20 |
| UEENEEP025A | Attach cords, cables and plugs to electrical equipment for connection to 1000 Va.c. or 1500 Vd.c. supply | 20 |
| Electives Group B | | |
| UEENEEED007B | Develop, enter and verify programs for programmable logic controllers using ladder instruction set | 60 |
| Total hours | | 1020 |

| | | |
|-----------------------------------|---|--------------|
| Occupation / Work Function | Computer Technician | |
| Qualification Title | Certificate IV in Computer Systems | |
| Qualification Code | UEE40110 | |
| Description | Persons gaining this qualification will be able to select, install, commission, fault find and maintain data processing, communications and control aspects of systems used for monitoring and control of systems for access, surveillance, safety and effective operation of manufacturing, buildings, structures, premises, precincts and personal computer and networks. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEED002B | Assemble, set up and test personal computers | 80 |
| UEENEED004B | Use engineering applications software | 40 |
| UEENEED012B | Support computer hardware and software | 120 |
| UEENEED043B | Install and configure a computer operating system and software | 40 |
| UEENEED046B | Set up and configure basic local area network | 40 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE017B | Implement and monitor OHS policies and procedures | 20 |
| UEENEEE024C | Compile and produce an electrotechnology report | 60 |
| UEENEEE032B | Document occupational hazards and risks in computer systems | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEK045A | Implement & monitor, policies & procedures for environmentally sustainable electrotech work practice | 20 |
| Electives Group A | | |
| UEENECC002B | Source and purchase material/parts for installation or service jobs | 20 |
| Electives Group B | | |
| UEENEED005B | Enter and verify operating instructions in microprocessor equipped devices | 20 |
| UEENEED029B | Develop basic web pages for engineering applications | 40 |
| UEENEED030B | Select, install, configure and test multimedia devices | 40 |
| UEENEED031B | Develop and validate basic integrated systems | 60 |
| Electives Group C | | |
| UEENEED003B | Evaluate and modify programs written in object oriented code | 40 |
| UEENEED013B | Install and administer Unix based computers | 80 |
| UEENEED015B | Administer user networks | 80 |
| UEENEED017B | Install and configure Internetworking systems | 120 |
| UEENEED024B | Integrate multiple computer operating systems on a client server network | 80 |
| UEENEED027B | Develop structured programs to control external devices | 40 |
| UEENEED032B | Design integrated systems | 60 |
| Total hours | | 1240 |

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|-----------------------------------|---|--------------|
| Occupation / Work Function | Production Controller | |
| Qualification Title | Diploma of Electrical and Instrumentation | |
| Qualification Code | UEE50210 | |
| Description | Persons gaining this qualification will be able to select, install, commission, maintain and diagnose faults/malfunctions on electrical, instrumentation and control equipment and systems. They will also have fulfilled ERAC requirements for an 'Electrician's licence'. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEE007B | Develop, enter and verify programs for programmable logic controllers using ladder instruction set | 60 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE004B | Solve problems in multiple path d.c. circuits | 40 |
| UEENEEE005B | Fix and secure equipment | 20 |
| UEENEEE007B | Use drawings, diagrams, schedules and manuals | 40 |
| UEENEEE008B | Lay wiring/cabing and terminate accessories for extra-low voltage circuits | 40 |
| UEENEEE017B | Implement and monitor OHS policies and procedures | 20 |
| UEENEEE024C | Compile and produce an electrotechnology report | 60 |
| UEENEEE033B | Document occupational hazards and risks in electrical | 20 |
| UEENEEE035B | Document occupational hazards and risks in instrumentation | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEEE084A | Write specifications for electrotechnology engineering projects | 40 |
| UEENEEG001B | Solve problems in electromagnetic circuits | 60 |
| UEENEEG002B | Solve problems in single and three phase low voltage circuits | 80 |
| UEENEEG003B | Install wiring and accessories for low voltage circuits | 80 |
| UEENEEG004B | Install low voltage electrical apparatus and associated equipment | 80 |
| UEENEEG005B | Verify compliance and functionality of general electrical installations | 40 |
| UEENEEG007B | Select and arrange equipment for general electrical installations | 120 |
| UEENEEG008B | Find and repair faults in electrical apparatus and circuits | 100 |
| UEENEEG009B | Develop and connect control circuits | 60 |
| UEENEEI001B | Install and set up transducers and sensing devices | 40 |
| UEENEEI002B | Solve problems in pressure measurement systems | 40 |
| UEENEEI003B | Solve problems in density/level measurement systems | 40 |
| UEENEEI004B | Solve problems in flow measurement systems | 40 |
| UEENEEI005B | Solve problems in temperature measurement systems | 40 |
| UEENEEI006B | Solve problems in process controllers, transmitters and converters | 120 |

| Qualification Title | | |
|---|--|--------------|
| UEE50210 Diploma of Electrical and Instrumentation (continued) | | |
| Unit Code | Unit Title | Hours |
| UEENEEI007C | Install process instrumentation and control cabling and tubing | 40 |
| UEENEEI008C | Install process control apparatus and associated equipment | 40 |
| UEENEEI010B | Set up and adjust process control loops | 40 |
| UEENEEI012B | Verify compliance and functionality of process control installations | 40 |
| UEENEEI013B | Select equipment for process control systems | 80 |
| Stream Core | | |
| BSBMGT502B | Manage people performance | 70 |
| Electives | | |
| UEENEEK032B | Develop strategies to address sustainability issues | 20 |
| UEENEEE010B | Develop and implement maintenance programs | 60 |
| UEENEEE084A | Write specifications for electrotechnology engineering projects | 40 |
| UEENEEE078B | Contribute to risk management in electrotechnology systems | 20 |
| UEENEEH066B | Fault find Microcontroller based hardware | 40 |
| Total hours | | 1910 |

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|-----------------------------------|--|--------------|
| Occupation / Work Function | Electronics Engineering Associate | |
| Qualification Title | Advanced Diploma of Electronics and Communications Engineering | |
| Qualification Code | UEE60210 | |
| Description | People gaining this qualification are able to design and validate/evaluate electronics and communications equipment and systems, manage risk, estimate and manage projects and provide technical advice/sales. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE015B | Develop design briefs for electrotechnology projects | 40 |
| UEENEEE017B | Implement and monitor OHS policies and procedures | 20 |
| UEENEEE034B | Document occupational hazards and risks in electronics | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEEE078B | Contribute to risk management in electrotechnology systems | 20 |
| UEENEEH041B | Manage electronics/computer systems projects | 40 |
| UEENEEH067B | Commission electronics and communications systems | 20 |
| UEENEEH068B | Modify-redesign of electronics and communications system | 20 |
| UEENEEK045A | Implement & monitor, policies & procedures for environmentally sustainable electrotech work practice | 20 |
| UEENEEH088B | Design and develop electronics/computer systems project | 40 |
| Electives Group A | | |
| BSBMGT502B | Manage people performance | 70 |
| BSBINM501A | Manage an information or knowledge management system | 50 |
| BSBMGT516C | Facilitate continuous improvement | 60 |
| BSBWOR502B | Ensure team effectiveness | 60 |
| Electives Group B | | |
| UEENEEE002B | Dismantle, assemble and fabricate electrotechnology components | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE004B | Solve problems in multiple path d.c. circuits | 40 |
| UEENEEH002B | Carry out basic repairs to electronic apparatus by replacement of components | 40 |
| UEENEEH007B | Carry out repairs of predictable faults in general electronic apparatus | 40 |
| UEENEEH011B | Troubleshoot d.c. power supplies with single phase input | 40 |
| UEENEEH012B | Troubleshoot digital subsystems | 80 |
| UEENEEH013B | Troubleshoot amplifiers | 80 |
| UEENEEH014B | Troubleshoot frequency dependent circuits | 80 |
| UEENEEH018B | Find and repair faults in electronic apparatus | 40 |
| UEENEEH038B | Find and repair faults in complex power supplies | 40 |

| Qualification Title | | |
|--|---|--------------|
| UEE60210 Advanced Diploma of Electronics and Communications Engineering (continued) | | |
| Unit Code | Unit Title | Hours |
| UEENEEH039B | Troubleshoot basic amplifiers | 40 |
| UEENEEH046B | Solve fundamental problems in electronic communications systems | 40 |
| Electives Group C | | |
| UEENEEH027B | Develop structured programs to control external devices | 40 |
| UEENEEH025B | Provide solutions to single phase electronic power control problems | 60 |
| Electives Group D | | |
| UEENEEE025B | Solve problems in complex multiple path circuits | 60 |
| UEENEEE026B | Provide computational solutions to basic engineering problems | 40 |
| UEENEEH045B | Develop solutions to analogue electronic problems | 80 |
| Electives Group E | | |
| UEENEEH026B | Design a computer based control system | 120 |
| UEENEEH052B | Design embedded controller systems | 80 |
| UEENEEE027B | Use advanced computational processes to provide solutions to engineering problems | 80 |
| UEENEEE029B | Solve electrotechnical problems | 60 |
| UEENEEH047B | Assess compliance of electronic apparatus | 60 |
| UEENEEH060B | Plan electronic projects | 60 |
| UEENEEH084B | Modify DSP based sub-systems | 80 |
| UEENEEH085B | Design a signal-conditioning subsystem | 80 |
| Total hours | | 2060 |

| | | |
|-----------------------------------|--|--------------|
| Occupation / Work Function | IT Systems Manager | |
| Qualification Title | Advanced Diploma of Computer Systems Engineering | |
| Qualification Code | UEE60410 | |
| Description | Persons gaining this qualification will be able to design, install/validate/evaluate and administer computer networks and systems, manage risk, estimate and manage projects and provide technical advice/sales. | |
| Notes | For advice on how to choose electives other than those listed below, please refer to the UEE07 Electrotechnology Training Package and its Qualifications Packaging Rules or contact the CMM Engineering Industries on (03) 9286 9880. | |
| Unit Code | Unit Title | Hours |
| Core | | |
| UEENEED044B | Commission computer systems | 20 |
| UEENEED045B | Modify-redesign of computer system | 20 |
| UEENEEE001B | Apply OHS practices in the workplace | 20 |
| UEENEEE015B | Develop design briefs for electrotechnology projects | 40 |
| UEENEEE017B | Implement and monitor OHS policies and procedures | 20 |
| UEENEEE032B | Document occupational hazards and risks in computer systems | 20 |
| UEENEEE038B | Participate in development and follow a personal competency development plan | 20 |
| UEENEEE078B | Contribute to risk management in electrotechnology systems | 20 |
| UEENEEH041B | Manage electronics/computer systems projects | 40 |
| UEENEEH088B | Design and develop electronics/computer systems project | 40 |
| UEENEEK045A | Implement & monitor, policies & procedures for environmentally sustainable electrotech work practice | 20 |
| Electives Group A | | |
| BSBINM501A | Manage an information or knowledge management system | 50 |
| BSBMGT502B | Manage people performance | 70 |
| BSBMGT516C | Facilitate continuous improvement | 60 |
| Electives Group B | | |
| UEENEED002B | Assemble, set up and test personal computers | 80 |
| UEENEED004B | Use engineering applications software | 40 |
| UEENEED005B | Enter and verify operating instructions in microprocessor equipped devices | 20 |
| UEENEED012B | Support computer hardware and software | 120 |
| UEENEED029B | Develop basic web pages for engineering applications | 40 |
| UEENEED030B | Select, install, configure and test multimedia devices | 40 |
| UEENEED031B | Develop and validate basic integrated systems | 60 |
| UEENEED043B | Install and configure a computer operating system and software | 40 |
| UEENEED046B | Set up and configure basic local area network | 40 |
| UEENEEE003B | Solve problems in extra-low voltage single path circuits | 40 |
| UEENEEE004B | Solve problems in multiple path d.c. circuits | 40 |
| UEENEEE007B | Use drawings, diagrams, schedules and manuals | 40 |

| Qualification Title | | |
|--|---|--------------|
| UEE60210 Advanced Diploma of Computer Systems Engineering (continued) | | |
| Unit Code | Unit Title | Hours |
| Electives Group C | | |
| UEENEED010B | Set up and create content for a web server | 120 |
| UEENEED015B | Administer user networks | 80 |
| UEENEED017B | Install and configure internetworking systems | 120 |
| Electives Group D | | |
| UEENEED024B | Integrate multiple computer operating systems on a client server network | 80 |
| UEENEED025B | Design and configure Human-Machine Interface networks | 60 |
| Electives Group E | | |
| UEENEED014B | Design and manage enterprise networks | 80 |
| UEENEED023B | Design and implement Internetworking systems — wireless LANs/WANs | 100 |
| UEENEED026B | Design a computer based control system | 120 |
| UEENEED048B | Plan computer systems projects | 60 |
| UEENEEE011C | Manage risk in electrotechnology activities | 60 |
| UEENEEE027B | Use advanced computational processes to provide solutions to engineering problems | 80 |
| UEENEEE029B | Solve electrotechnical problems | 60 |
| Total hours | | 2080 |

CONTACTS AND LINKS

| Industry Skills Council (ISC) | | |
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| EE-Oz Training Standards | This ISC is responsible for developing this UEE07 Electrotechnology Training Package and can be contacted for further information. You can also source copies of the Training Package and support material. | Ground Floor 68 Campbell Street, Surry Hills, NSW, 2010 Phone: (02) 9280 2566 Fax: (02) 9280 1600 Email: ee-oz@ee-oz.com.au Web: http://www.eeqsba.com.au |
| National Register for VET in Australia | | |
| Training.gov.au (TGA) | TGA is the Australian governments' official National Register of information on Training Packages, qualifications, courses, units of competency and RTOs. | training.gov.au |
| Australian Government | | |
| The Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE) | DIISRTE provides a range of services and resources to assist in delivery of Training Packages. Search the DIISRTE website for links to a range of relevant resources and publications. | http://www.innovation.gov.au You may also find Department of Education Employment and Workplace Relations website of use. http://www.deewr.gov.au |
| State Government | | |
| Department of Education and Early Childhood Development Higher Education and Skills Group | Higher Education and Skills Group is responsible for funding and the implementation of Vocational Education and Training (VET) in Victoria, including Apprenticeships and Traineeships. | General information: www.skills.vic.gov.au Approved Training Schemes: http://www.skills.vic.gov.au/corporate/publications/brochures-and-fact-sheets/apprenticeships-and-traineeships-in-victoria-industry-guides |
| Curriculum Maintenance Manager (CMM) | | |
| Engineering Industries | The CMM service is provided by Executive Officers located within Victorian TAFE institutes on behalf of Skills Victoria. | George Adda Box Hill Institute of TAFE, Private Bag 2014, Box Hill, Victoria, 3128 Phone: (03) 9286 9880 Fax: (03) 9286 9800 Email: g.adda@bhtafe.edu.au Web: http://trainingsupport.skills.vic.gov.au/cmminf.cfm |

| State VET Regulatory Authority | | |
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| Victorian Registration and Qualifications Authority (VRQA) | The VRQA is a statutory authority responsible for the registration of education and training providers in Victoria to ensure the delivery of quality education and training. | www.vrqa.vic.gov.au Phone: 03 9637 2806 |
| National VET Regulatory Authority | | |
| Australian Skills Quality Authority (ASQA) | ASQA is the national regulator for Australia's VET sector vocational education and training sector. ASQA regulates courses and training providers to ensure nationally approved quality standards are met. | www.asqa.gov.au Info line: 1300 701 801 |
| Industry Regulatory Body | | |
| Energy Safe Victoria | The industry Regulatory body can provide advice on licensing, legislative or regulatory requirements which may impact on the delivery of training or the issuance of qualifications in this Training Package. | Level 3, 4 Riverside Quay Southbank Phone: (03) 9203 9700 Fax: (03) 9686 2197 Email: info@esv.vic.gov.au Web: http://www.esv.vic.gov.au/ |
| WorkSafe | | |
| WorkSafe Victoria | WorkSafe needs to provide written verification before High Risk Work Units can be added to an RTO's scope of registration. | www.worksafe.vic.gov.au Info line: 1800 136 089 |

GLOSSARY

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| Code | Nationally endorsed Training Package qualification code. |
| Title | Nationally endorsed Training Package qualification title. |
| Unit Code | Nationally endorsed Training Package unit code. |
| Unit Title | Nationally endorsed Training Package unit title. |
| Nominal Hours | The anticipated hours of supervised learning or training deemed necessary to conduct training and assessment activities associated with the program of study. These hours are determined by the Victorian State Training Authority. Nominal hours may vary for a qualification depending on the units of competency selected. |
| Scope of Registration | Scope of registration specifies the AQF qualifications and/or units of competency the training organisation is registered to issue and the industry training and/or assessment services it is registered to provide. |