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Welcome from the Dean of Engineering

Dear Colleagues,

James Michener remarked: Scientists dream about doing great things. Engineers do them. Our flexible-attendance engineering courses are all unerringly focussed on practical applications (and in applying theoretical knowledge) presented by experienced engineers who are outstanding instructors; thus making your learning strongly job-focussed.

What is our unique offering?

In essence, we provide you with outstanding highly experienced engineering instructors sourced from around the world, with live web and video conference presentations with simulation software and remote labs (thus making for enormous convenience in terms of no travel and costs) at an affordable price. We believe that one day, all universities and colleges will be doing what we do now. Over the past twenty years, with tens of thousands of students having undertaken our courses throughout the world, we believe we have a unique offering which is working well.

Further details

The Engineering Institute of Technology (EIT) provides endorsed engineering Graduate Diplomas, Graduate Certificates, Advanced Diplomas, Diplomas and Certificates (Masters Degrees accreditation pending), designed for students working in industry who need a practical, relevant education that is delivered efficiently. Our students work in the fast-moving engineering and technology fields where time is precious. They choose the EIT online delivery because it provides many of the benefits of live classroom based study without the inconvenience of travel. EIT courses are run by expert instructors who present in a friendly and interactive manner. The vast majority of courses that can be studied at the EIT are presented using live, interactive distance learning. We and our students are convinced that this provides superior learning outcomes to some of the alternative online solutions that are on offer.

We go well beyond boring self paced E-learning to ensure true learning

We believe in ensuring live web conferencing throughout your learning experience. Where you can talk and interact with the instructor and your fellow students in real time (often referred to as synchronous e-learning).

This should be contrasted with the considerably less effective approach of asynchronous with no instructor present which we avoid. The internet plays host to a huge number of courses which are asynchronous or effectively a "book on the web". This self paced learning appears attractive (esp. in terms of price and convenience) but in practice you achieve minimal learning and there is an associated high drop-out rate. There is no doubt that it allows the freedom to download recorded lectures, reading materials and other course ware on demand. This is appealing because learners have all the apparent advantages of working when and where they wish. In reality a student may start with the best intentions, but in the longer term the distractions of daily life can interfere with the discipline required to complete the course. There are exceptions, but in practice well over 50% of students don’t make the distance. Hence we go well beyond this with live highly experienced and passionate instructors who you can interact with in real time in live web and video conferencing sessions.

We also go far further than a simple one-way Webinar

Remember the boring teacher that we all experienced in our early schooling -the one who talked for ages while your mind wandered? Or the interminable lectures from university and college lecturers that did not help your learning at all? Similarly, a web class may be live (with the instructor presenting in real time), but a presentation consisting of slide show and talk with no interaction is really no better than the old chalk and talk. It is all one way.

We thus make extensive use of the features of modern online presentation software that can bring webinars to life range from instant polling of the class for feedback and questioning, video, live application sharing (where you get to experiment with an application on the instructors computer), shared use of the whiteboard, simulation software which is an authentic replica of a real world scenario, access to remote laboratories, right through to simple audience checks such as the active use of emoticons. Interactive learning is synchronous, and the majority of courses offered by the EIT are presented in this style.
The EIT difference
The EIT’s instructors appreciate the power of online learning. They know how to utilise the features in the software to bring the sessions to life and involve students. Students get the benefit of actual interaction with their presenters and their peers.

Our experience proves that students are far more likely to finish a longer course if they have a regular commitment to attend a live and interactive online class. Students will make the effort to attend classes that are genuinely valuable and interesting. This also provides the extra motivation to fulfil the coursework obligations. We have proved this model works as measured by the number of students who proceed to completion.

We are all part of a rapidly changing, increasingly global community where the differences between vocational and university based engineering education are increasingly blurred. The knowledge and skill set required for a successful engineering career is changing on an almost monthly basis. A strong trend is the breaking down of boundaries between engineering sub disciplines and between the engineering, biology and health areas. The science and engineering disciplines are also moving closer together.

We must nurture a passion for lifelong learning in all our students to prepare them for and to take advantage of these changes. It is also our responsibility to educate engineers in using advances in science to improve the quality of life for people no matter where they are located in areas such as energy, environmental sustainability, food supplies, healthcare, medical, disease control, clean water and security. Ultimately, however it is critical that all our educational endeavours are focussed unerringly on giving our graduates real practical skills and know-how which they can apply to their jobs immediately making them as productive as possible.

All the best in your career.

Steve Mackay
Dean of Engineering
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; at Diploma level and beyond. The finest engineering instructors, with extensive real engineering experience in industry, are employed from around the world. The learning is enhanced through live, two-way, online (e-learning) technologies. The EIT offers Graduate Diplomas, Graduate Certificates, Advanced Diplomas, Diplomas and Certificates in a growing array of engineering fields. Many (perhaps, most) engineering faculties in universities and colleges experience a significant challenge delivering the course-work affordably and with excellence. The 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. The 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 courses to well over 300,000 engineers and technicians.

Benefits of E-learning

Students can:

- Upgrade skills and refresh 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 they need is an Internet connection
- Have constant support from course instructors and coordinator for the duration of the course
- Interact and network with participants from around the globe and gain valuable insight into international practice
- Learn from international industry experts
- Live interactive webinars, not just a ‘book on the web’

Engineering Institute of Technology Accreditation Status

The Engineering Institute of Technology (EIT) is an institute for higher learning. It has emerged from its founding organisation, IDC Technologies, which is an international provider of practical, technical training. Since its conception in 1991, three hundred thousand engineers, technicians and technicians have been trained globally. The EIT has received recognition, endorsement and/or accreditation, which varies by course and location, from authorising bodies based around the world. These include:

The Training Accreditation Council (TAC) – All of EIT’s accredited Graduate Diplomas, Graduate Certificates and Advanced Diplomas have been validated for delivery in all states and territories in Australia by the Training and Accreditation Council, which was established under the Vocational Education and Training Act 1996 and is an independent Statutory Body. The TAC is committed to being the national leader in the strategic management of the recognition and quality assurance of training, including associated policies, services and standards in the vocational education and training sector and to providing practical, efficient and responsive support for government, the State Training Board, industry training providers and the community. Future courses will be validated by the Australian Skills Quality Authority (ASQA), the newly formed (July 2011) national register for Australia’s vocational education and training sector. ASQA regulates courses and training providers to ensure nationally approved quality standards are met.

The New Zealand Qualifications Authority - in New Zealand recognises individual qualifications gained overseas on a case-by-case basis. Advanced Diplomas registered at the time of award on the Australian Qualification Framework (AQF) are typically recognised as broadly comparable to a national diploma at level 6 on the New Zealand Qualification Framework (NZQF)

IEEE Education Partner – The IEEE is based in the USA and is the world’s leading professional association for the advancement of technology, with more than 375,000 members in more than 160 countries. The EIT is an IEEE Continuing Education Provider.

The Institute of Measurement and Control in the United Kingdom - Britain’s foremost professional body for the Automation Industry. An EIT Advanced Diploma is recognised 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.

**Engineering Institute of Canada (EIC)** – The Engineering Institute of Technology (EIT) is a participating partner with the EIC and EIT courses and courses can be utilised by members to register for Continuing Education Units (CEUs). EIC’s continuing Education Course is supported by the Canadian Council of Professional Engineers, the Association of Consulting Engineers of Canada and the Canadian Academy for Engineering. The EIC is a member of the International association for Continuing Education and Training, with headquarters in Washington, DC.

**Engineers Australia (EA)** - The national peak body for all engineering disciplines. Existing members of Engineers Australia are entitled to claim CPD hours for private study, short courses and learning activities at the workplace. CPD hours can be claimed for our courses in most cases, but we would always advise individual members to check with EA if unsure regarding a specific course.

**The Engineering Council of South Africa (ECSA)** - ECSA aims to promote a high level of education and training of practitioners in the engineering profession and has validated a number of our courses. To view our list of validated courses and courses, visit ECSA's website www.ecsa.co.za and refer to the CPD Activities.

South African students who complete an EIT advanced diploma successfully can apply for recognition by SAQA who have determined that the course is at Level 6 in the National Qualifications Framework (equivalent to National First Degree or Higher Diploma) in South Africa’s education 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.

**EIT Instructors**

Information on Instructors at EIT can be found at http://www.eit.edu.au/instructors
E-learning Contacts

Feedback from students is welcome! E-learning students may, at times, feel isolated and a little alone, so they are encouraged to communicate with EIT staff.

**E-LEARNING DEPARTMENT** - The contact details for the e-learning department are as follows:

Paul Celenza: E-learning Manager
paul.Celenza@eit.edu.au

Ric Harrison: Engineering Education Manager
ric.harrison@eit.edu.au

Robyn Dupuis: ESI Course Manager
robyn.dupuis@eit.edu.au

Holly Adams: E-learning Coordinator
holly.adams@eit.edu.au

Angie Tran: E-learning Coordinator
angie.tran@eit.edu.au

Brie Vining: E-learning Coordinator
brie.vining@eit.edu.au

Rene Fassom: E-learning Coordinator
rene.fassom@eit.edu.au

**GLOBAL OFFICES**

The EIT head office is located in Perth, Western Australia [GMT +8]. Alternatively our global offices can be reached at the following numbers:

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E-learning Course Delivery

Presentation Format
The e-learning courses feature real-world applications and use 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 and interactive software system. For each course students will receive reading assignments (which will be delivered 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 can be accessed easily from home or office. Students will have ongoing support from course coordinators and instructors. For more information about the presentation of specific courses please contact the course advisors.

Time Commitment for Courses
Time commitment depends largely on the students’ prior knowledge and experience. Students will need to spend an estimated 6-10 hours per week for Certificate and Advanced Diploma courses, and approximately 10-15 hours per week for Graduate Diplomas and Graduate Certificates. This includes the reading of the material, attendance at live webinars as well as the time needed to complete assignments for submission. This time would be required to ensure the material is covered adequately and sufficient knowledge is gained to provide sound, enduring and immediately useful skills in engineering. The EIT operates almost all year long, so studies will continue most weeks of the year to enable students to achieve the qualification in an accelerated time period when compared to a traditional semester-based system.

Live Webinars
During the course students will participate in live interactive webinars with the instructors and other participants. Each webinar will be scheduled two or three times, so students can select the most convenient session. Webinar times are finalised after registrations close, as student time zones need to be taken into consideration for scheduling. Students will be asked for their attendance preference on the enrolment forms.

Hardware and Software Requirements
To join the webinars students need an adequate Internet connection, PC, speakers and a microphone. The software package and setup details will be provided to students on the start date of the course. The software is included in the course fee.

Practical Exercises, Remote Labs and Assessments
Students will participate in practical exercises using a combination of remote laboratories and simulation software, to ensure they receive the requisite hands-on experience. This will provide solid practical exposure to the key principles covered in the course and ensure students are able to put theory into practice. It is only through these hands-on exercises using simulation software, remote laboratories, practically based assignments and interactive discussion groups that students are able to internalise new knowledge, "take ownership of it" and apply it successfully to the real world. Traditional distance learning presents challenges in achieving these goals but the EIT believes that today, with the modern e-learning technologies available combined with outstanding lectures, we can provide an equivalent or indeed even better experience than on a traditional university campus. Students should note that there is some degree of overlap between the practical sessions and the different modules to reinforce the concepts and to look at the issues from different perspectives. Practical sessions may be added, deleted or modified by the lectures to ensure the best outcome for students.
**Entrance Requirements**

**Certificate Courses:** Some practical work experience in relevant topics would be advantageous.

**Advanced Diploma Courses:** The advanced diplomas are accelerated, practical, work-oriented courses designed for engineers and technicians who have some background in the field. This includes those who have technical or ‘trade’ qualifications who want to move to the next career step, those with substantial relevant work experience who need to formalise and enhance their achievements, and those with higher level qualifications in a related field who wish to develop specialist knowledge. Practical work experience in related areas of engineering would help enormously. It would not be suitable for a student with no relevant work experience.

**Vocational Graduate Diploma and Vocational Graduate Certificate Courses:** Applications are considered on a case-by-case basis; however suitable applicants should be seeking to achieve advanced know-how and expertise in industrial automation, electrical and instrumentation engineering. Potential students include:

- Practising engineers or technicians with advanced knowledge, experience and education. (such as a 3 or 4 year bachelor’s degree)
- Practising electrical and instrumentation technicians or engineers with demonstrated competence
- and interest in industrial automation Engineers or technicians from another discipline (such as mechanical and chemical engineering) wanting to up skill in this area
- Individuals who have successfully completed a relevant advanced diploma and cemented this study with extensive practical experience.

**Other Courses:** please contact the EIT for information.
Course Fees
The Engineering Institute of Technology (EIT) provides courses to students located almost anywhere in the world – it is one of the very few truly international training institutes. Course fees are paid in a currency that is determined by the student’s location. The EIT understands that cost is a major consideration before a student commences study. A full list of costs in a currency appropriate for every location would be difficult to navigate. Instead we aim to give students a rapid response regarding costs that is customized to individual circumstances. Please contact our office for further details.

Professional Certificate of Competency Course - Payment Options
Certificate courses are paid upfront in full and are required to be finalised 2 weeks prior to course commencement. Group discounts are available for our 3 month certificates. Fees include all live webinars with a professional instructor, course materials, software, postage, assignments and ongoing support.

Advanced Diploma Course - Payment Options
There are three payment options available.

OPTION 1 – Upfront Payments
Pay total amount upfront, and receive 5% discount off the total course fee.

OPTION 2 – 6x Instalments by Credit Card
Payment in 6 equal instalments over 18 months. First payment is due 2 weeks prior to course commencement, then the remaining five every 3 months thereafter. Payment dates will be set ahead of time and provided prior to commencement of the course.

OPTION 3 – 18x Monthly Instalments by Credit Card
First payment is due 2 weeks prior to course commencement, then on the same date every month for the duration of your course. This option incurs a 2% administration fee and payment dates will be set ahead of time and provided prior to commencement of the course.

Vocational Graduate Diploma Course - Payment Options
There are two payment options available.

OPTION 1 – Upfront Payments
Pay total amount upfront and receive 5% discount off the total course fee.

OPTION 2 – 12x Monthly Instalments by Credit Card
First payment is due 2 weeks prior to course commencement, then on the same date every month for the duration of your course. This option incurs a 2% administration fee and payment dates will be set ahead of time and provided prior to commencement of the course.

Vocational Graduate Certificate and Advanced Professional Certificate Course - Payment Options
There are two payment options available.

OPTION 1 – Upfront Payments
Pay total amount upfront and receive 5% discount off the total course fee.

OPTION 2 – 2x Instalments by Credit Card
First payment is due 2 weeks prior to course commencement and second payment is due 3 months after. Payment dates will be set ahead of time and provided prior to commencement of the course.

Course fees include all live webinars with a professional instructor, course materials, software, postage, assignments, a library of 30 e-books and ongoing support.
Frequently Asked Questions – E-learning Courses

Are IDC Technologies and the Engineering Institute of Technology (EIT) connected?
IDC Technologies began providing cutting-edge technical and engineering training in the early 1980’s. From 2007 the decision was made to offer selected courses via distance education using the latest e-learning techniques. Demand for these courses grew so much that a unique new entity known as the Engineering Institute of Technology (EIT) was launched to focus on advanced distance learning in engineering and technology.

The EIT is intended to help you advance your career when you do not have the time for on-campus study or cannot find courses with practical “real world” content that you can apply at work. The EIT offers engineering certifications, delivered online with practical course content by world class instructors. This provides you with the benefits of live, classroom based study in a more efficient, flexible and cost effective manner.

SECTION 1: E-LEARNING OVERVIEW
What is e-learning?
Our e-learning courses are designed for engineers, technicians and electricians who prefer not to be limited by time or distance and need to develop skills and knowledge in a particular subject.

E-learning is a form of distance learning, where some or all of the course components are presented online. In the e-learning environment the presenter of the material and the participants are not physically present in the same room. Instead, they can meet in a ‘virtual’ room. In our courses, the material is shared via the internet in a live webinar.

Our e-learning courses incorporate a live approach, also referred to as the synchronous approach. This ensures that the training is highly interactive, to maintain the motivation and discipline necessary for successful completion. We know that if the learning is not interactive then the students’ chances of completing the course fall dramatically. The live sessions are supported with reading and assignment work.

You will be required to ‘log in’ to your ‘webinar classroom’ at a pre-arranged time together with several other participants from all over the world. The moderator in attendance will be a real instructor, qualified and experienced in the particular topic. The presentation (or live webinar) is usually between 60 and 90 minutes, but this can vary depending on the number of questions from students. At any stage the instructor can be signalled if queries on the course material exist. After each presentation there is a question and answer session where you can talk to the instructor, as well as to other participants.

Does the EIT provide support to students?
Yes, each course has a designated course coordinator to assist you throughout the course. They are there to make your studies an enjoyable experience and to assist you in reaching your academic goals. You will also have the support of qualified and experienced instructors.
How does it work?

The course consists of a number of modules or units (this varies from course to course) over a given time period involving live, interactive webinars. Some modules or units may involve a practical component or group activity and simulations may be used. For each module or unit there is an initial reading assignment along with coursework or problems, and in some cases, practical exercises. You will have access to ongoing support from your e-learning coordinator and instructors.

Is it a ‘book on a website’?

No, our e-learning courses are designed to be as interactive as possible. You will receive materials electronically and participate in live webinars with instructors and students from around the world.

Doesn’t it get boring? How can an e-learning course 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.
How long is the course?
The duration of the courses vary. For specific information please contact us.

Can I pause my progress and come back to complete the course later?
The webinars cannot be postponed and are set within a given time frame however, it is possible to discontinue a current course and join the next at the same point for an additional fee.

Can I complete the course in less time?
Our courses actually require ‘attendance’ and participation at the live webinars. The interaction which takes place is an important part of the learning process. See also ‘What if I cannot join or I miss a live webinar’ in section 2, below.

The course reading and assignments may consume anywhere from 5 to 10 hours per week, depending on the course and your existing knowledge, so accelerating the course would be quite onerous for most students.

When will I receive my materials?
All materials required for our e-learning courses are available in electronic format on course commencement date. We use a Learning Management System called “Moodle”, which acts as a student portal. You will be provided with a unique username and password, which you use to log into your particular course site. Here, you will be able to access all your course materials, receive and submit assignments and grades, use forums, live chat facilities and much more.

Will I receive notification that I am enrolled on this course?
You should enrol using the appropriate form for each course. Once this is received a provisional confirmation is provided within 7 to 10 days.
SECTION 2: LIVE WEBINARS

What do live webinars involve?
These are live, interactive sessions over the Internet. You will join the instructor and other participants from around the world in an online ‘virtual classroom’ where you are able to watch a presentation, and communicate with the instructor and other students via audio, text messaging or drawing on the whiteboard. Each webinar is between 60 and 90 minutes in duration and the sessions are scheduled at 2 or 3 different times during the presentation day. This allows you to select the session which is most convenient.

Will it be a live session?
Yes the webinars are live (in real time) and interactive. All students and the instructor log in to the webinar ‘room’ at the scheduled time.

How long will the sessions be?
The sessions are usually between 60 and 90 minutes, depending on how many questions the participants have.

What if I cannot join or I miss a live webinar?
You are required to attend at least 70% of webinars in order to successfully pass the course. Webinar attendance accounts for 20% of your overall course grade. If you have work, family or health circumstances which prevent you from attending a particular webinar, please notify your course coordinator prior to the webinar date.

If you are unable to attend a webinar you can submit a dot point summary in your own words that covers all the main points of the webinar. The summary will need to demonstrate that you have watched the recording and understood what was presented.

Where do I download the webinar software?
All the necessary instructions to download and install the webinar software will be available to you on course commencement date. There is no charge for the software.

When will the sessions take place? When will I receive a webinar schedule?
Our courses are promoted globally and we often have participants from several time zones. Once Registration is finalised, we will create schedules which will endeavour to meet everyone’s requirements. Each webinar runs 2 or 3 times during each presentation day and we try our best to ensure that at least one session falls into your requested time frames. This is not always possible, however, due to the range of locations of both presenters and students. If you are unable to attend the webinars scheduled, please contact the EIT for more details.

Are the sessions held at the same time of day/day of the week every time?
We do try to keep the schedules as consistent as possible.

Can I talk to my instructor throughout the session or is all the communication one-sided?
Communication with the instructor is encouraged via microphone, drawing on the whiteboard or by typing in the chat box.

Can I discuss problems with the other people in the session or am I restricted to talking to the instructor?
Interaction with everyone in the room involved in the session is not only possible, but encouraged. You can communicate with other participants on the course via the chat box. Each course has its own webinar room allocated to it. All students are encouraged to form study groups and bounce ideas off each other. The webinar room is available to students at all times.

What language are the webinars presented in?
All webinars are presented in English.
The basic layout and tools available in the webinar software

- Audio and Visual
- Participants
- Chat
- Slides and Whiteboard

Guest Speaker
Richard Morley

- Richard E. Morley, best known as the father of the programmable logic controller (PLC), is a leading visionary in the field of advanced technological developments and is an internationally recognized expert in the field of computer design, artificial intelligence, industrial automation and is an authority on the factory of the future.

www.eit.edu.au
SECTION 3: HARDWARE AND SOFTWARE REQUIREMENTS

What do I need?
An adequate internet connection, speakers and a microphone. A headset is recommended. The necessary software and course materials are provided to you throughout the course.

What hardware and software do I require?
A participant’s computer is referred to as the ‘client’ machine. The following are recommended configurations. Slightly less powerful machines may still work reasonably well, but faster is better.

Windows Client
• Windows 98/ME/2000/XP/Vista/7
• Pentium III 500 MHz processor
• 128 MB RAM
• 20 MB free disk space
• Soundcard with headset

Mac Client
• Mac OS 9.1/9.2, Mac OS X 10.1/10.2/10.3
• G3 233 MHz
• 64 MB RAM (OS9), 128 MB RAM (OS X)
• 20 MB free disk space
• Soundcard with headset

Java Desktop System Client
• Java Desktop (latest version)
• Pentium III 1 GHz processor
• 256 MB RAM
• 20 MB free disk space
• Soundcard with headset

SPARC Solaris Client
• Solaris 9
• UltraSPARC llc 300 MHz
• 128 MB RAM
• 20 MB free disk space
• Soundcard with headset

Do I really need a headset?
Headsets are recommended for sound quality and to avoid feedback through the microphone. Built-in loudspeakers and microphones will work, but are not ideal. Even when microphone problems occur, the presentation can be followed with audio alone. Feedback or questions can be typed using the direct messaging tool. We do strongly recommend a microphone for optimum interactivity.

Do I need any special software?
Yes. The necessary software and set-up instructions are available on commencement of the course.

Can I use a dial-up connection?
A broadband connection such as ADSL is ideal. However, a reliable dial-up connection as slow as 28.8 kbps can work because the software will compensate for it. A slight delay with the sound might be experienced as a result.

Who can assist me if I have technical difficulties with the software?
We ask that you install and test the software well before any webinars. Instructions for joining a “test room” are provided. Due to company firewalls, you may experience initial problems which we will work through to correct well beforehand. If you plan to join while at work, it is recommended that you approach your company’s IT department to assist with a test connection prior to the course start date.

What level of computer skills do I need to have?
We recommend that you have basic computer skills. The webinar software is, however, very user friendly and easy to use. Most problems are experienced during the initial setup of the software (usually due to firewalls) so if you have limited computer knowledge we recommend you have some technical support nearby initially.
**SECTION 4: CERTIFICATION**

What type of certificate will I receive?

For Professional Certificate of Competency courses, successful participants will receive an EIT Certificate of Competency. For Advanced Diploma courses and above, you will receive a qualification - an accredited Advanced Diploma, Graduate Certificate or Graduate Diploma - on successful completion.

Are the courses accredited?

The Engineering Institute of Technology e-learning courses are offered globally and unfortunately no one institution can provide us with global accreditation. To resolve this we have sought accreditation and/or CPD validation from a number of institutions worldwide. They include:

- **The IEEE** - the world’s largest professional association advancing innovation and technological excellence, with over 375,000 members. The EIT is an IEEE Continuing Education Provider.

- The Advanced Diploma, Graduate Certificate and Graduate Diploma courses are officially accredited within the Australian Qualifications Framework by the Training Accreditation Council, and approved by the national government regulator, the Australian Skills Quality Authority (ASQA), for delivery by the EIT in all Australian states. This framework is the only national system in Australia and is very rigorous. It is recognised in many countries. Information is at: [http://www.aqf.edu.au/Overseas/Internationalstudents/tabid/200/Default.aspx](http://www.aqf.edu.au/Overseas/Internationalstudents/tabid/200/Default.aspx)

- **Engineers Australia** is the national peak body for all engineering disciplines. It represents 85,000+ members and its chartered engineers are regarded as trusted professionals not only in Australia, but worldwide. Existing members of Engineers Australia are entitled to claim CPD hours for private study, short courses, and learning activities at the workplace. CPD hours can be claimed for our courses in most cases, but we would always advise individual members to check with EA if unsure regarding a specific course.

- After discussion with **NZQA**, we have been advised that our advanced diploma courses are broadly comparable to a Level 6 qualification in New Zealand. The specific statement from NZQA is: “Advanced Diplomas, registered at the time of award on the Australian Qualification Framework (AQF) are **typically recognised as broadly comparable to a National Diploma at level 6** on the New Zealand Qualification Framework (NZQF)”.

- Most past graduates have not applied to **South African Qualifications Authority (SAQA)** for accreditation of their advanced diploma, but we have now a few successful examples of students who have applied and received formal certification. After personal application to SAQA for recognition of their foreign EIT advanced diploma qualification, SAQA have determined that it is at Level 6 in the National Qualifications Framework (equivalent to National First Degree or Higher Diploma: [www.saqa.org.za/show.asp?include=focus/ld.htm](http://www.saqa.org.za/show.asp?include=focus/ld.htm)) in South Africa’s educational system.

- **The Engineering Council of South Africa (ECSA)** has more than 20,000 members. ECSA does not accredit courses as such. Instead they act as the “umbrella” organisation for bodies such as SAIMechE, SAIMC, and SAIEE. In S Africa many of the modules which make up this new course are validated for CPD by SAIMechE & SAIEE (and hence appear on the ECSA website).

- **The South African Institution of Mechanical Engineers (SAIMechE)** covers all fields of application including automobile, energy generation, process engineering, heavy manufacture, design, management, research, mining and education.

- **The Institute of Measurement and Control** in the United Kingdom - Britain’s foremost professional body for the Automation Industry. The Advanced Diplomas and Graduate Diplomas are recognised 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 and Graduate Diplomas are also approved by the Institute as providing CPD.

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

It is very important to us at the Engineering Institute of Technology to ensure that our clients can confidently attend our courses knowing that the professional development they are receiving is of a creditable standard and will provide them with measurable productivity gains and the opportunity for career advancement. We have rigorously designed procedures to achieve this end; from the conception of the topics through to the training of the instructors/presenters, prior to the course delivery.

In order to receive the necessary endorsements the EIT has been through the formal and often exacting application processes with success as outlined above.

The EIT is developing accreditation and recognition with other notable organisations and current information will be added to our website as news is available.

If you need more information regarding the status of a particular e-learning course before enrolling, please do not hesitate to contact us by phone or via email: enquiries@eit.edu.au or through your local EIT office.
SECTION 5: GENERAL ASSESSMENT DETAILS

Is recognition of prior learning (RPL) available?
Yes, for diplomas and above there may be an opportunity for RPL providing that your previous learning was at a similar level. Please see the detailed course brochure for more information on this subject, or contact us for a copy of our policy outline.

How are we assessed and what do the assessments involve?
A series of assessments are completed during the course. These demonstrate understanding of the materials and the grading systems are equally ‘testing’ and rigorous.

The assignments are not designed to trick you or be overly difficult; they are based on the materials you receive and the content of the webinars. Some questions may require you to do your own research, but generally they are designed to demonstrate your understanding of the subject.

Weighting:
Set assignments will carry 80% of the overall course mark (one assessment per module) and 20% of the course mark is allocated to webinar attendance. Please note though that for Advanced Diploma, Vocational Graduate Diploma, Vocational Graduate Certificate and the Advanced Professional Certificate courses, a 70% webinar attendance rate is also required to pass the course. For the Professional Certificate of Competency courses requires a 65% attendance.

To successfully graduate from the course students are required to submit ALL assignments and receive at least 50% for each assignment.

Format:
Assignments can take the form of (but are not limited to):

- Multiple choice questions
- Short answers
- Quizzes
- Calculations
- Diagrams and drawings
- Use of simulation software or remote laboratories
- Case Studies

Assignments are designed to take approximately two to three hours to complete, however this is likely to vary from student to student. As modules vary in length, some assignments will take longer than others.

*Please note that the Vocational Graduate Diploma may also include exams.

What if I fail an assignment?
Students can apply to resit particular module or unit assessments, but a small administration fee will be incurred. They can contact their course coordinator for further details.
SECTION 6: GENERAL QUERIES

What does it cost?
For course fees, simply contact your nearest office or email us for a prompt reply. Payment options are available for ease of enrolment.

If I do another e-learning course is there a discount available?
Yes, on completion of one e-learning course with the Engineering Institute of Technology a 5% discount on any future e-learning course is given.

Why is there a difference in costs between your Advanced Diploma course and a similar course offered at my nearby government technical institution?
The reason why our advanced diplomas are so successful and highly regarded by industry are for some of the following reasons:

- Our instructors are selected and recruited from amongst the top engineers/instructors in their field - worldwide. We have also set guidelines around presentations and delivery to provide outstanding materials to you. We require them to present well and provide outstanding materials to you.
- Outlined in the course brochure, you will see the courses are aimed at practising professionals giving hard-hitting practical skills and knowledge relevant to today's market and aimed at someone who is working in the industry. We design and select the examples and practical exercises in the course based on real-world business requirements including feedback from the tens of thousands of students we have trained over many years.
- We have experience in training over 150,000 engineers and technicians throughout the world and have built up a library of (what we believe are) 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 included in the cost of the course.
- The course 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 course.

My employer is helping to pay the course costs. How can they monitor my performance?
For most courses, including the Advanced Diploma courses, progress can be monitored via Moodle (the Learning Management System). Progress reports may be requested at any time. We will require your written permission to disclose your information to your employer.

How much time do I need to spend on the course every week?
This depends on your existing knowledge and varies from course to course, but we estimate between 5 and 10 hours per week. This includes the live webinars, set reading materials and assignment work.

If I am struggling to keep up with the workload can I get any extra help or tuition?
Absolutely. We understand that furthering your education is a huge commitment, and most of our students have full time work as well as family commitments. We will do whatever we can to assist you in the course. The instructor is available to help via email, Moodle or Skype, and depending on the situation extensions are available for assignments if need be.

Do I need to have any qualifications to understand it?
This varies from course to course and is usually essential for the Advanced Diploma courses and above. Please contact the EIT for the requirements for specific courses. A four month Preparation course is offered which is designed to update your maths, physics and chemistry knowledge.
Are there a maximum number of participants allowed per course?
Yes. In order to maximise the benefit you receive from the course, and to provide you with as much interaction as possible with the instructor and other participants we do limit the number of students per course. The maximum number varies from course to course. We also keep webinar numbers below a set level in order to encourage interaction. If we do receive a high number of registrations for a course we ensure that we have enough webinar sessions to cater for everyone.

Do I have to start on the designated commencement date?
The commencement date is merely the date that registrations close. On or just after this day the information packs and your course access details are dispatched. The first week is effectively “orientation” week. The first webinar usually occurs in the second week, once enrolments are finalised.

Can I have the contact details of the other participants in the course?
The EIT is not permitted to share any student contact information with other students and EIT strictly adheres to this. However students are welcome to share their contact details.

If I don't understand something am I able to contact the instructor after class?
Yes, the instructor will almost always stay behind ‘after class’ for questions. Participants can also contact the instructor via email, Moodle or Skype.

What if I am unhappy with any part of my course?
Please contact your course coordinator immediately. The course coordinator will work with you to address any issues and find a resolution.

If you have any other queries, please contact your nearest EIT office. Locations and contact details can be found on our website. Or email us: enquiries@eit.edu.au
Software and Technical Issues

Setting up Blackboard Collaborate Webinar Software

SETTING UP YOUR COMPUTER

We recommend that you do this at your earliest convenience, preferably at least a few days before your first session. This may take a while on a dialup link, so please allow sufficient time before the first session.

Below are the steps that you will need to follow:

- Ensure that you are at the computer on which you will attend your live webinar session and that it is connected to the Internet.
- Ensure that you have a headset or microphone and speakers to take full advantage of the audio capabilities during the session.
- Ensure that you are an administrator on your computer and can install software. If you are unsure, please contact your system administrator.

Step One: Installing Java Web Start

To pre-configure a workstation or laptop, access www.blackboardcollaborate.com (this will bring you to Blackboard Collaborate website) and click on the ‘Support’ button, then follow ‘First Time User’ instructions.
Click on Blackboard Collaborate Web Conferencing
Follow the Step-by-step instructions to download the software.

• When the installation is finished, Java Web Start is ready to use.

Step Two: Installing and Testing Blackboard Collaborate

• Click on the button labeled ‘Join Configuration Room’
  o Enter your first name on the sign-in page.
  o During the installation you may see a security warning that states “This application is requesting unrestricted access to your local machine and network.” Click ‘Start’.
  o You may see a License Agreement. Click on ‘I Agree’.

• Once you are in the Configuration Session, follow the directions displayed on the Whiteboard.

• When complete, choose ‘Exit’ from the File menu.

We recommend you participate in the on-line orientation session at http://support.blackboardcollaborate.com which will help you set up your audio, and help familiarize you with the software and tools available.
Troubleshooting Blackboard Collaborate

When installing Java Web Start (JWS) and the Java Application Resource (JAR) files, some technical issues may be encountered due to Security Policy stipulations of your organization and resulting firewall restrictions. Below are the solutions to the common issues.

**Problem:** Can not install the software because participant has no Administrator privileges for computer system.

The solutions are:
- Request the System Administrator to log in and download JWS. Once this is done, the user can then log in and join the session. Note that this is a one-time download.

**Problem:** Firewall or proxy is blocking access.

There are two possibilities – the firewall/proxy is blocking the download of the JAR files or is blocking connection to the Blackboard Collaborate server.

The solutions are:
- All meeting rooms created via the Session Administration System use HTTP Tunneling. Firewall issues can be easily solved by configuring Java Web Start and your proxy settings in Blackboard Collaborate. The proxy settings are available from your Internet browser. Depending on your network, there are cases when this information is not available and will require the intervention of the System Administrator, to provide the proxy information or open up a port (80 or 2187) so that you can connect. For connection to session recordings, port 83 needs to be open.

Should you have any technical issues with Blackboard Collaborate access, please contact their Support Team with the following link: [http://support.blackboardcollaborate.com/ics/support/default.asp?deptID=8336&task=knowledge&questionID=1](http://support.blackboardcollaborate.com/ics/support/default.asp?deptID=8336&task=knowledge&questionID=1)

For any other queries please contact your nearest EIT office. Contact details are available on our website: [www.eit.edu.au](http://www.eit.edu.au)
Moodle – Learning Management System

Introduction - What is Moodle?

During the course, you will be required to access our learning management system “Moodle”. This is an Learning Management System (LMS) where you will be able to access your webinar details, learning materials, receive and submit assignments and interact with fellow students.

Each of you will have a unique username and password issued to you. Only you, the course instructor and course coordinator will be able to access your details and grades.

You will be provided course details in your induction email. This included: Course Category, Course Name, Course Code, Username and Password.

Please note - you will be required to check Moodle frequently for any new resources, updates and webinar schedule changes. It is your responsibility to check your Moodle account for new information as the course coordinator will not be sending all updates by email.

How to log into Moodle and access your course information

Go to http://www.eit.edu.au/moodle/
Click on LOGIN (top right hand corner).

Enter your Username and Password as indicated.
On the home page, click on your Course Category – eg Electrical.

Locate your Course Name and Course Code
Please access Moodle and familiarise yourself with the layout and functions.

Please read through each of the documents carefully and complete and return any forms required to EIT.

You have access to the ‘Introduce Yourself’ Forum so try and introduce yourself to the group.
Each of the numbered sections under Module Outline refer to each individual module in your course (total number will vary between courses). This is where you can download your reading materials, access your webinar schedules, assignments and additional information.

Within each module, the study materials will become available to you as you progress through the course. To access the materials, simply click on the relevant link.
Interacting with other students

There are many ways to contact/interact with other students in your course. If you select on the PARTICIPANTS link (circled below) you will see a list of all participants in the course.

You can send students messages, see their details or when they last accessed the Moodle site by clicking on their name in the list that appears as per below.
You can also create your own blog. Click on the BLOG tab indicated by the red arrow below. Blogs created by any other students will be listed here. Click on ADD A NEW ENTRY (below) to create your blog. You can upload files up to 2MB.

Editing your Profile

Your course coordinator will only add your name and country details to your profile. Due to privacy rules, we are not permitted to share your email address and contact details with students without your permission. If you would like to edit your details, add information to your profile or share your contact details with other students you can do so by clicking on the 'PROFILE' link below. You are welcome to change your password if you like, but please make a note of the new password so you do not lose it.
Moodle Terms of Use

Background:
The Engineering Institute of Technology (EIT) Moodle website automatically tracks personal information about how students use module materials, including first and last log on, how much of the course material has been accessed, the number of discussion messages posted and read, and whether mail has been read. It also keeps transcriptions of discussion board postings. Moodle retains electronic assignment submissions, and the results of any online assessment. The EIT’s authorised personnel with legitimate educational and/or management interests have access to this information.

Privacy Statement
The EIT will set up a profile in Moodle for all students, however only name and country details will be added and visible to fellow students. The EIT is not permitted to share any contact or personal information without permission.

Students are able to edit profiles and share more information with fellow students at their own risk. The EIT strongly recommends that students do not share physical addresses or personal information not related to the course.

Inappropriate Content
Moodle is intended for course related information only. The EIT expects students will not post any inappropriate content, including:

1. Inappropriate language, for example, harmful or abusive language, expletives or profanities, obscenities, hate speech, or harassing, offensive, vulgar or sexually explicit language;
2. Content which is indecent, inflammatory or pornographic;
3. Defamatory comments;
4. Confidential information;
5. Commercial messages or advertising material;
6. Any illegal material;
7. Posting copyright content without permission of the owner;

Please bear in mind that this is not an exhaustive list and students should exercise careful judgment before submitting any content.

The EIT will be monitoring the Moodle site. The EIT does have the right to remove offending posts and disable users if the need arises.

Students can report any offensive content by emailing paul.celenza@eit.edu.au

Please sign and return this document to the relevant course coordinator to indicate that the information above has been read and understood.

Signature: __________________________
Print name: __________________________
Date: _________________
Webinar Schedules

How to use the time zone converter
You will receive your webinar times in UTC/GMT time.

Example:
Webinar 1 - Topic 1

UTC/GMT  Monday, 6 February 2012 at 17:00:00

Please Note:
(UTC Coordinated Universal Time - the international basis for other time zones. Same time as for GMT (Greenwich Mean Time) and Zulu time. Note that United Kingdom is not on GMT during summer.

To work out what time this is in your local time, you will need to use the time zone converter.


You will see the following screen:
2) Enter the given UTC/GMT time at the top, in the red circled
3) Select UTC/GMT from the drop down list in the first ‘LOCATION’ field.
4) Select your location from the second ‘LOCATION’ drop down menu.
5) Click on the ‘CONVERT TIME’ button and you should see the following screen

6) The local time at the location you selected should be displayed HERE:
Application for Admission & Enrolment

Enrolment Application
All students are required to complete the appropriate enrolment forms for the course they intend to study. Enrolment forms can be obtained by clicking on this link http://www.eit.edu.au/course-enquiry and completing the form. The EIT will then respond with the relevant information as requested on the online form. The appropriate enrolment forms will also be included in the response.

Recognition of Prior Learning/Credit
Students wishing to apply for exemptions or Recognised Prior Learning for specific modules must complete the Recognition of Prior Learning Application form and submit this together with the Application for Admission Form. The RPL Application Form is available from your nearest EIT office. Please read the Credit and Exemptions Policy carefully before submitting your RPL Application form.

Internet Access
All EIT courses of study have an online component and Internet access is compulsory for successful completion.

English Language Proficiency
All students will need to meet the Institute’s English language requirements. Students who indicate a first language other than English may be required to provide evidence of English proficiency. Students may be deemed proficient in English if they have completed a degree or diploma within the last 3 years where the sole language of instruction used was English. In this instance students will be required to provide certified evidence. Applicants whose first language is not English may also be asked to provide evidence of English proficiency. Please see our website (proficiency in the English language) for more details.

Additional Information Required by the Australian Government
All Vocational Education and Training providers are required to collect statistical information from students such as age, education level, indigenous status, disabilities and employment details. These sections are compulsory for all students, Australian or otherwise.

Terms and Conditions
The EIT’s offer of a place is strictly subject to your acceptance of the terms and conditions. Please ensure that you read and understand all terms and conditions before submitting your application.

Confirming your Enrolment
If your application is successful you will receive a Provisional Confirmation of Enrolment email from the coordinator of your course. One the first instalment is successfully processed two weeks before the start date of the course you will be confirmed as being enrolled in the course.

EIT Admission Terms and Conditions
Before accepting our offer and enrolling to study at the Engineering Institute of Technology, please ensure that you carefully read and understand the terms and conditions. EIT’s offer of a place is strictly subject to your acceptance of the terms and conditions outlined below:

1. Students are required as a condition of enrolment to abide by and understand EIT’s Regulations, Policies and Procedures. Copies of these documents are available to all students on the Institute website as well as in the student handbook. (Although policies and procedures may be amended from time to time by the Academic and/or Governance Boards, changes are communicated to students). If regulations are breached or disregarded an enrolment cancellation may result, and students may not be entitled to a refund of fees or charges paid during their period of enrolment.
2. As per the tuition payment and refund policy, the first payment instalment is to be received before the commencement of the course. If payment is not received by a student by this date, the place may be offered to another student on the course waiting list. Students who wish to pay by instalment, must ensure the necessary funds are available on the date that the instalment is due. Failure to pay an instalment on time will result in a suspension from the course until the required fees have been received by EIT. If a delayed or missed payment results in the missing of significant amounts of the course, a transfer to another course may be necessary. This will facilitate re-entry to the course at the point where the study was terminated. A transfer will incur a fee of US$200. Students will not receive the final award certificate or statements of results until all necessary payments have been received by EIT. Please see Tuition and Refund Policy for further details.

3. EIT will endeavour to deliver all educational courses as outlined in the course brochures and prospectuses, however EIT reserves the right to alter the structure, content and delivery of educational courses, if deemed necessary by the academic board. Course content and material is continuously reviewed and amended to remain in accordance with the latest technology, industry demands and to offer the optimum result for students. Changes to the structure, content and material may be altered or updated during the course of study. EIT will notify all students with the details of any changes at the earliest possible instance, and guarantees the highest possible level of education and quality of materials. EIT, therefore, reserves the right to vary the contents and delivery of courses, to discontinue, merge or combine courses and to introduce new courses. Such changes may occur either before or after admission.

4. EIT reserves the right to alter teaching or administrative staff on all courses. EIT ensures that all instructors will have the required technical knowledge and experience to deliver the course material to the required standard.

5. Students are responsible for their own textbooks, e-books and course materials. EIT will not be held responsible for any loss or damage to these items other than through the negligence of the Institute, its staff or agents.

6. EIT reserves the right to cancel or postpone a course or refuse enrolment to students as permitted by law in the state of Western Australia. EIT will endeavour to notify students regarding cancellations as soon as possible.

7. For any changes to student name, contact details or enrolment information, students are required to notify EIT as soon as possible. Students can do so by contacting the designated course coordinator.

8. EIT has a Complaints, Grievances and Appeals Policy available on the Institute website. Students can request a copy of the student handbook by contacting enquiries@eit.edu.au
Policies and Procedures

Life ‘at’ the College

EIT policies and procedures are working documents and are constantly evolving in accordance with our policy of continual improvement.

Please refer to: http://www.eit.edu.au/organisation-policies for a current list of policy and procedures. NOTE: This list does not represent a definitive set.

The policies have received preliminary approval by both the EIT Governance and Academic Boards. Policies are regularly reviewed according to the appropriate review period stated within each policy.
Course Directory

School of Engineering Management

Vocational Graduate Diploma of Project Management in Industrial Automation

National Course Code: 52437WA

Further details of this course can be found by clicking on: http://www.eit.edu.au/vocational-graduate-diploma-project-management-industrial-automation

COURSE OBJECTIVES:
• Skills and credibility in Project Management in Industrial Automation
• Advanced skills and knowledge in the latest advanced technologies in industrial automation, for professional or highly skilled work and/or further learning
• Practical know-how from practising experts with demonstrated ability
• Credibility as an advanced practitioner in industrial automation
• Ability to make independent judgements and high level decisions in a variety of technical or managerial contexts
• Knowledge and skills to be actively involved in planning, implementation and evaluation stages of a range of functions in specialised industrial automation Projects
• A fully accredited EIT Vocational Graduate Diploma of Project Management in Industrial Automation

When applying to enrol in an EIT course at the Vocational Graduate Diploma level or higher, if English is not your first language you may need to prove your proficiency. To read more about proficiency in English please download this English Proficiency FAQ.

The Vocational Graduate Diploma of Project Management in Industrial Automation has been approved by the Institute of Measurement and Control in the UK as contributing to the further learning when required for Chartered Engineer (CEng) or Incorporated Engineer (IEng) registration. The course is also approved as providing acceptable CPD.

OVERVIEW
This course has been produced after considerable research into what an engineering professional working in the industrial automation field really needs to help achieve the final steps up the career ladder. The unique flavour of this course is the linking of project management, a key part of all engineers and ‘technicians’ working careers, to that of industrial automation. This course focuses on the practical issues of industrial automation that will confront an advanced practitioner in the field. For example, you will be exposed to the design concepts and issues of best practice in instrumentation and control.

You will also be expected to undertake advanced project management, design and conceptualisation work. Some of the work and study you will be undertaking will involve pioneering technology and exploring new approaches.
An added feature of this course is that in using web collaborative technologies you will not only study and work with your peers around the world on various industrial automation design projects, but conveniently and flexibly from your desktop using the latest techniques in live web and video conferencing and thus you do not have to leave your workplace to attend this highly interactive course.

You only need to look at the huge number of job openings in industrial automation and project management to know that there is a definite ongoing need for highly qualified and skilled specialists in project management and especially in industrial automation. Upon completing this course you will be able to show technical leadership in the field of industrial automation and be recognised as an advanced practitioner.

An innovation of this course is that it serves both as an up-skilling and cross-skilling mechanism. Students from a discipline such as Mechanical Engineering could complete the course to up-skill and cross-skill to Industrial Automation Project Management.

In summary, this high level practical vocational graduate diploma is based on:

- Outstanding instructors with relevant, real-world, industrial automation and project management experience
- Excellent materials with useful industry applicable theory
- State-of-the-art, live, instructor led e-learning presentations to present and interact; no matter where you are in the world
- Using our marketing and contacts to gather an outstanding group of students who are keen and enthusiastic to learn from each other
- Ensuring you get the best value for money by squeezing the costs down using the latest Internet, online and publishing technologies
Professional Certificate of Competency in Project Management for Engineers and Technicians

Further details of this course can be found by clicking on [http://www.eit.edu.au/professional-certificate-competency-project-management-engineers-technicians](http://www.eit.edu.au/professional-certificate-competency-project-management-engineers-technicians)

**COURSE OBJECTIVES:**

By the end of this course you will be able to:

- Create quality project plans
- Generate effective work breakdown structures
- Create computerised PERT and Gantt charts for your projects, add and level resources, and monitor/report on your project effectively
- Define appropriate cost reporting mechanisms for your projects
- Define, analyse and manage the risks associated with your projects
- Introduce appropriate quality management procedures
- Keep your projects on track using the 'Earned Value Analysis' method
- Exercise an appropriate leadership style and keep team members creative and motivated
- Avoid the pitfalls caused by a lack of understanding of the legal issues pertaining to projects
- Use appropriate software to leverage your time and expertise
- Deal with projects that have a large degree of inherent uncertainty and/or a strong emphasis on timely completion

**OVERVIEW**

More and more engineering and technical professionals are making career transitions from product design into project management. This, however, requires formal training and a willingness to learn new skills. All the technical know-how in the world will not deliver a project successfully, i.e. with the required level of quality, within cost constraints and on time, without proper project management skills. Unfortunately very few engineering professionals have any degree of formal project management training, which results in a great deal of personal stress as well as cost blow-outs and other woes.

The lack of training often applies to the 'people skills' required for effectively leading the project team as well. To address this problem, the course will focus on the critical project related activities such as work breakdown, scheduling, cost control and risk management, and show how these can be performed with software to lighten the project manager's workload. The 'soft' (but equally important) aspects such as team leadership and contract law are also covered. All topics will be supplemented with practical exercises focusing primarily on the areas of electrical/electronic (including instrumentation) and mechanical engineering. If delegates wish to do so they can choose, as a basis for the practical exercises, small projects from their work environment so that they are familiar with the attributes thereof.
School of Civil Engineering

Professional Certificate of Competency in Structural Design for Non-Structural Engineers

Further details of this course can be found by clicking on http://www.eit.edu.au/professional-certificate-competency-structural-design-non-structural-engineers

COURSE OBJECTIVES
By the end of this course you will be able to:

• Fully understand the role of a structural engineer
• Predict the behaviour of structural members under loading
• Understand the concept of stress functions such as tension, compression, shear and bending
• Perform a basic analysis of statically determinate and indeterminate structures
• Analyse the deformation of members under Loading
• Understand the significance of material properties in design
• Undertake the basic design of Reinforced Cement Concrete (RCC) structures
• Undertake the basic design of steel structures
• Undertake the basic design of masonry structures
• Undertake the basic design of timber structural members

OVERVIEW
Construction is the largest industry in the world. Within a Civil Engineering context, ‘construction’ may refer to bridges, dams, earthworks, foundations, offshore structures, pipelines, power stations, railways, retaining structures, roads, tunnels, waterways and water/wastewater infrastructures. Within a Mechanical Engineering context, on the other hand, ‘construction’ may refer to airframes, aircraft fuselages, boilers, pressure vessels, motor coaches, railroad carriages, cranes, elevators and ships.

Anything constructed needs to be designed first. Structural Engineering deals with the analysis and design aspects required to ensure a safe, functional and economical end product. During the design process the designer may constantly interact with specialists such as architects and operational managers. Once the design is finalized, the implementation involves people to handle aspects such as statutory approvals, planning, quality assurance and material procurement. The entire exercise can be undertaken in a highly-coordinated way if everyone involved understands the terminology or ‘project language’. To understand this language fully, it is necessary to appreciate the principles of structural analysis and design.

Participants in this course will gain a basic knowledge of structural engineering that includes the principles of analysis of structures and their application, the behaviour of materials under loading, the selection of construction materials, and the design fundamentals for Reinforced Cement Concrete (RCC) and steel structures. The emphasis will be on the determination of the nature and quantum of stress developed under loads, and the way structures offer resistance to it. Being the most widely used construction materials, RCC and steel will be covered in detail, though masonry and timber are also introduced.
School of Data Communications and Industrial IT

Advanced Diploma of Industrial Data Communications, Networking and IT**

National Course Code: 52179

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-data-communications-networking-it

**This qualification is being improved as part of our ongoing quality process and will be scheduled for students during 2013

COURSE OBJECTIVES:
- Skills and know-how in the latest technologies in industrial data communications, networking and IT
- Guidance from experts in the field of data communications and networking
- Networking contacts in the industry
- Improved career prospects and income
- An EIT Advanced Diploma of Industrial Data Communications, Networking and IT

OVERVIEW
Gain in-depth knowledge and skills in industrial Data Communications, Networking and Protocols; SCADA, PLCs and Data Acquisition; Industrial IT and Programming and Project Management presented by highly experienced instructors. This knowledge will enable you to take advantage of the shortage of industrial data communications engineers and technicians and technicians in this rapidly growing field thus offering you a well paid and enjoyable career.
Professional Certificate of Competency in Industrial Data Communications


**COURSE OBJECTIVES**
By the end of this course you will be able to:

- Identify, prevent and troubleshoot industrial communications problems
- Fix over 60 of the most common problems that occur in industrial communications systems
- Successfully troubleshoot industrial communications systems
- Analyse, diagnose and fix problems

**OVERVIEW**
Modern industrial control and information systems employ a proliferation of technologies, including various hardware standards and protocols. For many of the personnel working with these systems the technologies are 'plug and play' and are just there to be used. The problems arise when decisions have to be made regarding the most suitable technologies for a given application, or when things go wrong and troubleshooting has to be performed. Without a thorough grasp of the working of the technologies involved, and without the availability of (and the ability to use) suitable diagnostic tools, this becomes a formidable challenge.

The world of industrial communications abounds with three-letter acronyms, protocols, layered communication systems, fieldbuses and device networks. There are numerous networking and industrial bus standards, synchronous and asynchronous protocols, baseband and broadband systems, bus and star topologies, connection-oriented and connectionless protocols. In addition, there is a pronounced migration towards the use of Ethernet and TCP/IP. No wonder some of us are feeling a little confused.

To complicate matters, many technicians and electricians who were initially trained in process instrumentation or electrical maintenance are now expected to perform network maintenance - truly a major challenge. This course demystifies the jargon and places the most popular systems, technologies, hardware standards and protocols in an OSI (Open Systems Interconnection) perspective. It explains how these technologies operate, and equips participants with the tools and skills to do basic hardware and protocol-related troubleshooting on both serial (RS-485) and Ethernet type networks.
Professional Certificate of Competency in Troubleshooting and Problem Solving of Industrial Protocols - Including Modbus Modbus/TCP Profibus Profinet Foundation Fieldbus HSE Ethernet/IP

Further details of this course can be found by clicking on http://www.eit.edu.au/professional-certificate-competency-troubleshooting-and-problem-solving-industrial-protocols

COURSE OBJECTIVES:

As we know, there has been an explosion of industrial protocols in the market today. This course promotes the theme which is rapidly growing strength: you should focus on your application and apply the particular protocol to match this application and ensure easy interconnectivity between the different standards. Selecting one standard to match all applications is not really a practical approach.

You will learn how to:

- Identify, prevent and troubleshoot industrial protocol communications problems
- Gain and apply a practical toolkit of skills for working with Ethernet, TCP/IP, Profibus DP and PA, Profinet, Foundation Fieldbus H1 and HSE, Modbus, Modbus over TCP and Ethernet/IP

OVERVIEW

The communications system on your plant underpins your entire operation. It is critical that you have the knowledge and tools to quickly identify and fix problems as they occur, to ensure you have a secure system. No compromise is possible here.

You will learn how to understand, identify, prevent and fix common problems for the common industrial data communications protocols focussing on Modbus, Modbus/TCP, Profibus, Profinet, Ethernet/IP and Foundation Fieldbus HSE. The focus is 'outside the box', with emphasis on solutions that go beyond the typical communications issues and theories. It will provide you with the necessary toolkit of skills to solve industrial protocol problems knowledgeably and effectively.

The course commences with Modbus industrial protocols (based on RS-232/RS-485 and Ethernet) which are being installed throughout industry today, from connecting simple instruments to Programmable Logic Controllers to PCs throughout the business part of the enterprise. Communications problems range from simple wiring problems to intermittent transfer of protocol messages. Modbus, effectively one of the few (arguably, the only) industrial messaging protocols recognized by the Internet world (port 502) has one of the largest installed bases worldwide with more than 7.2 million installed nodes. Ethernet, which is also fast becoming the obvious choice for industrial control networking world-wide and underpins most of the modern industrial protocols, is then discussed.

While the basic structure of Ethernet has not changed much, the faster technologies such as Fast Ethernet and Gigabit Ethernet have increased the complexity and choices you have available in planning and designing these systems. As Ethernet has become more complex, a number of misconceptions have arisen as to how it functions, how the system should be optimally configured, what exactly industrial Ethernet means and how the interlocking industrial protocols fit into Ethernet.

The TCP/IP protocol is covered in some depth with a focus on its structure and how it relates to the industrial protocols. The various software utilities such as ping, arp and netstat are used to demonstrate quick ways of troubleshooting the network. Problems related to the Internet layer such as incorrect IP addresses and subnet masks are dissected in considerable detail. There has also been a convergence between industrial protocols. Foundation Fieldbus and DeviceNet are also increasingly becoming based on industrial Ethernet for the higher speed data transfer applications. There is a fair degree of confusion about where each is applied and a clear comparison between the different standards and where they are applied is given. The first major Ethernet based protocol - Modbus TCP/IP - has been accepted by the International Electro-technical Commission (IEC) as a Publicly Available Specification (IEC PAS
62030) and is not eligible to become part of future editions of the International Standards IEC 61158 and IEC 61784-2. So it enjoys the status of a widely available Open Standard available to everyone, thus the popularity. Whilst detractors will say the Modbus protocol lacks some of the refinements of the newer offerings on the market, there is no doubt that it is one of the most popular standards available in the industrial world today.

The Foundation Fieldbus HSE standard is examined as far as its structure and how it fits into industrial Ethernet and TCP/IP. The common industrial protocols and systems such as Ethernet/IP and Profinet are covered in considerable depth focussing on their packet structures, use with TCP/IP and typical problems encountered and how to investigate these.

In summary, this course addresses the main issues of troubleshooting the industrial data communications network of today with a focus on the protocols, enabling you to walk onto your plant or facility and troubleshoot and fix problems as quickly as possible.
Professional Certificate of Competency in Modern SCADA Communication Systems including DNP3 & IEC60870

Further details of this course can be found by clicking on http://www.eit.edu.au/professional-certificate-competency-modern-scada-communication-systems-including-dnp3-iec60870

COURSE OBJECTIVES:

- The fundamentals of SCADA systems
- SCADA protocols and how they should be structured and applied
- "Best practice" decisions on the best and most cost effective use of SCADA open protocols for your company
- The best current practice for data communications for SCADA systems, including LAN and WAN based systems
- The DNP3 protocol
- The DNP3 protocol to your next SCADA project
- DNP3 interoperability issues
- The "nuts and bolts" about selecting DNP3 based systems
- Troubleshooting simple problems with the DNP3 protocol
- The fundamentals of IEC 60870-5 protocols
- How IEC 61850 is structured

OVERVIEW

This course covers the essential elements of SCADA systems with particular emphasis on the DNP3 protocol, with an overview of the IEC 60870.5 and IEC 61850 protocols as well as new developments in this area.

The course commences with a review of the fundamentals of SCADA systems hardware, software and the communications systems that connect the outstations to the SCADA Master control station. The RS-232 and RS-485 interface standards are reviewed, along with MODBUS, Ethernet and TCP/IP protocols. The application of both Local Area and Wide Area networks for SCADA system communications is also covered. A detailed explanation of the DNP3 protocol is given, where the features, message structure, practical benefits and applications are discussed. The course is intended to be product independent but examples will be taken from existing products to ensure that all aspects of the DNP3 protocols are covered.

Examples are given of the configuration issues for DNP3 operation over both low speed serial (eg Radio links) and high speed LAN and WAN networks. An overview of the IEC 60870.5 and IEC 61850 protocols and their areas of application is given as well as new developments in this area. The application of Fieldbus protocols in SCADA systems is also covered. This course provides you with the tools to design your next SCADA system more effectively using DNP3 to draw on the latest technologies.
Advanced Diploma of Electrical and Instrumentation (E&I) Engineering for Mining

National Course Code: 52438WA


COURSE OBJECTIVES:

1. Skills and know-how in the latest electrical and instrumentation technologies used in mining operations all over the world
2. Practical guidance from mining experts in the field
3. 'Hands-on' knowledge from the extensive experience of the instructors, rather than from only the theoretical information gained from books and college reading
4. Credibility as a technology expert in your firm
5. Networking contacts in the industry
6. Improved career prospects and income
7. An EIT Advanced Diploma of Electrical and Instrumentation Engineering for Mining

OVERVIEW

Mining equipment has come a long way since the days of mule-drawn carriages for haulage, and canaries or Davy lamps for safety.

In terms of high-voltage equipment, large AC and DC motors are still at the order of the day, but with increased sophistication. Load-haul-dump trucks operate in hazardous environments without a driver on board. Sophisticated Motor Control Centres now house Variable Speed Drives and soft-starters, and the motor control equipment is often networked via Ethernet.

It is, however, on the low-voltage side where the developments are almost breathtaking. In certain parts of the world all mines in the region are monitored centrally on a SCADA system, with backhauls (fibre and wireless) to all mines in the region, forming a large Wide Area Network.

At the mine sites Ethernet networks, both wired and wireless, are at the order of the day both above and below ground level. Leaky Feeder wireless systems are still to be found, but nowadays they support Ethernet and TCP/IP, making them suitable for voice and data. IEE802.11 wireless (a.k.a. Wi-Fi), suitably adapted for the mining environment, is making vast inroads into mining operations. Wi-Fi-based systems are used for both data and voice (VoIP), and with suitable Radio Frequency ID interfaces they also provide the infrastructure for monitoring personnel and vehicle movement. Some 802.11-based systems can even be configured in mesh topologies, delivering military-grade reliable communications between moving personnel and vehicles in an open mine environment.

Industrial field buses such as HART, AS-i, Proflbus, Foundation Fieldbus and DeviceNet are widely used in the mining industry. As is the case with most other electronics, they are increasingly moving towards a co-existence with Ethernet, and augmentation with wireless. And, of course, some of them can perform safety functions as well as operate in intrinsically safe environments.
SCADA and distributed control is at the order of the day, and data from these systems are used as inputs to expert systems. These systems are used for various purposes such as providing data for optimized mine management, safety, and advanced process control. It is, in many cases, not even necessary for control room staff to understand anything about PID control in order to optimize a given control loop; the advanced process control system will heed their ‘operator’ inputs and optimize the process on their behalf.

Personal safety has not lagged behind. For example, ground radar can detect sub-millimeter ground movements, UWB and Wi-Fi systems are teamed up to avoid collisions between people and vehicles, and integrated headlamps for miners not only have built-in radio communications facilities, but also Ultra-Low Frequency ground-to-surface pagers for emergency location.

So, in short, the mining industry is attracting the best of the best cutting-edge commercial and industrial electrical and electronics technologies. The question is…are you capable of dealing with it? Welcome to the EIT Advanced Diploma in Advanced Diploma of Electrical and Instrumentation Engineering for Mining.
Advanced Diploma of Electrical and Instrumentation (E &I) Engineering for Oil and Gas Facilities

National Course Code: 52368

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-e-i-engineering-oil-and-gas

COURSE OBJECTIVES:
1. Skills and know-how in the latest technologies in E&I oil and gas engineering
2. Tremendous boost to your E & I oil and gas career – no matter whether you are a new graduate or a technician
3. Decades of real experience distilled into the course presentations and materials
4. Guidance from real E & I oil and gas experts in the field
5. Hands-on practical knowledge from the extensive experience of instructors, rather than the theoretical information from books and colleges
6. Credibility as the local expert in E &I oil and gas
7. Networking contacts in the oil and gas industry
8. Improved career prospects and income
9. An EIT Advanced Diploma in E &I Engineering for Oil and Gas

OVERVIEW
There are excellent opportunities for employment in the oil, chemical, gas and related industries due to the growing shortage of instrumentation / electrical (E&I) technicians, technicians and engineers. This is mainly due to the resumption of growth in these industries, the increasing need for higher technology methods of obtaining and processing oil and gas along with the retirement of the current ‘baby-boomer’ generation of engineers, technicians and technicians. Unfortunately (or perhaps, fortunately for everyone working in these industries), as it is a finite declining resource, the price of oil is heading upwards steadily, thus making personnel and their associated oil and gas expertise in these industries even more valuable. The technical challenges of extracting oil and gas are becoming ever more demanding, with increasing emphasis on more marginal fields and previously inaccessible zones such as deep oceans, polar regions, Falkland Islands and Greenland.

However the tricky part is knowing which Electrical and Instrumentation (E &I) courses to study in order to achieve practical know-how along with applicable theory and expertise. The EIT Advanced Diploma in oil and gas for electrical and instrumentation engineers and technicians will give you the knowledge to:
1. Obtain a position as an E&I Technician Designer or Technicians in the industry.
2. Move from being a graduate engineer with a theoretical knowledge to a useful and productive E & I engineer.
3. Making you a valuable and indispensable member of a company’s E&I team.
4. Grow your career with a more satisfying, extremely varied and responsible position.
5. We believe this course offers these benefits.

The advanced diploma in oil and gas provides a practical treatment of electrical power systems and instrumentation within the oil, gas, petrochemical and offshore industries. Whilst there is some theory this is used in a practical context giving you the necessary tools to ensure that the Electrical and Instrumentation hardware is delivering the results intended.

No matter whether you are a new electrical, instrumentation or control technician/technicians/graduate engineer or indeed, even a practising facilities engineer, you will find this course beneficial in
improving your understanding, skills and knowledge of the whole spectrum of activities ranging from basic electrical and instrumentation engineering to advanced practice including hazardous areas, data communications along with a vast array of E&I equipment utilised in an oil and gas environment. We also highlight the “applicable theory” aspect of our course because we are very aware of the need to ensure that you will use what you learn when out in the real oil and gas world.

Another important aspect to note is that the module content is constantly evolving, taking into account the latest developments as they occur. Thus there is no recycled material which is out of date and your precious time is used efficiently and productively.

Through the use of problem solving- both on a team or individual basis and simulation software and live remote labs you will learn about the key technologies and best practice.

You will gain solid coherent knowledge of International Best Practice in an oil and gas environment.
Advanced Diploma of Industrial Automation

National Course Code: 52403WA

Further details of this course can be found by clicking on [http://www.eit.edu.au/advanced-diploma-industrial-automation](http://www.eit.edu.au/advanced-diploma-industrial-automation)

**COURSE OBJECTIVES:**

- Skills and know-how in the latest technologies in instrumentation, process control and industrial automation
- Guidance from industrial automation experts in the field
- Knowledge from the extensive experience of instructors, rather than from the clinical information gained from books and college
- Credibility as the local industrial automation expert in your firm
- Networking contacts in the industry
- Improved career prospects and income
- An EIT Advanced Diploma of Industrial Automation

**OVERVIEW**

Gain strong underpinning knowledge and expertise in Industrial Automation covering a wide range of skills ranging from instrumentation, automation and process control, industrial data communications, process plant layout, project and financial management and chemical engineering with a strong practical focus. Industrial Automation is an extremely fast moving area especially compared to the more traditional areas such as electrical and mechanical engineering. The field is diverse and dynamic and offers the opportunity for a well paid and enjoyable career. The aim of the course is to empower you with practical knowledge that will improve your productivity in the area and make you stand out as a leader in industrial automation amongst your peers.
Professional Certificate of Competency in Hazardous Areas for Engineers & Technicians

Further details of this course can be found by clicking on http://www.eit.edu.au/certificate-hazardous-areas-engineers-technicians

OBJECTIVES

Upon completion of this workshop you will be able to:

- Use correct hazardous areas terminology and definitions
- Explain the responsibilities of hazardous area owners and equipment suppliers
- Explain how apparatus is made safe and suitable for use in hazardous areas
- Provide an understanding of the different types of protection
- Be exposed to simple area classification schemes
- Examine different approaches for selection of types of protection
- Compare techniques used for power and instrumentation applications
- Explain how marking and identification of such apparatus is applied
- Understand the requirements for maintenance of such apparatus
- Understand the requirements for inspection in hazardous area
- Discuss how work permits systems must be adopted for hazardous area working
- Discuss and compare the advantages and disadvantages of different types of protection in given applications
- Compare certification and approval concepts
- Effectively communicate with others on such safety issues

OVERVIEW

This course provides a comprehensive technical approach to hazardous areas. It explains the subject of explosion protection applied to electrical equipment in such areas. The course offers detailed explanations of the principles involved, the techniques used, the management structures and requirements to comply with the harmonized international standards that are now in place. Where potentially flammable atmospheres are encountered in industrial processes, area classification is mandatory as part of a risk assessment for the management of health and safety; the issues are examined by providing the opportunity to apply this process and understand the importance and extent of the co-operation of the disciplines involved. Requirements of inspection and maintenance are examined to show the importance of their effectiveness once the correct installation has been properly achieved, and to enable management to form a structured and effective regime to assure safety.

This course would also be appropriate for supervisors and managers, with the emphasis on outlining the management responsibility and enabling them to complement and accommodate the needs of technical staff beneath them. It is a common problem that technical staff are trained in what needs to be done but their management does not appreciate this or understand it. This course will address these shortcomings.
Professional Certificate of Competency in Instrumentation, Automation and Process Control

Further details of this course can be found by clicking on http://www.eit.edu.au/professional-certificate-competency-instrumentation-automation-and-process-control

COURSE OBJECTIVES:

• Instrumentation terms, concepts, diagrams and symbols
• Implement an instrument and wiring number system
• Overview of the use of PLCs in industrial applications
• Pressure sources and the basic terms of pressure measurement
• Level measurement and the basics associated with it
• Temperature measurement and the various associated transducers
• Flow measurement techniques
• Control valve principles and common valve types
• New technologies such as smart instrumentation and fieldbus
• Integrate a complete system (considering instrumentation and total errors) as well as selection criteria, commissioning and testing
• Overview of HMI, SCADA and DCS systems
• Different tuning rules
• Latest ISO requirements for a company
• Overview of HAZOP studies
• Understand reliability centred maintenance and spare parts analysis
• Gain appreciation for factory and site acceptance testing
• Considerations for building in-house panels and installations

OVERVIEW

This course is for engineers and technicians who need to have a practical knowledge of selection, installation and commissioning of industrial instrumentation and control valves. In many respects a clear understanding and application of these principles is the most important factor in an efficient process control system.

This course is for those individuals primarily involved in achieving effective results for the industrial processes they are responsible for. This would involve the design, specification and implementation of control and measurement equipment. The course focuses on real applications, with attention to special installation considerations and application limitations when selecting or installing different measurement or control equipment.
**Professional Certificate of Competency in Safety Instrumentation Systems for Process Industries**


**COURSE OBJECTIVES:**
After completing this course, you will understand:

- Fundamentals of risk assessment and the role of safety regulations
- Process hazard study methods including HAZOP
- Principles of risk reduction by safety instrumented systems (SIS)
- The differences between a basic control system and an SIS
- The roles of standards IEC 61508 and IEC 61511
- The principles and application of the safety life cycle for project management
- The meaning and implications of safety integrity levels (SILs)
- How to use fault tree analysis to predict accident rates and failure rates
- How SIL targets are determined
- The role of alarms in safety critical applications
- How to design the SIS to meet IEC requirements for SIL targets
- Key features of safety certified PLCs
- Understand failure modes and the concepts of fault tolerance
- How to calculate failure probabilities for single and redundant SIS designs
- How to select instruments and controllers suitable for safety systems
- How to manage the application software project for your safety system
- Methods for avoidance of spurious trips
- How to optimise proof testing intervals

**OVERVIEW**
This course is for engineers and technicians who wish to develop their knowledge of the design and implementation of safety instrumented systems as applied to industrial processes. Safety control systems are widely used in hazardous processes to protect people, the environment and equipment against serious harm. Many countries look for compliance to international standards IEC 61508 and IEC 61511 as a benchmark of acceptable quality in design and management of safety controls.

This course will explain the key requirements of the IEC 61511 standard for all stages of the safety project from hazard and risk assessment studies through to hardware and software engineering and on to the maintenance and proof testing regimes. Practical examples and discussions will assist you to develop your skills in this most important aspect of instrument engineering.
School of Electrical Engineering

Graduate Certificate of Renewable Energy Technologies

National Course Code: 52516WA

Further details of this course can be found by clicking on [http://www.eit.edu.au/graduate-certificate-renewable-energy-technologies](http://www.eit.edu.au/graduate-certificate-renewable-energy-technologies)

**COURSE OBJECTIVES**

- Advanced skills and know-how in the latest advanced technologies in power generation through Renewable Energy technologies, for professional or highly-skilled work and/or further learning
- Credibility as an advanced practitioner in Renewable Energy technologies
- Ability to make independent judgments and high-level decisions in a variety of technical or managerial contexts
- The knowledge and skills to be actively involved in the planning, implementation and evaluation stages of a range of Renewable Energy power generation systems
- An EIT Graduate Certificate in Renewable Energy Technologies

**OVERVIEW**

The Graduate Certificate in Renewable Energy Technologies is an advanced course. It is presented at a considerably higher level than the Advanced Diploma and bachelor degree level courses and intending students should be aware of the greater challenge. This Certificate has identical standing and level to that of a university graduate diploma, but is focused on the career outcomes of a professional engineer and technicians. As the title suggests, it has a greater vocational or ‘job related’ emphasis, and focuses more on developing practical skills that you can apply to the workplace, rather than theory alone.

A feature of this course is that in using web collaborative technologies you will not only study and work with your peers around the world on various renewable energy design projects, but you will do this conveniently from your desktop using the latest techniques in live web and video conferencing. The Graduate Certificate in Renewable Energy Technologies focuses on the mainstream technologies viz. photovoltaic, wind and small hydro, but also covers other less common technologies such as biomass, osmotic and tide power generation, among others. The course deals with practical issues of renewable energy that will confront an advanced practitioner in the field. For example, you will be exposed to the modelling and simulation of wind turbines, and the design of wind farms.

You will also be expected to undertake advanced design and conceptualisation work in which you will apply the calculations learned in less advanced courses. Some of the work and study you will be undertaking will involve pioneering technology and exploring new approaches. There is a definite ongoing need for highly qualified and skilled specialists in the Renewable Engineering field and this course caters for that need. Upon completing this course you will be able to show technical leadership in the field of Renewable Energy, and be recognised as an advanced practitioner in the field.
PRE-REQUISITES
Applications are considered on a case-by-case basis. Potential students include:
- Practising engineers or technicians with advanced knowledge, experience and education (such as an Advanced Diploma, or undergraduate degree)
- Practising engineers or technicians with demonstrated competence
- Engineers or technicians from another discipline (such as mechanical and chemical engineering) wanting to up-skill in this area
- It would not be suitable for a student with no relevant work experience. We will review your enrolment application and may recommend pre-course studies if required.
Advanced Diploma of Applied Electrical Engineering

National Course Code: 52465WA

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-applied-electrical-engineering

COURSE OBJECTIVES:
- Skills and know-how in the latest technologies in electrical engineering
- Practical guidance from electrical engineering experts in the field
- Knowledge from the extensive experience of the instructors, rather than from only the theoretical information gained from books and college
- Credibility as the local electrical engineering expert in your firm
- Networking contacts in the industry
- Improved career prospects and income
- An EIT Advanced Diploma of Electrical Engineering

OVERVIEW
Join the next generation of electrical engineers and technicians and embrace a well paid, intensive yet enjoyable career by embarking on this comprehensive course on electrical engineering. It is presented in a practical and useful manner - all theory covered is tied to a practical outcome. Leading electrical engineers who are highly experienced engineers from industry, having 'worked in the trenches' in the various electrical engineering areas present the course over the web in a distance learning format using our acclaimed live e-learning techniques.

The course starts with an overview of the basic principles of electrical engineering and then goes on to discuss the essential topics in depth. With a total of 15 modules, everything that is of practical value from electrical distribution concepts to the equipment used, safety at work to power quality are all looked at in detail. Each module contains practical content so that the students can practice what they learn including the basic elements of designing a system and troubleshooting.

Most academic courses deal with engineering theory in detail but fall short when it comes to giving practical hints on what a technician is expected to know for a job in the field. In this course, the practical aspects receive emphasis so that when you go out into the field you will have the feeling that 'you have seen it all.'
**Electrical Supply Industry (ESI)**

**Diploma of ESI: Power Systems UET50212**
**and**
**Advanced Diploma of ESI: Power Systems UET60212**

*(Previously UET50109 and UET60109)*

Further details of this course can be found by clicking on [http://www.eit.edu.au/diploma-advanced-diploma-esi-uet50212-uet60212-0](http://www.eit.edu.au/diploma-advanced-diploma-esi-uet50212-uet60212-0)

These industry-specific qualifications are offered to Australian students who work for power companies and associated contractors (see “Who Should Attend” below) The Engineering Institute of Technology (EIT) has worked with various power utilities across Australia to develop and refine a proven method of delivery which is ideal for mature-aged, experienced staff who are ready to move into the paraprofessional arena.

Our aim is to deliver the qualifications efficiently using the latest online technologies so that students will graduate in the shortest possible time whilst maintaining academic rigour and ensuring the highest possible productivity gains. No on-campus attendance is required; however students will need access workplaces environments that align with their chosen electives. This requires the support of the employer.

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 instructors and fellow students, while the on-the-job components provide additional “hands on” training.

**COURSE OBJECTIVES**
Each qualification is made up of a series of core and elective Units.

Core Units are as follows:

- **UEENEED104A**: Use software for engineering applications
- **UEENEEE124A**: Compile and produce an energy sector detailed report
- **UEENEEE125A**: Provide engineering solutions for problems in complex multiple path circuits problems
- **UEENEEE126A**: Provide solutions to basic engineering computational problems
- **UEENEG149A**: Provide engineering solutions to problems in complex polyphase power circuits
- **UETTDRIS62A**: Implement and monitor the power systems organisational OHS policies, procedures and courses
- **UETTDRIS63A**: Implement and monitor power systems environmental and sustainable energy management policies and procedures
- **UEENEEE101A**: Apply Occupational Health Safety regulations, codes and practices in the workplace
- **UEENEEE102A**: Fabricate, dismantle, assemble utilities components
- **UEENEEE104A**: Solve problems in D.C. circuits
- **UEENEEE107A**: Use drawings, diagrams, schedules, standards, codes and specifications
- **UEENEEG101A**: Solve problems in electromagnetic devices and related circuits
- **UEENEEG102A**: Solve problems in low voltage A.C. circuits
- **UETTDREL11A**: Apply sustainable energy and environmental procedures
- **UETTDREL16A**: Working safely near live electrical apparatus
- **UEENEEE083A** (Advanced Diploma Unit): Establish and follow a competency development plan in an electrotechnology engineering discipline
The 3 elective streams of each course allow students to specialise and develop careers in one of the following challenging and exciting fields:

1. Electrical protection and testing – network protection systems, control systems, power communication equipment
2. Electrical engineering design – overhead, underground, substations and public lighting systems
3. Power system operations – 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.

Elective Units offered by the EIT are listed in the brochure which can be downloaded from our website.

**Nationally Recognised Training**

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

This course uses 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 qualifications are nationally recognised within the Australian Qualifications Framework and the EIT (as a registered training organisation) has the 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 EE-OZ Training Standards Australia).

**Duration and Requirements**

Each qualification is made up 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 relevant to the qualification (diploma or advanced diploma), 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 an additional Core Unit. Studying part time, we would expect that you would achieve the diploma within 2 to 3 years and the advanced diploma after an additional 6 months. This will vary for student to student and will depend in part upon the sequence of delivery of Units that we provide and possibly Units already achieved by the student from prior study.

It is important to note that the EIT does not follow a traditional “semester” system, which means there are fewer long breaks and you can therefore complete a qualification “intensive part-time” much faster than in the past.

The EIT delivers all Core Units and selected groups 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. Selection of elective Units is often based upon employer requirements.
Comprehensive Course Materials and Study Aids
Each unit of competency will be accompanied by relevant course materials designed to make the required study as straightforward as possible. Materials provided for each Unit may vary, but will usually include:

1. Course notes or Course manual
2. Learning activities (practical exercises)
3. Microsoft PowerPoint® presentations
4. Summative assessments
5. Formative assessments

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 EIT provides materials which help students to streamline this process. The evidence is to be presented in the form of a portfolio - containing information such as:
     - projects or products completed
     - previous completed training courses
     - prior experience
     - on-the-job experience (current or past)
     - overseas experience
   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 (the EIT).

2. Completion of all Units at Pass Mark or above in the designated time frame including completion of all 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 at the close of each unit.

Time Commitment for each Unit
The eLearning (“knowledge”) component of most Units is delivered over 7 weeks. This will include live, interactive weekly lectures or tutorials, reading / study notes, assignments and 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 eLearning delivery students could expect to devote an estimated 8 hours per week per Unit. This includes the reading of the material prior to your attendance at each hour webinar (up to 75 minutes with 15 minutes for discussion) and the time needed to complete assignments for submission. The estimated 8 hours has been calculated to ensure the material is covered adequately and sufficient knowledge is gained to result in sound, enduring and immediately useful skills.

For Units with on-the-job components (particularly the Elective Units) extra time in the weeks leading up to and/or after the eLearning session will be required to complete the portfolio requirements.

In most cases we will need to work closely with employers to ensure that the on-the-job requirements are achieved at the highest possible standard.
Professional Certificate of Competency in Circuit Breakers, Switchgear and Power Transformers – Safe operation and Maintenance


COURSE OBJECTIVES:
Describe the fundamentals of operating switchgear and circuit breakers
- Select appropriate type and rating of circuit breakers and switchgear
- Understand the operation of switchgear components (CTs, VTs, relays and cable terminations)
- Describe the principles of operation of power transformers
- Identify and apply the different transformer types
- Set up simple transformer protection schemes
- Detail power transformer testing procedures
- Manage power transformer breakdowns to minimise disruption
- Detail safe working procedures in switch rooms, indoor and outdoor substations
- Draw up simple operational policies for safety rules
- Detail practical maintenance strategies for switchgear and transformers

OVERVIEW
Switchgear (and circuit breakers) and transformers are critical components in electrical distribution systems and their operation significantly affects the overall performance of the system. This course will discuss the application, installation, maintenance and testing issues relating to medium and high voltage switchgear, circuit breakers and transformers. Low voltage switchgear will also be covered and you will receive a thorough grounding in switchgear theory and standards. You will gain a solid understanding of the issues associated with the proper application, installation and maintenance of these critical items of equipment with an overriding emphasis on safety. The emphasis is on medium voltage (referred today as high voltage) switchgear which represents most of the switchgear installed on electrical distribution systems. The focus is on air blast, oil, SF6 and vacuum circuit breakers. Case studies covering the main manufacturers' equipment will illustrate the important practical principles. Other power system protection components will be discussed as well to ensure that switchgear is understood in the correct context. Installation of high voltage distribution and transmission equipment has increased significantly over the years due to ongoing global demand for power. As a result, the need to ensure reliability of operation of power systems is paramount. Power transformers are among the most important and most expensive components of power systems. Their failure can impose extraordinarily high costs on plants, factories and utilities of all descriptions. It is critical that all personnel operating and working with such equipment have a sound knowledge of their operational requirements and maintenance. This practical course provides knowledge on both the theory and operation of Power Transformers. The course will develop and enhance an understanding of what is involved in the maintenance of these essential components of the power systems, through the tips and tricks learnt and developed by some of the world's pre-eminent electrical engineers.
School of Electronic Engineering

Advanced Diploma of Industrial Electronics Engineering

National Course Code: 52490WA

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-industrial-electronics-engineering

COURSE OBJECTIVES:
1. Skills and know-how in the latest technologies in electronics engineering
2. Practical guidance from electronics engineering experts in the field
3. ‘Hands on’ knowledge from the extensive experience of the instructors, rather than from only the theoretical information gained from books and college reading
4. Credibility as an electronics engineering expert in your firm
5. Networking contacts in the industry
6. Improved career prospects and income
7. An EIT Advanced Diploma of Industrial Electronics Engineering

OVERVIEW
Join the next generation of electronic engineers and technicians and embrace a well paid, intensive yet enjoyable career by embarking on this comprehensive and practical course. It provides a solid overview of the current state of electronics engineering practice and is presented in a practical and useful manner - all theory covered is tied to a practical outcome. Leading electronics engineers present the course over the web using the latest distance learning techniques.

This course is not intended as a substitute for a 4 or 5 year engineering degree, nor is it aimed at an accomplished and experienced professional electronics engineer who is working at the leading edge of technology in these varied fields. It is, however, intended to be the distillation of the key skills and know-how in practical, state-of-the-art electronic engineering. It should also be noted that learning is not only about attending courses; but also involves practical hands-on work with your peers, mentors, suppliers and clients.

The course is composed of 18 modules. These cover the following seven main threads to provide you with maximum practical coverage in the field of industrial electronics engineering
1. Electrical/electronic technology fundamentals
2. Supporting technologies and services
3. Analog electronics
4. Digital electronics
5. Electronic communications
6. Programming
7. Electronic maintenance and troubleshooting
Professional Certificate of Competency in Power Electronics, Switch Mode Power Supplies and Variable Speed Drives for Electrical, Instrumentation and Control Systems

Further details of this course can be found by clicking on http://www.eit.edu.au/professional-certificate-competency-power-electronics-switch-mode-power-supply-variable-speed-drives

COURSE OBJECTIVES:
At the end of this course you will be able to:
- Demonstrate a sound understanding of how switch mode power supplies operate
- Correctly select components and topology for a switch mode power supply
- Evaluate the performance and stability of a switch mode power supply design
- Demonstrate a sound understanding of how AC Variable Speed Drives (VSD's) work
- Select the right VSD for a given application
- Troubleshoot VSD's competently
- Competently explain how flux-vector control works for drive applications
- Understand squirrel cage induction motors
- Identify the protection and control system requirements for VSD's
- Understand the causes of motor burnout
- Deal effectively with VSD harmonics and EMC/EMI problems

OVERVIEW
This course gives you a fundamental understanding of the basic components that form a SMPS design and the installation, operation and troubleshooting of variable speed drives. You will understand how the selection of components affects the different performance parameters and operation of the SMPS. Typical practical applications of VSDs in process control and materials handling, such as those for pumping, ventilation, conveyers, compressors and hoists are covered in detail. The course also covers the basic setup of parameters, control wiring and safety precautions in installing a VSD. The various drive features such as operating modes, braking types, automatic restart and many others will be discussed in detail.

The course also covers the four basic requirements for a VSD to function properly with emphasis on typical controller faults, their causes and how they can be repaired. Even though the focus of the course is on the direct application of this technology, you will gain a thorough understanding of the problems that can be introduced by SMPSs and VSDs such as ripple, harmonics, electrostatic discharge and EMC/EMI problems.
School of Mechanical Engineering

Advanced Diploma of Mechanical Engineering Technology

National Course Code: 52243

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-mechanical-engineering-technology-0

**COURSE OBJECTIVES:**
Skills and know-how in the latest technologies in mechanical engineering
- Hard hitting know-how in pumps, compressors, piping, seals and machinery safety
- Guidance from experts in the field of mechanical engineering technology
- Networking contacts in the industry
- Improved career prospects and income
- A world recognised EIT Advanced Diploma in Mechanical Engineering Technology

**OVERVIEW**
Update your mechanical engineering skills or gain new insight in the field of mechanical engineering by undertaking this Advanced Diploma in Mechanical Engineering Technology. The focus is on real-world, practical systems typically encountered by mechanical engineers worldwide.

This 18 month e-learning course will provide you with core skills in working with mechanical engineering technology and systems and to take advantage of the growing for trained and skilled personnel in industry. This course is composed of 72 topics which cover five engineering threads to provide you with maximum practical coverage in the field of mechanical engineering. The topics that will be covered during this Diploma covers the core fundamentals of mechanical engineering, which is then expanded to specific topics such as pumps, compressors, lifts, lubrication, control, automation etc. Ultimately, all this newly gained knowledge is combined with a unit on practical project management for engineers, a skill that is as vital as the technical skills required by industry today.

The course is designed to benefit those mechanical engineers wishing to enhance or update some of their skills and knowledge, as well as non-mechanical engineers and technicians who work in an environment where they often encounter mechanical systems.

The five threads running through this course are:
1. Fundamentals of Mechanical Engineering Technologies
2. Applications of Mechanical Engineering Technologies
3. Energy Systems
4. Industrial Automation
5. Management
Advanced Diploma of Plant Engineering

National Course Code: 52489WA

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-diploma-plant-engineering

COURSE OBJECTIVES:

- Skills and know-how in the latest technologies in all aspects of Plant Engineering
- Guidance from practicing Plant Engineering experts in the field
- Knowledge from the extensive experience of instructors, rather than from clinical information gained from books and college
- Improved career prospects and income
- An EIT Advanced Diploma of Plant Engineering

OVERVIEW:

Embrace a well paid, intensive yet enjoyable career by undertaking this comprehensive and practical course. It is delivered by live distance learning and presented by some of the leading Plant Engineering instructors in the world today. There is now a critical shortage of senior Plant Engineers around the world due to retirement, restructuring and rapid growth in new industries and technologies. Many industrial enterprises throughout the world comment on the difficulty in finding experienced Plant Engineers despite paying outstanding salaries. Often universities and colleges do not teach Plant engineering as a core subject. Much of the vital knowledge (e.g. practical maintenance planning and procedures) you need when commencing work as a qualified Plant Engineer is missing from their curricula. However, there are a few notable exceptions with some highly dedicated practitioners. Many of those universities and colleges that do teach Plant Engineering do so mainly from a theoretical point of view.

Furthermore, instructors often have insufficient experience in industry due to the difficulty in attracting good engineers from the highly paid private sector. The aim of this 18 month e-learning course is to provide you with core Plant Engineering skills. The course gives extensive coverage in the various fields of Plant Engineering. Subjects are covered such as Plant Operations, Facility Management, Instrument Control Engineering, Electrical Engineering, Environmental Engineering, Safety and Financial Management. Practical knowledge is not neglected; a Plant Engineer should also be well informed about metal forming, joining, heat treatment and protection.

This practical course avoids over emphasis on theory. This is rarely needed in the real industrial world where time is short and immediate results are required. Hard-hitting and useful know-how, are needed as minimum requirements. The instructors presenting this advanced diploma are highly experienced engineers from industry who have many years of real-life experience as Plant Engineers. The format of presentation - live, interactive distance learning with the use of remote labs means that you can hit the ground running and be of immediate benefit to your company or future employer.
Advanced Professional Certificate in Applied Industrial Thermodynamic Systems for Power Generation, HVAC, Refrigeration, Aviation

Further details of this course can be found by clicking on http://www.eit.edu.au/advanced-professional-certificate-applied-industrial-thermodynamic-systems-power-generation-hvac-ref

COURSE OBJECTIVES:

• Advanced skills and know-how in the latest advanced technologies in thermodynamic systems, particularly energy and cost efficiency, for professional and highly-skilled work or further learning
• Credibility as an advanced practitioner in industrial thermodynamic systems
• Improved ability to make independent judgments and high-level decisions in a variety of technical or managerial contexts
• The knowledge and skills to be actively involved in the planning, implementation and evaluation stages of a range thermodynamic systems
• An EIT Advanced Professional Certificate in Applied Industrial Thermodynamic Systems

OVERVIEW

The Advanced Professional Certificate in Applied Industrial Thermodynamic Systems is a 6-month intensive part-time course. It is presented at a significantly higher level than Advanced Diploma or indeed many bachelor degree level courses and intending students should consider the greater challenge. This Advanced Professional Certificate is focused on the career outcomes of a professional engineer and technicians.

As the title suggests, this course has a significant vocational or “job related” emphasis, and focuses more on developing practical skills that you can apply to the workplace, rather than theory alone. We explain the theory behind the cycles and how they can be made more energy- and cost-efficient. The concepts are reinforced with many detailed step-by-step examples.

A feature of this course is that in using web collaborative technologies you will not only study and work with your peers around the world, but you will do this conveniently from your desktop using the latest techniques in live web and video conferencing. The course deals with the practical issues of thermodynamic systems that will confront an advanced practitioner in the field.

This is an applied course that presents the thermodynamic systems used by the power generation, HVAC and aviation industries. Of the eight units, the first five are relevant to the power generation field (including steam and gas power systems, and psychrometrics for cooling towers). Two-thirds of the course material is devoted to these topics.
Professional Certificate of Competency in Chemical Engineering and Plant Design

Further details of this course can be found by clicking on [http://www.eit.edu.au/professional-certificate-competency-chemical-engineering-and-plant-design](http://www.eit.edu.au/professional-certificate-competency-chemical-engineering-and-plant-design)

**COURSE OBJECTIVES:**
Fundamentals of chemical engineering
- Simple process calculations including mass and energy balances
- Develop Process Flow Diagrams (PFDs)
- Contribute to process design activities
- Simple specifications of pumps and heat exchangers
- Mass transfer phenomena
- Process drawings and link them to plant operation
- Apply safety guidelines to a process or chemical plant
- Basic chemical engineering jargon and Terminology
- Plant layout fundamentals and procedures
- Terminology and symbols used in plant layout
- Equipment used in process plants
- Piping design and engineering principles
- Terminology, symbols and abbreviations in piping design
- Documents (bill of materials, equipment specifications) and drawings (PFDs, P&IDs) used in plant layout and piping design
- 3D modeling of plants and piping Systems

**OVERVIEW**
Process plants such as refineries and petrochemical plants are complex facilities consisting of equipment, piping systems, instruments, electrical systems, electronics, computers and control systems. The design, engineering and construction of process plants involves multidisciplinary team effort. Process design, plant layout and design of piping systems constitute a major part of the design and engineering effort. The objective is to design safe and dependable processing facilities in a cost effective manner. There are few formal training courses with a comprehensive coverage of all three major topics of process design, plant layout and design of piping systems. Therefore, most of the required skills are acquired while on the job, reducing productivity and efficiency. This course provides you with the basic knowledge and skills in the disciplines of chemical engineering and plant design to facilitate faster learning curves while on the job. It covers the fundamental principles and concepts used in process design and plant design. Upon completion of this course, you will have a clear understanding of the design and engineering principles used in the design of process plants.
Course Preparation

Engineering Preparation Course Fundamentals of Engineering Maths, Physics and Chemistry

Further details of this course can be found by clicking on http://www.eit.edu.au/engineering-preparation-course-fundamentals-engineering-maths-physics-and-chemistry

COURSE OBJECTIVES

• Key know-how in maths, physics and chemistry knowledge that is applicable to engineering
• The ability to confidently work with engineering chemistry, maths and physics concepts
• A warm up to the perhaps forgotten world of study

OVERVIEW

The objective of each module is to cover the key concepts with useful practical exercises. The topics covered will provide students with an excellent background and working knowledge. Each module is an online refresher for engineers and technicians who have an existing knowledge of these topics.