



CERTIFICATE IN
HAZARDOUS AREAS
FOR ENGINEERS AND TECHNICIANS

12 MODULES OVER 3 MONTHS

For upcoming commencement dates, please view our course schedule at:
<http://www.eit.edu.au/schedule>



COURSE 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

Presented by
**David
Walker**

C.P.Eng, B.Sc(Hons), M.Sc, MIEE,
MIEAust



ENROL NOW: Fax the enrolment form to us,
or email enquiries@eit.edu.au



BENEFITS OF LIVE E-LEARNING

- Attend lessons in an online classroom with your instructor and fellow students
- Upgrade your skills and refresh your knowledge without having to take valuable time away from work
- Receive information and materials in small, easy to digest sections
- Learn while you travel - all you need is an Internet connection
- Have constant support from your course instructor 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, based around the globe
- Live interactive webinars, not just a 'book on the web'
- Receive a certificate of completion for CPD purposes

PRESENTATION FORMAT

The certificate program features real-world applications and use a multi-pronged approach involving self-study, interactive on-line webinars and homework assignments with a mentor on call. The course consists of 12 modules, over a period of 3 months.

Some modules may involve a practical component or group activity. For each module there will be an initial reading assignment along with coursework or problems to be handed in and practical exercises in some cases. Participants will have ongoing support from their instructor and course coordinator.

Course reading material will be delivered in electronic (PDF) format in advance of on-line presentations. Presentations and group discussions will be conducted using a live interactive software system. Assignments will be submitted electronically and wherever possible, practical exercises will be conducted using simulation software and remote labs.

LIVE WEBINARS

During the program you will participate in 6 live interactive sessions with the instructor and other participants from around the world. Each webinar will last approximately 60 to 90 minutes, and we take student availability into consideration wherever possible before schedule webinar times. Contact us for details of webinar session scheduling. All you need to participate is an adequate Internet connection, speakers and a microphone. The software package and setup details will be sent to you prior to the course.

PRESENTED BY

DAVID WALKER

C.P.Eng, B.Sc(Hons), M.Sc, MIEE, MIEAust



David has specialised in the testing and certification of electrical equipment for use in hazardous areas since 1988. He has worked for BASEEFA and test laboratories in Australia and spends a significant amount of time working for ITACS as their Hazardous Area Equipment Manager.

Starting off as an apprentice electrician, he completed his degrees and Masters degree through part-time studies at Sheffield Hallam University in the UK, and continues to maintain a "hands on" approach to work. David has experience in project management, having to effectively manage several jobs, both hazardous apparatus applications for testing/certification, and electrical installations.

A competent and enthusiastic instructor, you will gain significant knowledge in the principles of hazardous areas.

12 MODULES OVER 3 MONTHS

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.

It should be noted that 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.



INCLUDES 4 FREE REFERENCE MANUALS

VALUED AT OVER US\$400

YOU WILL RECEIVE 4 OF OUR UP-TO-DATE TECHNICAL E-BOOKS TO ADD TO YOUR LIBRARY.

- Practical Hazardous Areas for Engineers and Technicians
- Practical Intrinsic Safety for Engineers and Technicians
- Practical Instrumentation for Automation and Process Control
- Practical Hazops, Trips and Alarms

Received upon completion.

All materials required for the course will be provided electronically, in smaller, easy-to-read sections.

Please Note: e-Books are available in hard copy at 50% of the recommended retail price. Contact us for pricing details.



COURSE OUTLINE

UNIT 1: Background and History

- The need for explosion protection
- Lessons from disaster investigation
- Concept of certification
- Risk assessment

UNIT 2: Ignition Characteristics

- Fire triangle
- Flammability characteristics
- Ignition sources
- Apparatus grouping

UNIT 3: Area Classification Theory

- Objectives
- Terminology and definitions
- Sources of release and ventilation
- Zoning
- Presentation, communication and monitoring
- Responsibilities
- Types of protection suitability

UNIT 4: Area Classification Practice

- Process of decision making
- Assessment and calculation
- Other 'codes of practice'
- Examples and tabulations

UNIT 5: Ex d

- Flameproof
- Theory of operation
- Flamepath joint types
- Dimensions and condition
- Apparatus and component certification

UNIT 6: Ex i & Systems

- Intrinsic safety
- Simple apparatus
- Apparatus and system concepts
- Interfaces
- Apparatus matching
- Descriptive system documentation

UNIT 7: Ex e and Ex n

- Increased safety
- Limitations of use
- Insulation and connection integrity
- Enclosure requirements
- Non-incendive
- The difference in approach

UNIT 8: Ex Types: p, o, q, m and s

- Features of these other types of protection
- Pressurisation and purging, oil immersion, sand-filling and encapsulation.
- Special protection
- Combined protection types

UNIT 9: Installation

- General requirements
- Information flow
- Cabling requirements
- Electrical protection
- Earthing and bonding
- Specific requirements for different types of protection

UNIT 10: Inspection

- General requirements
- Periodicity and grade
- Scheduling
- Maintenance
- Responsibilities
- Testing and fault-finding issues

UNIT 11: Certification and Marking

- Summary of certification
- Marking of older apparatus
- Types of certificate and information contained
- Conditions placed on the use of apparatus
- Multiple certification techniques and benefits

UNIT 12: European ATEX Requirements

- ATEX and the international standards
- Product marking
- "Product" directive
- "Workers" directive (The DSEAR in UK)

HARDWARE AND SOFTWARE REQUIREMENTS

All you need to participate is an adequate Internet connection, PC, speakers and a microphone. The software package and setup details will be sent to you prior to the course.

PRACTICAL EXERCISES

Throughout the course you will participate in hands-on exercises using simulation software, which will help you put theory to practice immediately!

ENTRANCE REQUIREMENTS

Some practical work experience in some of these topics would obviously be advantageous..

CERTIFICATION

Participants completing all the assignments, and achieving 50% or more for their final mark, will receive the Engineering Institute of Technology Certificate in Hazardous Areas for Engineers and Technicians.



ON-SITE TRAINING

We can provide our training at the venue of your choice. On-site training can be customised and by bringing the trainer to site the dates can be set to suit you!

"The Customer is Always Right" – so tell us what you need and we will design a training solution at your own site.

For a FREE detailed proposal please contact Kevin Baker via e-mail: training@idc-online.com