WHAT YOU WILL GAIN:

On completion of these Nationally endorsed programs you will be able to:

- Apply OHS practices in the workplace
- Use electrical drawings, diagrams, schedules and manuals effectively
- Solve problems in electromagnetic circuits
- Solve problems in DC circuits, single and three phase power circuits
- Produce an electrotechnology report
- Apply environmental and sustainable energy procedures
- Use engineering application software effectively
- Work safely near live electrical apparatus

Plus additional objectives depending upon your chosen “stream”.

Visit our website: www.eit.edu.au

Please note that it is possible to enrol for specific units or the entire qualification.
Nationally Recognised Training

The Engineering Institute of Technology (EIT) has developed learning materials for the Diploma and Advanced Diploma in accordance with the nationally endorsed ESI-Power Systems qualifications. The materials have been created to meet the requirements of the UET12 National Training Package developed by E-Oz Training Standards for the National Electricity Supply Industry.

The programs use a blended learning format, comprising live, online presentations combined with on-the-job training at your own workplace as required by the national training standards. The programs are recognised within the Australian Qualifications Framework and EIT (as a Registered Training Organisation) has both the diploma and advanced diploma qualification in its “scope” for delivery nationally.

Please note that all the standards described in this document and the descriptions of the Units of Competency are copyright of the ElectroComms and Energy Utilities Industry Skills Council Ltd (trading as E-OZ Energy Skills Australia).

What made you choose an EIT program(s)?

“On line references, price, and various time frames available to sit in on the class. Also, one more important item was being able to converse with the lecturer and class instead of working totally on my own.”

Mitchell Technical Institute

“The most practical and technical offerings by the most qualified lecturers for distance learning.”

Encana Natural Gas

“Possibly the most recognised online institution within my industry.”

DRA, South Africa

It was referred to me by a colleague and I have attended seminars run by IDC before. The program that I am currently enrolled in also had all the outcomes I was looking for to further my career.”

Rio Tinto

“Believed to be good quality based on previous training programs I have done in person.”

BHP Billiton, South Africa

About the Engineering Institute of Technology (EIT):

The key objective of the Engineering Institute of Technology (EIT) is to provide an outstanding practical engineering and technology education; from Diplomas and beyond. The finest engineering lecturers with extensive real engineering experience in industry, are drawn from around the world. The learning is gained through synchronous, online [e-learning] technologies.

Many [perhaps, most] engineering faculties at universities and colleges experience a significant challenge delivering the program-work affordably and with excellence. EIT achieves this using online based education – economical class sizes are attainable, international experts are engaged to instruct and remote laboratories and simulation software are employed.

EIT is a sister company of the well known and reputable engineering training organisation, IDC Technologies. IDC has been operating for over 20 years, from offices throughout the world, delivering practical short programs to well over 500,000 engineers and technicians.

EIT Program Delivery Methodology

Not all e-learning is the same. See why our methodology is so unique and successful.

Accreditation & International Standing for Online Engineering Training

EIT (and many individual programs) has received recognition, endorsement and/or accreditation as a training provider from authorizing bodies based around the world, including those listed below. Please ask us for specific information for your location.

AUSTRALIA
The Engineering Institute of Technology was declared an educational institution under Section 10 of the copyright Act 1968. The notice was published in accordance with section 10A(4) of the act in the Commonwealth of Australia’s Business Gazette [number B56]: “The Engineering Institute of Technology declares that its principal function is the provision of programs of study or training for the following purpose: the continuing education of people engaged in a particular profession or occupation.” – Dated 8th November 2011.

The Engineering Institute of Technology (EIT) is a private Registered Training Organization (RTO) – provider number 51971. EIT is registered with and regulated by the Australian Skills Quality Authority (ASQA). ASQA is the national regulator for Australia’s vocational education and training sector. They regulate programs and training providers to ensure nationally approved quality standards are met.

Many of the programs offered by EIT are nationally accredited and recognized qualifications and are listed on training.gov.au [TGA]. TGA is the official National Register of information on Training Packages, Qualifications, Programmes, Units of Competency and Registered Training Organisations (RTOs). EIT qualifications accredited to date can be viewed on EIT’s registration page on TGA under the “Scope” tab. You can find EIT on TGA by searching for our provider number – 51971. Programs listed on EIT’s scope have been approved for delivery in all Australian states and territories. Please note that many additional programs are also in the process of accreditation.

The Diploma and Advanced Diploma of Electrical Supply Industry (ESI) – Power Systems (UET50212 and UET60212) are nationally accredited and recognized qualifications under the AQF. The Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in the Australian education and training system. Members of Engineers Australia (EA) – are entitled to claim CPD hours for private study, short programs, and learning activities at the workplace. CPD hours can be claimed for our programs in most cases, but we would always advise individual members to check with EA regarding specific programs.

NEW ZEALAND
The New Zealand Qualifications Authority recognizes individual qualifications gained overseas on a case-by-case basis. Advanced Diplomas, for example, when registered at the time of award under the Australian Qualification Framework (AQF) are typically recognized as broadly comparable to a National Diploma at level 6 on the NZQF.

SOUTH AFRICA
The Engineering Council of South Africa (ECSA) which aims to promote a high level of education and training of practitioners in the engineering profession, has validated a large number of EIT programs. Members can check details on the ECSA website. South African students who successfully complete an EIT Advanced Diploma and other qualifications have the option to apply for recognition by SAQA, who have determined in the past that an Australian Advanced Diploma program is at Level 6 in the South African National Qualifications Framework (equivalent to Higher Diploma) in South Africa’s educational system.

However, in most cases formal individual recognition by SAQA is not required as the international validity and accreditation of this credential is very sound.

UNITED STATES
IEEE is the world’s largest professional association advancing innovation and technological excellence. EIT is an IEEE Continuing Education Provider. IEEE Continuing Education Programs are peer-reviewed by content experts. This peer review guarantees both quality of the technical content of learning materials, as well as adherence to IEEE’s strict criteria for educational excellence. All programs that pass this strict process are entitled to award IEEE Continuing Education Units (CEUs), recognized as the standard of excellence for continuing education programs in IEEE’s fields of interest.

The International Society of Automation (ISA) is a leading, global, non-profit organization that sets the standard for automation around the world. ISA develops standards, certifies industry professionals, provides education and training, publishes books and technical articles, and hosts conferences and exhibitions for automation professionals. ISA has reviewed the curricula of the programs offered by EIT as they relate to the instrumentation, control and automation discipline and are enthusiastic about promoting their availability to the automation community.

UNITED KINGDOM
Nationally recognised qualifications that have been achieved at EIT can be compared by UK NARIC to the UK framework. UK NARIC is the UK’s national agency responsible for the recognition of qualifications from overseas and provides services for individuals and organizations to compare international qualifications against UK qualification framework levels. UK NARIC is managed by ECTTS Ltd [see http://www.ectts.co.uk/naric/Default.aspx] which administers the service for the UK Government. Graduates of EIT’s Advanced Diploma programs in the UK can be confident that their international qualification has been officially evaluated as comparable to the BTEC/SQA Higher National Diploma (HND) standard/Foundation Degree Standard. BTEC Higher National Diploma is at the same level of the National Qualifications Framework as NVQ/SVQ Level 4.

Recognition will be at a higher level for graduate programs. The Institute of Measurement and Control in the United Kingdom is Britain’s foremost professional body for the Automation Industry. An EIT Advanced Diploma is recognized by the Institute of Measurement and Control as contributing to the ‘initial professional development’ required for eventual registration as Chartered or Incorporated Engineers. The Advanced Diploma is also approved by the Institute as providing CPD.

CANADA
EIT is a Participating Partner with the Engineering Institute of Canada [EIC] and EIT programs can be utilised by members to register for Continuing Education Units [CEUs]. EIC’s Continuing Education Program is supported by The Canadian Council of Professional Engineers, The Association of Consulting Engineers of Canada, and The Canadian Academy for Engineering. EIT is a member of the International Association for Continuing Education and Training, with headquarters in Washington, DC.

OTHER COUNTRIES
Students who successfully complete an EIT Advanced Diploma and other qualifications may be able to apply for recognition of their qualification within the local (home country) education system. Many countries have a process for “recognition of foreign qualifications” which is utilised by new residents when they have qualifications earned overseas. Although you will be studying from your home country you will be awarded an Australian qualification from EIT, so your EIT qualifications may be able to be recognized as a “foreign qualification” if you apply through your local system. If you would like to find out more, please contact your local education authorities because it is not practical for EIT to know the systems that apply in all countries. However, in many cases formal individual recognition within the home country may not be required because the international validity and accreditation of this credential is very sound.

Members of other engineering organizations may be able to claim credit for professional development and are advised to check with their own organization.

For additional information please see http://www.eit.edu.au/international-standing.
Opportunities and Stream Options

These qualifications are ideal for those who want to move into a para-professional role with greater challenge and responsibility for supervising others. Students of these programs will probably already be employed in the electrical supply industry and may need to formalise much of the on-the-job experience that they have already gained. Most students will have a trade or technical qualification and relevant work experience.

The 3 streams of each program allow students to specialise and boost careers in one of the following challenging and exciting streams:

1. Electrical testing – network protection systems, control systems, power communication equipment
2. Electrical engineering design – overhead, underground, substations and public lighting systems
3. Power system operation – LV and HV distribution systems, transmission systems, sub-transmission networks

It is possible to combine units from these 3 streams to develop a more general background; this will be dependent upon your own work circumstances and is determined case-by-case.

Diploma or Advanced Diploma?

Duration and Requirements:

Each program consists of a series of core and elective Units. The requirements for granting the qualification will be met when competency is demonstrated and achieved for:

1. All the Core Units, and
2. A combination of available Elective Units. Elective Units must add up to a weighting of 900 points (diploma) and 1340 points (advanced diploma)
3. All of any prerequisite requirements

The diploma and advanced diploma share 15 Core Units. The advanced diploma has one additional Core Unit. Studying part time, we would expect that you would achieve the diploma within 2 to 3 years and the advanced diploma in an additional 12 months. This will vary from student to student and will depend in part upon the sequence of delivery of Units that we provide.

It is important to note that EIT does not follow a traditional “semester” system, which means there are fewer long breaks and you can therefore complete a qualification “part-time” much faster than in the past. EIT provides all Core Units and a selected group of Units from the 3 elective streams. The number of Elective Units in each stream group is sufficient for you to achieve the requirements for the qualification.

For detailed information on the content and breakdown of units, see pages 13 to 33

Live Webinars

During the program you will participate in live interactive sessions with lecturers and other participants from around the world. Contact us for details of webinar session scheduling. All you need to participate is an adequate Internet connection, speakers and a microphone. The software package and setup details will be sent to you prior to the program.

Prerequisites

Students of these programs will probably already be employed in the electrical supply industry and may need to formalise much of the on-the-job experience that they have already gained. Most students will have a trade or technical qualification and relevant work experience. While there are no formal educational requirements for entry to this program, students must either be in relevant employment or have access to appropriate workplace environments to achieve the competency standard units required for completion.

The requirements of the package include that learners are best equipped to achieve the competency standard units in this qualification if they have appropriate reading, writing and mathematics skills as indicated in the package. Please contact us if you are unsure if your knowledge in these areas will be suitable.

Prior Learning Recognition and Exemptions

EIT can give you credit for Units where you can demonstrate substantial prior experience or educational background. If you have completed other relevant training you may be eligible to have units of competency from previous training counted towards completion for this program. An assessment fee may apply. If you wish to find out more please ask us for your copy of the policy for recognition of prior learning.

Students who have completed the following qualifications will be given credit for Units completed.

- Certificate III in ESI - Distribution
- Certificate III in ESI - Transmission
- Certificate III in ESI - Rail Traction
- Certificate III in ESI - Cable Jointing
- Certificate III in Electrotechnology Electrician

Time Commitment for Each Unit

There are generally two 2-hour webinars per week. The duration of each unit will vary. Included in each unit are the live, interactive webinars or tutorials, reading / study notes, assignments and some assessments. The on-the-job component can take up to 3 months (varies by Unit) as you assemble your evidence and have it authorised. Some Units have little or no on-the-job requirements.

In a given week during e-learning delivery students could expect to devote an estimated 12 hours per week per Unit. This includes the reading of the material prior to your attendance at each webinar, the time needed to complete assignments for submission, and on-the-job requirements. The estimated 12 hours has been suggested to ensure the material is covered adequately and sufficient knowledge is gained to result in sound, enduring yet immediately useful skills.

Our own surveys have proven that this learning method is rated by students as at least equal and often better than more traditional methods. e-learning is efficient yet allows for valuable interaction with lecturers and fellow students, while the on-the-job components provide additional “hands on” training.

In most cases we will need to work closely with employers to ensure that the on-the-job requirements are delivered at the highest possible standard.

For more information or to enrol please contact us at enquiries@eit.edu.au
Practical Exercises, Remote Labs and Assignments

In some Units you may participate in some practical exercises using a combination of remote laboratories and simulation software. This will enhance your practical exposure to the key principles covered in the program and ensure you are able to put theory into practice.

As research shows, no matter how gifted and experienced a lecturer (and we believe ours are some of the best worldwide), no one learns from a lecturer only presenting program materials to them in a lecture format. It is only by the addition of hands-on exercises using simulation software, remote laboratories, on-the-job activities, practically-based assignments and interactive discussion groups with both your peers and the lecturer that you are able to internalize this knowledge, “take ownership of it” and apply it successfully to the real world.

You should note that there is some degree of overlap between the practical sessions between the different units to reinforce the concepts and to look at the issues from different perspectives.

Traditional distance learning thus presents challenges in achieving these goals but we believe today with the modern e-learning technologies available combined with outstanding lecturers and guided on-the-job activities that we can achieve these goals and give you an equivalent or indeed even better experience than on a traditional university campus.

Practical sessions may be added, deleted or modified by the lecturers to ensure the best outcome for students.

Comprehensive Program Materials and Study Aids:

Each unit of competency will be accompanied by relevant program materials designed to make the required study as straightforward as possible. Materials provided for each Unit may vary, but will usually include

1. Program notes or Program manual
2. Learning activities [practical exercises]
3. Microsoft PowerPoint® presentations
4. Formative assessments
5. Summative assessments

Modern e-learning Offers Flexible Study

You may work on shifts and find it difficult to travel to physical classes, or you may work at a location where there is no local means to attend these programs. Perhaps the simple flexibility of e-learning is appealing. EIT’s unique approach means that you can study these programs by combining work “from your desk” in parallel with workplace supervision. The live, online lectures and tutorial sessions are enhanced by comprehensive materials and on-the-job practical experience.

- Upgrade your skills and refresh your knowledge without having to take valuable time away from work
- Receive information and materials in small, easy to digest sections
- Learn from almost anywhere - all you need is an Internet connection
- Have constant support from your program lecturers and coordinator for the duration of the program
- Learn from industry experts
- Live interactive webinars, not just a ‘book on the web’
- Receive a nationally recognised Diploma or Advanced Diploma of Electrical Supply Industry (ESI) – Power Systems

Assessment

To achieve recognition as “competent” you must provide sufficient evidence of successful performance of competency and an understanding of the “essential knowledge and skills” prescribed in each Unit guide. There are two key means for assessment.

1. On-the-job Assessment

Evidence of on-the-job practical experience will need to be presented in order to obtain the qualification. This evidence may come from records of relevant work experience. The evidence is to be presented in the form of a direct observation checklist.

This type of evidence will need endorsement by an appropriate supervisor/mentor skilled in the units for which recognition is sought. This evidence will be assessed by the Registered Training Organisation (EIT).

2. Knowledge Assessments

These assessments will be in the form of formative and summative assessments [both open and closed book] and various learning activities that will have to be completed throughout each unit.

Hardware and Software Requirements

All you need to participate is an adequate Internet connection, speakers and a microphone.

We are Flexible With Your Commitments

We recognise that personal circumstances can, on occasion, make it difficult to complete the program in the allocated time. We will guarantee you access to the resources for a period of 5 years, from the start of the program, to facilitate your achievement of the qualification. You can also withdraw from the program at any time and still receive a Statement of Attainment for the units you have completed.

Program Fees

Special fee arrangements apply to these programs. Your program fees include webinars with leading engineering and technical experts, 30 technical eBooks, all program materials, software and postage, plus grading and support from the coordinators and lecturers. Contact enquiries@eit.edu.au for details.
Core Units

<table>
<thead>
<tr>
<th>CSU</th>
<th>CORE UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UEEenee101A</td>
<td>Use engineering applications software on personal computers</td>
</tr>
<tr>
<td>UEEenee102A</td>
<td>Compile and produce an energy sector detailed report</td>
</tr>
<tr>
<td>UEEenee125A</td>
<td>Provide engineering solutions for problems in complex multiple path circuits problems</td>
</tr>
<tr>
<td>UEEenee126A</td>
<td>Provide solutions to basic engineering computational problems</td>
</tr>
<tr>
<td>UEEeneeG149A</td>
<td>Provide engineering solutions to problems in complex polyphase power circuits</td>
</tr>
<tr>
<td>UETDRI562A</td>
<td>Implement and monitor the power systems organisational OHS policies, procedures</td>
</tr>
<tr>
<td>UETDRI563A</td>
<td>Implement and monitor power systems environmental and sustainable energy management policies and procedures</td>
</tr>
<tr>
<td>UEEenee101A</td>
<td>Apply Occupational Health Safety regulations, codes and practices in the workplace</td>
</tr>
<tr>
<td>UEEenee102A</td>
<td>Fabricate, assemble and dismantle utilities industry components</td>
</tr>
<tr>
<td>UEEenee104A</td>
<td>Solve problems in D.C. circuits</td>
</tr>
<tr>
<td>UEEenee107A</td>
<td>Use drawings, diagrams, schedules, standards, codes and specifications</td>
</tr>
<tr>
<td>UEEeneeG101A</td>
<td>Solve problems in electromagnetic devices and related circuits</td>
</tr>
<tr>
<td>UEEeneeG102A</td>
<td>Solve problems in low voltage A.C. circuits</td>
</tr>
<tr>
<td>UETDRE111A</td>
<td>Apply sustainable energy and environmental procedures</td>
</tr>
<tr>
<td>UETDRE161A</td>
<td>Working safely near live electrical apparatus</td>
</tr>
<tr>
<td>UEEenee083A</td>
<td>Establish and follow a competency development plan in an electrotechnology engineering discipline</td>
</tr>
</tbody>
</table>

Elective Stream Units (refer next page)

EIT currently offers 3 streams of Elective Units. It is possible to satisfy the requirements of the Diploma by successful completion of any one of the 3 sets of Elective Stream Units (refer next page) or through a combination of units from each stream.

For successful completion, students would need to complete the relevant Elective Stream or a combination of units totalling 900 points which your program coordinator can help you to plan. The Advanced Diploma consists of units from the Diploma plus those highlighted in blue.

Please note that alternative Units can be offered in addition to those shown here, depending upon demand. Certain "imported" units may also be relevant. Please contact us for further details.

Program Structure

Duration: 2 – 4 years

The program is made up of a series of core and elective units.

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

1. All the Core Units, and
2. A combination of available Elective Units. Elective units must add up to a weighting of 900 points for the diploma and 1340 points for the advanced diploma
3. All of any prerequisite requirements

The Competency Standard Units are taken from the the UET12 training package.

To enrol please contact enquiries@eit.edu.au

For detailed information on the content and breakdown of units, see pages 13 to 33

"The part of e-learning I really like most is the recording of the webcasts. Anytime, I can watch them all over again."

J Sarmiento

"The way the program is being run is very professional. The program is a lot better than other distance education programs I have done in the past."

D McIntosh
Elective Units

Please note that alternative Units can be offered in addition to those shown here, depending upon demand. Certain "imported" units form other packages may also be relevant. Please contact us for further details.

<table>
<thead>
<tr>
<th>CSU</th>
<th>DESIGN STREAM UNITS</th>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UETTDRS35A</td>
<td>Design overhead distribution power systems</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS36A</td>
<td>Design underground distribution power systems</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS37A</td>
<td>Design power system distribution substations</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS38A</td>
<td>Design power system public lighting systems</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS39A</td>
<td>Prepare and manage detailed construction plans for electrical power system infrastructure</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS42A</td>
<td>Investigate quality of power systems supply issues</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS43A</td>
<td>Develop high voltage and low voltage distribution protection systems</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS45A</td>
<td>Organise and implement ESI line and easement surveys</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS46A</td>
<td>Develop planned power systems outage strategies</td>
<td>140</td>
</tr>
<tr>
<td>BSBlfH501B</td>
<td>Manage personal work priorities and professional development</td>
<td>60</td>
</tr>
<tr>
<td>BSBfGt02B</td>
<td>Manage people performance</td>
<td>70</td>
</tr>
<tr>
<td>BSBlfR502B</td>
<td>Ensure team effectiveness</td>
<td>60</td>
</tr>
<tr>
<td>BSBGUS01C</td>
<td>Maintain quality customer service</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSU</th>
<th>TESTING STREAM UNITS</th>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UETTDRS29A</td>
<td>Develop power systems secondary isolation instructional documents</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS21A</td>
<td>Maintain interdependent network protection and control systems</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS22A</td>
<td>Commission interdependent network protection and control systems</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS28A</td>
<td>Repair, test and calibrate protection relays and meters</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS31A</td>
<td>Maintain, test and commission power systems voltage regulating equipment</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS34A</td>
<td>Install and maintain power system communication equipment</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS25A</td>
<td>Maintain and test and metering schemes</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS26A</td>
<td>Commission power systems metering schemes</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS27A</td>
<td>Perform accuracy checks on power systems instrument transformers</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS23A</td>
<td>Conduct evaluation of power system substation faults</td>
<td>140</td>
</tr>
<tr>
<td>UETTDRS32A</td>
<td>Conduct evaluation of power systems primary plant</td>
<td>180</td>
</tr>
<tr>
<td>UETTDRS35A</td>
<td>Maintain complex network protection and control systems</td>
<td>180</td>
</tr>
<tr>
<td>UETTDRS36A</td>
<td>Commission complex network protection and control systems</td>
<td>180</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSU</th>
<th>SYSTEM OPERATION STREAM UNITS</th>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UETDREL15A</td>
<td>Respond to power systems technical enquiries and requests</td>
<td>40</td>
</tr>
<tr>
<td>UETTDRS036A</td>
<td>Develop low voltage distribution switching programs</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS037A</td>
<td>Develop high voltage distribution and subtransmission switching programs</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS038A</td>
<td>Develop and evaluate power systems transmission switching programs</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS040A</td>
<td>Coordinate high voltage distribution and subtransmission networks</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS045A</td>
<td>Operate and monitor system SCADA equipment</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS046A</td>
<td>Monitor and control the field staff activities</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS047A</td>
<td>Coordinate high voltage transmission network</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS048A</td>
<td>Respond to discrete and interdependent protection operations</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS049A</td>
<td>Coordinate power system operations in a regulated energy market</td>
<td>150</td>
</tr>
<tr>
<td>UETTDRS032A</td>
<td>Manage power systems network faults</td>
<td>180</td>
</tr>
<tr>
<td>UETTDRS035A</td>
<td>Manage high voltage distribution and subtransmission network demand</td>
<td>180</td>
</tr>
<tr>
<td>UETTDRS050A</td>
<td>Respond to complex power system protection operations</td>
<td>180</td>
</tr>
</tbody>
</table>

Why EIT?

• Our lecturers are selected and recruited from amongst the top engineers/lecturers in their field - worldwide. They are highly skilled at presenting challenging concepts and ideas to students of varying levels and abilities.

• As shown in the detailed program prospectus, the programs are aimed at practising professionals giving hard-hitting practical know-how relevant to today's market and is aimed at people working in industry. We design and select Case Studies and practical exercises in the program based upon real-world business requirements. Feedback from the tens of thousands of students we have trained over many years has allowed EIT a unique understanding of real world business requirements and we have tailored the program accordingly.

• We have experience in training over 500,000 engineers and technicians throughout the world and have built up a library of outstanding reference materials which focus on what engineers and technicians need in their work today in industry and mining. The value of these references is considerable and they are a great asset to industry professionals. These reference materials are included in the cost of the program.

• The program content is challenging and designed for engineers and technicians already working in industry. We assume a general understanding of the demands of the workplace. A student without practical experience would be unsuited to the program.

To enrol please contact enquiries@eit.edu.au

Presentation Format

The programme features real-world applications and uses a multi-pronged approach involving interactive on-line webinars, simulation software and self-study assignments with a mentor on call. Presentations and group discussions will be conducted using a live, interactive software system. For each unit you will have an initial reading assignment (which will be delivered to you in electronic format in advance of the online presentations). There will be coursework or problems to be submitted and in some cases there will be practical exercises, using simulation software and remote labs that you can easily do from your home or office. You will have ongoing support from the lecturers via phone, fax and e-mail.
What Our Students Have to Say

QUOTES FROM PAST STUDENTS on the EIT SURVEY ON E-LEARNING to the following question:

What made you choose an EIT program(s)?

“Good reputation, had attended good full-time programs previously.”
Worley Parsons

“Program facilitator CV, ...reputation, e-learning flexibility.”
SMK, New Zealand

“Content tends to practical and targeted.”
MIPAC, Australia

“Non-vendor specific training and lower program costs with online training capabilities.”
Worley Parsons

“The content of the program and the way the program was broken down were the key factors.”
GEA Group

“I can do those programs at my own free time which made it more convenient for me.”
Iluka, Australia

“Content was applicable to my job and industry. Taught by industry experts not academics. E-room delivery mode. Accreditation in various nations.”
Sanofi Pasteur, Australia

“Because it is specialist, and so many available programs.”
Kacst, Saudi Arabia

“Covered all my criteria and gave me recognised qualifications on completion.”
Netafim

“I took a previous program, IDC [associated organisation] is professional.”
Cat Group

“I have done other programs with IDC [associated organisation] and was happy with the service provided.”
GHD

“Had completed programs previously. Good content.”
Woodside

“I understood from friends that it is good quality.”
Rio Tinto

“Better choice of topic.”
Rockwell RA

“Believed to be good quality based on previous training programs I have done in person.”
BHP Billiton, South Africa

“It was referred to me by a colleague and I have attended seminars run by IDC before. The program that I am currently enrolled in also had all the outcomes I was looking for to further my career.”
Rio Tinto

“The program content was relevant to my work environment and practical.”
Alcoa

“I have done a few IDC programs in the past and found them to be very good and delivered by people with practical knowledge of the subjects.”
Kalgold

“It provides good online program delivery including its quality support structures.”
OneSteel

“Program interest and content.”
ABB, Australia

“The fact the I could do it online and it was in line with furthering my knowledge for work.”
CAED, Australia

“It ticked all the boxes ... quality, suitability, depth, length.”
Pwerco, New Zealand

“Better choice of topic.”
Rockwell RA

“Program was visible and relevant.”
Schneider Electric, UK

“Convenience.”
Rio Tinto

“To be perfectly honest with the small amount of research on various programs I did the programs are generally the most relevant to my area of work. That’s not to say they are perfect but they seem to be superior to others readily available in this part of the world.”
WEL Networks, New Zealand

“Program content seems practical and applicable. I already have a BSc where the focus is on the theory.”
BHP Billiton, South Africa

“Industry recognition and recommendation by colleagues.”
Rio Tinto

“Seemed the most convenient option, and it was!”
CPIT, New Zealand

“Program content ease of study option.”
Nestle, South Africa

“The content of the program made up my mind.”
Transportadora de gas del Norte, Argentina

“Their programs are standard and program material as well as lecture are okay.”
Shell, UK

“Its international recognition with body endorsing certification. Easy to attend lessons after work hours. Easy way of program payment.”
Kinyara Sugar Ltd, Uganda

“The most practical and technical offerings by the most qualified lecturers for distance learning.”
Encana Natural Gas

“On line references, price, and various time frames available to sit in on the class. Also, one more important item was being able to converse with the lecturer and class instead of working totally on my own.”
Mitchell Technical Institute

“Program content. Accreditation of the training institution. Cost.”
MODEC

“Offer the correct program, timing and affordable cost.”
Folec, Brunei

“Possibly the most recognised online institution within my industry.”
DRA, South Africa
Frequently Asked Questions

What are the advantages of studying online?
We know that many potential students have part or full-time employment as well as family commitments, so finding the time to study a classroom-based program is not always possible. Many students also have geographical, travel and time limitations and do not have an accessible institution or training provider. We have taken this into consideration and developed an affordable, flexible, online approach to training. This means that you can study from anywhere, with minimum downtime from work – but still have the necessary interactive learning experience. The software we use does not require very fast internet connection or a sophisticated computer. A basic connection and hardware are sufficient.

What do I need?
An adequate Internet connection, speakers and a microphone. A headset is recommended. The necessary software and program materials are provided by us.

Doesn’t it get boring? How can an e-learning program be interactive?
Boredom can be a real risk in any form of learning; however, we use an interactive approach to our e-learning – with live sessions (instead of recordings) for most presentations. The webinar software allows everyone to interact and involves participants in group work, including hands-on exercises with simulation software and remote laboratories where possible. You can communicate with text messages, or live VoIP speech, or can even draw on the whiteboard during the sessions. This all helps to keep you motivated and interested.

What do live webinars involve?
These are live, interactive sessions over the Internet. You will join the lecturer and other participants from around the world in an online ‘virtual classroom’ where you are able to watch a presentation, and communicate with the lecturer and other students via audio, text messaging or drawing on the whiteboard. Each webinar is 1-2 hours in duration and the sessions may be scheduled at 2 or 3 different times during the presentation day, depending on class size. This allows you to select the session which is most convenient.

What if I cannot join or I miss a live webinar?
Webinars are recorded and available to students upon request. One requirement of the program is that you join at least 70% of the live sessions. The live webinars offer the opportunity to interact with the lecturer and other participants from around the globe - an essential yet enjoyable part of the learning process.

Circumstances such as on-site work can make attendance difficult at times. These situations need to be clearly communicated with your program coordinator. Feedback from the recordings may be required and assignment submission maintained.

When will the sessions take place? When will I receive a webinar schedule?
When you enrol you will receive a questionnaire which will help us determine your availability. When all questionnaires are returned we create a schedule which will endeavour to meet everyone’s requirements.

If you are unable to attend the webinars scheduled, we do have some options available. Contact EIT for more details.

Can I complete the program in less time?
Our programs actually require ‘attendance’ and participation at the live webinars. The interaction which takes place is an important part of the learning process. Our experience has shown that the interactive classes work exceptionally well and students are far more likely to stay motivated, enjoy the program, and complete the program successfully. See also ‘What if I cannot join or I miss a live webinar?’ In addition, accelerating the program would be quite onerous for most students.

How much time do I need? How long is the program?
You should put aside 12 hours per week. This will vary depending on the program subject matter and your existing knowledge.
International Expert Speaker Faculty

Your team of professional lecturers and facilitators are drawn from experts in their field.

They will work closely with you for the duration of the program.

Please note: Program lecturers are subject to change. Students will be notified in the event new lecturers join the faculty.

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LECTURER

Justin Shute

Justin has over 20 years electrical engineering experience and holds an advanced diploma in electrical engineering and is a fully qualified electrician. Justin has spent time working for Power & Water in Alice Springs, Minara Resources and Cockburn Cement and up until recently has been working in catastrophic HV design for Nilsen as their High Energy Engineering Manager. Justin specialises in high voltage design and solutions and also lectures for the Engineering Institute of Technology.

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LECTURER

Behrouz Ghorbanian  BSc, MSc, MIeAust

Behrouz completed his degrees in Telecommunications and Electrical Engineering in 1985 and 1993 respectively, and then concluded his studies in Electrical Utility Engineering at Curtin University (Perth) in 2004. Behrouz started his career in the oil and gas industry where his role got him involved in the maintenance and repair of electronic and navigational marine equipment [VHF and SSB radios, Sat Nav, engine control panels etc]. He then moved to the power industry and was involved in the design, installation, and commissioning of substations mainly for consultancies and utilities. He has also established a good reputation in teaching power system protection over his long term services lecturing at Curtin University, and also over the period he worked as a Protection Engineer in New Zealand.

Over the past years, Behrouz has been involved in many major projects across Australia [Port Hedland, Barrow Island, Tamar Valley, Karratha, and Newman for example]. His most recent experience is related to cost estimation and risk assessment of major substation projects with a special focus on the secondary systems [Protection, COMMS, SCADA]. He has also worked as an Engineering Manager and Senior Project Engineer on major copper mine projects overseas.

Behrouz has also gained good knowledge in substation design, HV cables sizing and installation, transmission system design, earthing system design and applications, and power system protection design and applications.

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LECTURER

Deepak Pais  B.E [Electrical & Electronics]

Deepak started his career within the Zinc mining & smelting industry as Project Engineer in Substation & Distribution Greenfield project. He then worked in a Marine and Logistics firm in the Bahamas as Maintenance and Commissioning Engineer. Following this he worked with Japanese and German automobile firms as Maintenance Engineer for Distribution and Utility related systems. He currently works as an Engineer in a regional NSW electricity Distribution utility.

Deepak has hands on experience in Distribution, Utility and Substation related systems. He has a particular interest in the consistent interpretation and implementation of Greenfield and Brownfield Standards with an emphasis on safety, reliability, economy and whole of life cost analysis.

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LECTURER

Hashemi Ford  BE [Honrs]|Elec]  ME[Elec]  Principal Engineer

Hashemi has over 20 years international experience in electrical power industry with a focus on modelling, analysis, planning and operation of power systems including distribution, sub-transmission and transmission networks. He has been involved in modelling and analysis of major projects including HVDC interconnectors and Wind farms. Currently Hashemi is working as a Principal Engineer for a power utility in Australia as well as teaching as a part time lecturer for EIT.
Putting the theory of Business Process Management into practice to play a productive role in an organisation is often a daunting process. Making these principles work is the special skill of Lindsey Smith. She was a manager with IBM (UK) manufacturing for 17 years where she received world’s best practice management training and experience in several areas; human resources, production control, industrial engineering, planning, quality, process management and information services including Systems Development Manager for materials Logistics. IBM [UK] won the European and UK Quality Awards during this period.

Lindsey was an advisor for the Australian Quality Council from 1992 to 1998 and has been an associate consultant with the Australian Institute of Management since 1991. Since 2001 she has focused on the resource, Utilities and Local Government industries.

Greg Bell has been working with computers in technology companies since he was 16 years old. He obtained a B.S. in Electrical Engineering from the University of California at San Diego, and spent 10 years designing digital integrated circuits for large and small companies before jumping careers into the renewable energy industry. He’s been teaching for 4 years and continues to write computer programs as a contractor.

Edwin has over 35 years of practical experience in the planning, design, construction and operation of telecommunications systems, data networks, SCADA and Ethernet systems. He has also been involved as Project Manager on many projects and has a passion for technology topics.

Edwin has published numerous papers, and consulted widely on Ethernet, data communications and telecommunications issues in the USA, Canada, UK, Australia and New Zealand. Over the past eleven years more than 15,000 engineers and technicians have attended his workshops worldwide. Delegates attending his workshop will benefit from his tremendous knowledge and enthusiasm for the topics and his entertaining instructing style. When not working in the communications world he relaxes by reading and writing on technology issues at his beachside home.

Vijay’s experience is primarily in the field of industrial power distribution systems. He has contributed to the design, engineering, commissioning and operation of HV distribution equipment in steel industry for over 15 years which includes outdoor switchyards, indoor MV switchgear and distribution substations. He has also been trained in the operation of large captive power plants forming part of integrated steel plant systems. He has worked as the head of testing of protection and HV equipment in a large 4 MTPA integrated steel plant.

He has also served as the head of the electrical and instrumentation group for over 2 decades in a firm of consulting engineers handling several large international projects, including the power distribution systems of large metallurgical industries and the integrated power generation plants, the captive thermal power generation unit of an Aluminium smelting and refining complex and Tonnage oxygen plants associated with steel manufacturing, among several others.

Vijay has been associated with IDC/EIT for over 10 years and has designed and presented training programs on various topics related to electrical power engineering. Vijay is a popular lecturer his students often seek his advice in analysing and solving technical problems at work, sometimes long after the completion of the program itself.
International Expert Speaker Faculty

LECTURER

Deon Reynders  Pr Eng BSEE MBA, Senior Data Communications Engineer

Deon has had over 25 years experience in automation, data communications [with a focus on industrial applications] and Ethernet TCP/IP networks. He has specific experience in Systems Engineering, Project Management and software and hardware development. Currently he is retained as a consultant to industry in the TCP/IP, industrial Ethernet networking, OPC and the industrial data communications areas.

Deon is a practical, hands-on person and a highly entertaining speaker. He has received excellent reviews from his thousands of program participants in regions ranging from Europe, North America, Africa and Australia. He takes great pride in demystifying difficult concepts and presents them in a simple-to-understand manner. He is a passionate, enthusiastic and knowledgeable professional engineer. You will walk away from this workshop with a wealth of know-how which you can immediately apply to your work.

LECTURER

Nagendra Gangadharan

Nagendra received the ME degree in Electrical and Electronics Engineering from the University of Auckland, New Zealand, in 1995. In 1991, he joined the Biomedical Engineering Services, School of Medicine, University of Auckland, New Zealand to work as an Electronics Engineer. In 1994, he joined the School of Electrical and Electronic Engineering, Singapore Polytechnic, Singapore as a lecturer. He was appointed as the program manager for the Biomedical Engineering option for two diploma programs, and the chairman of department program management team for the Specialist Diploma in Biomedical Engineering program. He taught medical instrumentation and industrial automation programs and carried out numerous research works. He received two 'Excellence in R&D' awards for his research work in biomedical instrumentation and an 'Excellence in R&D' award for his work in computerised structural simulation software. In 2005, he joined a multi-national company in New Zealand, specialising in baggage handling systems. He worked as a software design engineer and developed PLC programs for a few international airports in New Zealand and two major parcel handling systems for Australia Post in Sydney and Melbourne, Australia. In 2007, he joined a multi-national company in New Zealand, specialising in manufacture of fruit sorting/packaging solutions. He developed PLC, HMI programs for a few turn-key projects in Australia, New Zealand and US. 2010-2013 worked as VET lecturer at the Charles Darwin University, Australia. In late 2013 he joined EIT as a senior lecturer.

He is a member of IEEE Power Electronics society and IEEE Industrial Applications society.

To enrol please contact enquiries@eit.edu.au
UEENEED104A: Use engineering applications software on personal computers

Overview
This unit covers the use of computer application relevant to engineering support work functions. It encompasses applying user preferences, using application menus and tools, entering and retrieve information, working with groups and transferring and printing files.

Note: Examples of engineering application software are Visio, Electronic Work Bench, LabView

You will learn how to:
1) Prepare to use computer applications
2) Use engineering application software
3) Output information from an application
4) Shutdown computer.

UEENEEE124A: Compile and produce an energy sector detailed report

Overview
This unit covers complying and producing an electrotechnology report. It encompasses determining the safety requirements are met and all regulatory responsibilities are adhered to. The person competent in this unit must demonstrate an ability to identify information sources and collect and analyse and format information applicable to the electrotechnology industry and produce a report as required.

You will learn how to:
1) Prepare to develop a report
2) Develop a report
3) Obtain approval for final report
UEENEEE125A: Provide engineering solutions for problems in complex multiple path circuits problems

Overview
This unit covers the determining correct operation of complex series-parallel power circuits and providing solutions as they apply to electrical power engineering work functions. It encompasses working safely, problem solving procedures, including electrical measuring devices, applying appropriate circuit theorems and providing solutions derive from measurements and calculations and providing justification for such solutions.

You will learn how to:
1) Provide computational solutions to engineering problems
2) Complete work and document problem solving activities

UEENEEE126A: Provide solutions to basic engineering computational problems

Overview
This unit covers the application of computational processes to solving problems encountered in power engineering. It encompasses working safely, applying problem solving techniques, using a range of mathematical processes, providing solutions to power engineering problems and justifying such solutions.

You will learn how to:
1) Provide computational solutions to engineering problems
2) Complete work and document problem solving activities

UEENEEG149A: Provide engineering solutions to problems in complex polyphase power circuits

Overview
This unit covers determining correct operation of complex polyphase power circuits and providing solutions as they apply to electrical power engineering work functions. It encompasses working safely, problem solving procedures, including using electrical measuring devices, applying appropriate circuit theorems and providing solutions derived from measurements and calculations and justification for such solutions.

You will learn how to:
1) Prepare to solve problems in complex polyphase power circuits
2) Solve problems in complex polyphase power circuits
3) Complete work and document problem solving activities
**UETTDRIS62A: Implement and monitor the power systems organisational OHS policies, procedures**

**Overview**
This Competency Standard Unit covers the implementation and monitoring of the participative arrangements for the management of the organisational OHS policies, procedures, programs and issues, including disseminating information on hazards and risk assessment to meet OHS standards. It also encompasses the collation of work group input, as well as implementation of enterprise procedures for resolving OHS issues.

**You will learn how to:**
1) Prepare/Plan to implement and monitor the organisational OHS policies, procedures and programs
2) Carry out the implementation and monitoring of the organisational OHS policies, procedures and programs
3) Complete the implementation and monitoring of the organisational OHS policies, procedures and programs

**UETTDRIS63A: Implement and monitor power systems environmental and sustainable energy management policies and procedures**

**Overview**
This competency standard Unit specifies the outcomes for the collecting, interpretation and application of environmental management information, identification of environmental impacts and assessment of risks, and establishment of best practice procedures for implementation of the management plans to ensure compliance. It also consists of monitoring during the implementing of environmental and sustainable energy policies and plans, and development of modifications as part of the review process.

**You will learn how to:**
1) Prepare/plan to implement and monitor environmental and sustainable energy management policies and procedures.
2) Carry out the implementation and monitoring of environmental and sustainable energy management policies and procedures.
3) Complete the implementation and monitoring of environmental and sustainable energy management policies and procedures.

**UEENEEE101A: Apply Occupational Health Safety regulations, codes and practices in the workplace**

**Overview**
This unit specifies the mandatory requirements of occupational health and safety and how they apply to the various electrotechnology work functions. It encompasses responsibilities for health and safety, risk management processes at all operative levels and adherence to safety practices as part of the normal way of doing work.

Note: Components of this unit are included in the critical aspects of evidence of each applicable unit to ensure that OHS practices are demonstrated as they apply to specific work functions and situation.

**You will learn how to:**
1) Prepare to enter a work area
2) Apply safe working practices
3) Follow workplace procedures for hazard identification and risk control
**UEENEE102A:** Fabricate, assemble and dismantle utilities industry components

**Overview**
This unit covers basic fitting and fabrication techniques as they apply in the various electrotechnology work functions. It encompasses the safe use of hand, fixed and portable power tools; cutting, shaping joining and fixing using metallic and non-metallic materials; dismantling and assembling equipment; basic mechanical measurement and marking-out and reading diagrams.

**You will learn how to:**
1) Prepare for dismantling, assembling and fabrication work
2) Dismantle and assemble electrotechnology apparatus
3) Fabricate electrotechnology components
4) Complete work & report

**UEENEE104A:** Solve problems in D.C. circuits

**Overview**
This unit covers determining correct operation of single source d.c. parallel and series-parallel circuits and providing solutions as they apply to various electrotechnology work functions. It encompasses working safely, problem solving procedures, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in single and multiple path circuits.

**You will learn how to:**
1) Prepare to work on multiple path DC electrical circuits
2) Solve multiple path DC circuit problems
3) Complete work and document problem solving activities

**UEENEE107A:** Use drawings, diagrams, schedules, standards, codes and specifications

**Overview**
This unit covers the use of drawings, diagrams, equipment and cable schedules and manuals as they apply to the various electrotechnology work functions. It encompasses the rudiments for communicating with schematic, wiring and mechanical diagrams and equipment and cable/connection schedules, manuals, site and architectural drawings and plans showing the location of services, apparatus, plant and machinery, and understanding the use and format of compliance standards and job specifications.

**You will learn how to:**
1) Prepare to use drawings, diagrams, schedules and manuals
2) Use drawings, schedules and manuals to obtain job information
3) Use drawings, schedules and manuals to convey information and ideas
UEENEEG101A: Solve problems in electromagnetic devices and related circuits

Overview

This unit covers determining correct operation of electromagnetic circuits and providing solutions as they apply to electrical installations and equipment. It encompasses working safely, power circuit problems solving processes, including the use of voltage, current and resistance measuring devices, providing solutions derived from measurements and calculations to predictable problems in electromagnetic devices and related circuits.

You will learn how to:

1) Prepare to work on electromagnetic circuits
2) Solve multiple path electrical circuit problems
3) Complete work and document problem solving activities

UEENEEG102A: Solve problems in low voltage A.C. circuits

Overview

This unit covers ascertaining correct operation of single and three phase circuits and solving circuit problems as they apply to servicing, fault finding, installation and compliance work functions. It encompasses safe working practices, multiphase circuit arrangements, issues related to protection, power factor and MEN systems and solutions to circuit problems derived from calculated and measured parameters.

You will learn how to:

1) Prepare to solve single and three phase low voltage circuit problems
2) Solve single and three phase low voltage circuit problems
3) Complete work and document problem solving activities

UETTDREL11A: Apply sustainable energy and environmental procedures

Overview

This Competency Standard Unit covers the implementation of relevant environmental procedures to specific projects/sites. It includes the identification of possible environmental risks and impacts, the undertaking of work in accordance with sustainable energy and energy conservation principles, the provision of re-cycling materials and the recording and reporting of environmental incidents. It also encompasses the process of reviewing and participating and contributing in environmental procedures according to established enterprise requirements.

You will learn how to:

1) Prepare to implement environmental and sustainable energy procedures
2) Carry out environmental and sustainable energy procedures
3) Complete the environmental and sustainable energy procedures
**Overview**

This Competency Standard Unit covers compliance with working safely up to the defined “safe approach distance” near energised electrical apparatus (inc. electrical powerlines). It includes work functions that may be performed, such as vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker. Also included is the preparation of risk assessment control measures that encompass job safety assessment. It does not include any work that is or may be performed by other competent operatives within the defined “safe working zone”. The defined “safe working zone” is that so defined by relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical and Mechanical Apparatus.

**You will learn how to:**

1) Prepare to work safely near live electrical apparatus  
2) Carry out the work safely near live electrical apparatus  
3) Complete the work safely near live electrical apparatus

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**Overview**

This unit covers establishing and following a plan for one’s own competency development. It encompasses establishing a plan in consultation with the enrolling registered training organisation (RTO), following industry/enterprise procedures regarding how work is conducted, understanding responsibilities and obligations under competency development plan, following activities for developing competency, pursuing opportunities to develop competencies, to self-monitoring competency development and meeting obligations for periodic reporting of competency development activities.

**You will learn how to:**

1) Establish a competency development plan  
2) Comply with engineering industry/enterprise workplace policies and procedures  
3) Monitor and respond to a personal competency development plan.
UETTDRDS35A: Design overhead distribution power systems

Overview
This Competency Standard Unit covers the technical design of overhead distribution and sub transmission networks to relevant standards, including electrical clearances, electrical and mechanical loadings, earthing, environmental considerations, minor civil aspects and the handling of waterway, railway and other crossings. It also includes the necessary established procedures to ensure the line design conforms to specific organisational technical standards, operational and system planning requirements and incorporates the principles of safe design.

You will learn how to:
1) Plan for and coordinate the safe design of overhead distribution systems
2) Carry out and coordinate the safe design of overhead distribution systems
3) Complete and coordinate the safe design of overhead distribution systems

UETTDRDS36A: Design underground distribution power systems

Overview
This Competency Standard Unit covers the technical design of underground distribution and sub transmission networks to relevant standards, including cable sizing and locations, soil resistivity and heat dissipation, backfill and trenching details, minor civil aspects and dynamic and cyclic ratings. It also includes the necessary established procedures to ensure the line design conforms to specific organisational technical standards, operational and system planning requirements and encompasses the principles of safe design.

You will learn how to:
1) Plan for and coordinate the safe design of underground distribution systems
2) Carry out and coordinate the design of underground distribution systems
3) Complete and coordinate the design of underground distribution systems
**UETTDRDS37A: Design power system distribution substations**

**Overview**
This Competency Standard Unit covers the technical design of distribution substations to relevant standards and specifications, including earthing, location of substation relevant to load, customer and environmental needs and minor civil aspects. It also includes the necessary established procedures to ensure the substation design conforms to specific organisational technical standards operational and system planning requirements and encompasses the principles of safe design.

**You will learn how to:**
1) Plan for and coordinate the safe design of distribution substations
2) Carry out and coordinate the design of distribution substations
3) Complete and coordinate the design of distribution substations

**UETTDRDS38A: Design power system public lighting systems**

**Overview**
This Competency Standard Unit covers the technical design of public lighting systems. This includes pedestrian and traffic route lighting to relevant Australian standards utilising appropriate software to generate design conformance.

**You will learn how to:**
1) Plan for and coordinate the safe design of public lighting systems
2) Carry out and coordinate the design of public lighting systems
3) Complete and coordinate the design of public lighting systems

**UETTDRDS39A: Prepare and manage detailed construction plans for electrical power system infrastructure**

**Overview**
This Competency Standard Unit covers the preparation of detailed plans to be used during the design phase and preparation of as-built drawings during the construction phase, and utilised by network owners as technical reference materials, to detail system infrastructure. It includes the use of CAD or other relevant drafting methods.

**You will learn how to:**
1) Plan for and coordinate the preparation and management of detailed construction plans for electrical system infrastructure
2) Carry out and coordinate the preparation and management of detailed construction plans for electrical system infrastructure
3) Complete and coordinate the preparation and management of detailed construction plans for electrical system infrastructure
**UETTDRDS42A: Investigate quality of power systems supply issues**

**Overview**
This Competency Standard Unit covers the technical investigation of quality of supply issues and recommend solutions. Quality of supply issues may include television and radio interference, voltage complaints, harmonics and system irregularities.

**You will learn how to:**
1) Plan for and coordinate the investigation of issues in the quality of supply
2) Carry out and coordinate the investigation of issues in the quality of supply
3) Complete and coordinate the investigation of issues in the quality of supply

**UETTDRDS43A: Develop high voltage and low voltage distribution protection systems**

**Overview**
This Competency Standard Unit covers the development of appropriate protection systems for HV and LV distribution networks, including calculations of fault levels, selection of appropriate protection devices and automation requirements and protection coordination schemes. This also includes recommendations to support the calculations and must ensure conformance to specific organisational operational and system planning requirements, and compliance with national or supply authority codes.

**You will learn how to:**
1) Plan and coordinate for the development of HV and LV protection systems
2) Carry out and coordinate the development of HV and LV protection systems
3) Complete and coordinate the development of HV and LV protection systems

**UETTDRDS45A: Organise and implement ESI line and easement surveys**

**Overview**
This Competency Standard Unit covers the surveying of distribution and sub transmission lines and easements for activities associated with the design and installation of electrical equipment. This activity should encompass the use of instruments such as compasses, inclinometer, distance measuring devices, etc and be in accordance with customer requirements, nominated design specifications and company processes.

**You will learn how to:**
1) Plan and coordinate the organisation and implementation of line and easement surveys
2) Carry out and coordinate the organisation and implementation of line and easement surveys
3) Complete and coordinate the organisation and implementation of line and easement surveys
BSBWOR501B: Manage personal work priorities and professional development

Overview
This unit describes the performance outcomes, skills and knowledge required to manage own performance and professional development. Particular emphasis is on setting and meeting priorities, analysing information and using a range of strategies to develop further competence. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

You will learn how to:
1) Establish personal work goals
2) Set and meet own work priorities
3) Develop and maintain professional competence

BSBMGT502B: Manage people performance

Overview
This unit describes the performance outcomes, skills and knowledge required to manage the performance of staff who report to them directly. Development of key result areas and key performance indicators and standards, coupled with regular and timely coaching and feedback, provide the basis for performance management. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

This unit applies to all managers and team leaders who manage people. It covers work allocation and the methods to review performance, reward excellence and provide feedback where there is a need for improvement. The unit makes the link between performance management and performance development, and reinforces both functions as a key requirement for effective managers. This is a unit that all managers/prospective managers who have responsibility for other employees should strongly consider undertaking.

You will learn how to:
1) Allocate work
2) Assess performance
3) Provide feedback
4) Manage follow up
BSBWOR502B: Ensure team effectiveness

Overview
This unit describes the performance outcomes, skills and knowledge required to facilitate all aspects of teamwork within the organisation. It involves taking a leadership role in the development of team plans, leading and facilitating teamwork and actively engaging with the management of the organisation.

You will learn how to:
1) Establish team performance plan
2) Develop and facilitate team cohesion
3) Facilitate teamwork
4) Liaise with stakeholders

BSBCUS501C: Manage quality customer service

Overview
This unit describes the performance outcomes, skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.

Operators may have staff involved in delivering customer service and are responsible for the quality of their work. In many instances the work will occur within the organisation's policies and procedures framework. At this level, the exercise of considerable discretion and judgment, using a range of problem solving and decision making strategies, will be required.

You will learn how to:
1) Plan to meet internal and external customer requirements
2) Ensure delivery of quality products and services
3) Monitor, adjust and review customer service

To enrol please contact enquiries@eit.edu.au
UETTDRTS29A: Develop power systems secondary isolation instructional documents

Overview
This Competency Standard Unit covers the skills needed to develop secondary isolations. This will involve analysis of tripping and a thorough understanding of secondary voltage and current, DC, alarm, metering and communication circuits. It also involves accurate communication of this information in a format acceptable to the Operating or Testing authority.

You will learn how to:
1) Plan for the development of secondary isolation instructional documents
2) Carry out the development of secondary isolation instructional documents
3) Complete the development of secondary isolation instructional documents

UETTDRTS21A: Maintain interdependent network protection and control systems

Overview
This Competency Standard Unit covers the maintenance of network protection and control in interdependent situations and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and or overhaul and functional checks of interdependent network protection and control systems. It includes the requirements to prove the functionality of interdependent and discrete schemes such as, CB Fail, master controlled Earth Fault, inter-tripping, blocking, synchronising, pilot wire, phase comparison, load shedding, voltage control, parallel operation and load rejection.

You will learn how to:
1) Plan for the maintenance of network protection and control systems (interdependent)
2) Carry out the maintenance of network protection and control systems (interdependent)
3) Complete the maintenance of network protection and control systems (interdependent)
Overview

This Competency Standard Unit covers the commissioning of network protection and control systems in interdependent situations and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and or overhaul and functional checks. It also includes schemes such as, CB Fail, master controlled Earth Fault, impedance and differential relays intertripping, blocking, synchronising, pilot wire, phase comparison, load shedding, voltage control, parallel operation and load rejection. This includes commissioning of discrete and interdependent schemes.

You will learn how to:
1) Plan for the commissioning of network protection and control systems (interdependent)
2) Carry out the commissioning of network protection and control systems (interdependent)
3) Complete the commissioning of network protection and control systems (interdependent)

UETTDRTS28A: Repair, test and calibrate protection relays and meters

Overview

This Competency Standard Unit covers the repair, calibration and testing of various types of protection relays. These can include electromechanical, analogue, digital electronic and numerical devices. It also involves the finding and replacing faulty components, testing to manufacturers or users specifications and proving all functions of the devices under test.

You will learn how to:
1) Plan for the testing, repair and calibration of protection relays and meters
2) Carry out the testing, repair and calibration of protection relays and meters
3) Complete the testing, repair and calibration of protection relays and meters

UETTDRTS31A: Maintain, test and commission power systems voltage regulating equipment

Overview

This Competency Standard Unit covers the maintenance, testing and commissioning of Distribution field devices to relevant standards, including voltage regulators, automatic circuit reclosers control boxes, line capacitors, and associated communication devices. It includes communicating with the Operating Authority, testing, clearing after test and energisation using techniques that are acceptable to the Operating Authority.

You will learn how to:
1) Plan and coordinate the maintenance, testing and commissioning of Distribution field devices
2) Carry out and coordinate the maintenance, testing and commissioning of Distribution field devices
3) Complete and coordinate the maintenance, testing and commissioning of Distribution field devices
**UETDRTS34A: Install and maintain power system communication equipment**

**Overview**
This Competency Standard Unit covers the installation and maintenance of Network Communication Systems and includes the isolation and functional checks of discrete and interdependent communication schemes associated with power systems. It also encompasses power line carrier equipment, protection signalling equipment, radio systems and telephone systems, VF systems, multiplexing systems and fibre optic systems, but does not include wiring.

**You will learn how to:**
1) Plan for the installation and maintenance of power system communication equipment
2) Carry out the installation and maintenance of power system communication equipment
3) Complete the installation and maintenance of power system communication equipment

**UETDRTS25A: Maintain and test and metering schemes**

**Overview**
This Competency Standard Unit covers the testing of metering schemes and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and or overhaul and functional checks on schemes including ammeters, voltmeters, wattmeters, VAR meters and energy metering. It also includes the understanding of the purpose of the testing so as to prove accuracy and suitability of the metering for the required task.

**You will learn how to:**
1) Plan for the testing and maintenance of metering schemes
2) Carry out the testing and maintenance of metering schemes
3) Complete the testing and maintenance of metering schemes

**UETDRTS26A: Commission power systems metering schemes**

**Overview**
This Competency Standard Unit covers the commissioning of metering schemes and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and or overhaul and function checks on schemes including ammeters, voltmeters, wattmeters, VAR meters and energy metering. It also includes an emphasis on ensuring that the metering is connected into the power system safely and correctly and that it returns valid information.

**You will learn how to:**
1) Plan for the commissioning of metering schemes
2) Carry out the commissioning of metering schemes
3) Complete the commissioning of metering schemes
UETTDRTS27A: Perform accuracy checks on power systems instrument transformers

Overview
This Competency Standard Unit covers the installation of the overhead traction electrical equipment and components as well as associated hardware including ancillary equipment. It includes the undertaking of safe working practices on or about the running line/track. It also encompasses the isolation of systems and circuits for safe working according to work plans and the correct positioning of road signs, barriers and or warning devices and the procedure of issuing/accepting electrical permits. It also includes the visual inspection and necessary checks to confirm that equipment, components and associated hardware have been correctly installed according to design and are in a safe condition to test prior to putting to service, the undertaking of pre-commissioning tests as required to ensure the integrity of the traction system prior to putting back into service and the updating of installation data and relevant quality assurance documentation.

You will learn how to:
1) Prepare for the installation of overhead traction equipment/components
2) Carry out the installation of overhead traction equipment/components
3) Complete the installation of overhead traction equipment/components

UETTDRTS23A: Conduct evaluation of power system substation faults

Overview
This Competency Standard Unit covers the procedure in evaluating power system incidents by following a process of downloading event and disturbance record information from protection relays. This includes interpreting such items as, alarms, relay targets, relay settings, event records, disturbance records and sequence of events records. It also encompasses the evaluation and or investigation of relay operation, relay schemes functionality and relay settings.

You will learn how to:
1) Plan for the evaluation of power system events
2) Carry out the evaluation of power system events
3) Complete the evaluation of power system events

UETTDRTS32A: Conduct evaluation of power systems primary plant

Overview
This Competency Standard Unit covers the commissioning and maintenance testing requirements for primary plant and equipment. It includes both the practical application of the tests and analysis of results, covering, but is not limited to; applied HV testing and induced HV testing, ratio, polarity, winding resistance, impedance, dielectric loss angle, partial discharge and watts loss insulation resistance and transformer vector group. It encompasses a complete understanding of the nature of the tests being conducted and the ability to conduct the tests in a safe manner.

You will learn how to:
1) Plan for the testing of primary plant
2) Carry out the testing of primary plant
3) Complete the testing of primary plant
UETDRTS35A: Maintain complex network protection and control systems

Overview
This Competency Standard Unit covers the maintenance of network protection and control systems in complex situations and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and/or overhaul and functional checks. It includes schemes from discrete and interdependent and also schemes such as, distance, differential, transformer differential, bus zone, bus overcurrent, revenue metering, SCADA, communications, harmonic control, point on wave.

You will learn how to:
1) Plan for the maintenance of network protection and control systems (complex)
2) Carry out the maintenance of network protection and control systems (complex)
3) Complete the maintenance of network protection and control systems (complex)

UETDRTS36A: Commission complex network protection and control systems

Overview
This Competency Standard Unit covers the commissioning of network protection and control systems in complex situations and includes isolation, inspection, monitoring, testing, adjustment, and repair, refurbishment and/or overhaul and functional checks. It includes schemes from discrete and interdependent and also schemes such as, distance, differential, transformer differential, bus zone, bus overcurrent, revenue metering, current transformer accuracy, SCADA, communications, harmonic control, point on wave, HV plant testing.

You will learn how to:
1) Plan for the commissioning of network protection and control systems (complex)
2) Carry out the commissioning of network protection and control systems (complex)
3) Complete the commissioning of network protection and control systems (complex)

To enrol please contact enquiries@eit.edu.au
UETTDREL15A: Respond to power systems technical enquiries and requests

Overview
This Competency Standard Unit covers responding to enquiries of a technical nature using electricity supply industry (ESI) transmission, distribution and rail/tram network requirements, techniques and processes. It includes the relevant application of knowledge of relevant acts and regulations, codes of practice, guidelines and compliance regimes, and arrangements used to facilitate a response to enquiries or requests. The enquiries may be internal or with customers.

Note: examples include “storm codes” identification of key equipment, recognition of normal and abnormal industry situations, key processes and systems used in the industry such as, maps and the application of general safety and environmental processes and practices used in the industry.

You will learn how to:
1) Prepare to respond to technical enquiries and requests
2) Carry out responses to technical enquiries and requests
3) Complete responses to technical enquiries and requests

UETTDRS036A: Develop low voltage distribution switching programs

Overview
This Competency Standard Unit covers the preparation and/or checking of activities required to place the LV distribution network in a state in which work can safely be performed whilst minimising customer outages. The format is typically a written sequence of switching items in a pre-defined format. It includes planning outages and taking into account loading of network components. It also includes planning the management of multiple outages on the LV distribution network and the calculation of network loading conditions to ensure the network is operating within designed parameters.

You will learn how to:
1) Plan for the preparation of LV Distribution switching programs
2) Carry out the preparation of LV Distribution switching programs
3) Complete the preparation of LV Distribution switching programs
UETTDRS037A: Develop high voltage distribution and subtransmission switching programs

Overview
This Competency Standard Unit covers the preparation and/or checking of activities required to place the HV distribution and sub transmission network in a state in which work can safely be performed whilst minimising customer outages. The format is typically a written sequence of switching items in a pre-defined format. It includes planning outages and taking into account loading of network components. It also includes planning the management of multiple outages on the HV distribution and sub transmission network and the calculation of network loading conditions to ensure the network is operating within designed parameters.

You will learn how to:
1) Plan for the preparation of HV Distribution and Subtransmission Switching programs
2) Carry out the preparation of HV Distribution and subtransmission switching programs
3) Complete the preparation of HV Distribution and subtransmission switching programs

UETTDRS038A: Develop and evaluate power systems transmission switching programs

Overview
This Competency Standard Unit covers the development and evaluation of activities required to place the transmission network in a state in which work can safely be performed whilst minimising customer outages. The format is typically a written sequence of switching items in a pre-defined format. It includes planning for the management of the network and multiple outages. It encompasses the calculation of network loading conditions to ensure the network will operate within design parameters and in compliance with national electricity code.

You will learn how to:
1) Plan and coordinate for the preparation of HV Transmission switching programs
2) Carry out and coordinate the preparation of HV Transmission switching programs
3) Complete and coordinate the preparation of HV Transmission switching programs

UETTDRS040A: Coordinate high voltage distribution and subtransmission networks

Overview
This Competency Standard Unit covers the monitoring of HV distribution and sub transmission networks in real time. This includes voltage control and monitoring the status of access authorities and ensuring that the network is operated within design parameters at all times. It also includes dispatching and coordination of field repair crews to respond to and rectify abnormalities and liaison with other electrical authorities.

You will learn how to:
1) Plan for the coordination of HV distribution and subtransmission network
2) Carry out the coordination of HV distribution and subtransmission network
3) Complete the coordination of HV distribution and subtransmission network
**UETTDRS045A: Operate and monitor system SCADA equipment**

**Overview**
This Competency Standard Unit covers the skills and knowledge to operate, monitor and control HV apparatus on the network via SCADA control.

**You will learn how to:**
1) Plan and prepare for the operation, monitoring and control of system equipment
2) Carry out and coordinate the operation, monitoring and control of system equipment
3) Complete the operation, monitoring and control of system equipment

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**UETTDRS046A: Monitor and control the field staff activities**

**Overview**
This Competency Standard Unit covers the monitoring of permit to work requests, dispatching personnel, responding to alarms, travel and activity monitoring of field personnel, monitoring work activities of field personnel against work schedule, contingency skills, response to third party enquiries, out of hour, response to man down alarm, tracking of field personnel (remote area), monitoring activities on system equipment, monitoring availability of assets [maintain a log], monitor equipment status, coordinating field activities, controlling and authorising field works, preparing incident reports.

**You will learn how to:**
1) Plan for the monitoring and controlling of field activities
2) Undertake monitoring and controlling of field activities
3) Complete procedures monitoring and controlling field activities

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**UETTDRS047A: Coordinate high voltage transmission network**

**Overview**
This Competency Standard Unit covers the monitoring of HV transmission networks in real time. This includes power quality, alarm interpretation, facilitating and monitoring the status of access authorities and ensuring that the network is operated within design parameters at all times. It also includes dispatching and coordination of field repair crews to respond to and rectify abnormalities and liaise with other electrical authorities.

**You will learn how to:**
1) Plan for the coordination of HV Transmission networks
2) Carry out the coordination of HV Transmission networks
3) Complete the coordination of HV Transmission networks
UETTDRS048A: Respond to discrete and interdependent protection operations

Overview
This Competency Standard Unit covers the coordination of response to discrete and interdependent protection operations due to system faults.

You will learn how to:
1) Plan response to discrete/interdependent protection operations
2) Carry out response to discrete/interdependent protection operations
3) Complete the response to discrete/interdependent protection operations

UETTDRS049A: Coordinate power system operations in a regulated energy market

Overview
This Competency Standard Unit covers the coordination of system operations in a regulated energy market. It includes the relevant application of knowledge of the National Electricity Market (NEM), the practices and rules used in facilitating the coordination of operations in a regulated energy market.

You will learn how to:
1) Plan to coordinate System Operations in a regulated energy market
2) Coordinate System Operations in a regulated energy market
3) Complete the coordination of System Operations in a regulated energy market

UETTDRS032A: Manage power system network faults

Overview
This Competency Standard Unit covers the management of single incident faults on electrical network plant to ensure prompt restoration of supply to affected customers. Electrical network plant includes feeders, transformers and busbars from transmission to distribution voltages. The unit includes single incident faults ranging from simple (involving a single item and no loss of supply) to complex (involving multiple substations with extensive loss of supply). The unit also encompasses liaison with operating authorities and dispatching and managing field crews, as well as the monitoring of safe access to the network.

You will learn how to:
1) Plan for the management of a network fault
2) Carry out the management of a network fault
3) Complete the management of a network fault
**UETTDRS035A: Manage high voltage distribution and subtransmission network demand**

**Overview**
This Competency Standard Unit covers the management of the switching of HV network components with due regard to the loadings and prevailing network constraints and may include scheduling of generators, VAR compensators, load shedding and non-essential loads in response to NEMMCO or network requirements. It also includes voltage control equipment.

**You will learn how to:**
1) Plan for the management of HV Distribution and Sub transmission network demand
2) Carry out the management of HV Distribution and Sub transmission network demand
3) Complete the management of HV Distribution and Sub transmission network demand

**To enrol please contact enquiries@eit.edu.au**

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**UETTDRS050A: Respond to complex power system protection operations**

**Overview**
This Competency Standard Unit covers the coordination of response to complex protection operations due to system faults.

**You will learn how to:**
1) Plan response to complex protection operations
2) Carry out response to complex protection operations
3) Complete the response to complex protection operations

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