City and Guilds Accredited Individual Modular Development Programme

Training

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Course Brochure

City and Guilds Accredited Individual Modular Development Programme

Our City and Guilds accredited individual modular development programme is designed for individual learners to help you increase your training capacity by giving you access to a unique and extensive training resource. Designed as a structured training programme, that provides a comprehensive route to specified levels of knowledge and professional competence. The programme comprised of courses covering core power engineering disciplines in which students will complete one core course, followed by a minimum of 4 additional courses, providing a tailored programme for your specific needs. The modules provide essential theoretical and practical knowledge that can underpin your development programme.

Flexible

The programme's flexibility allows you to choose from a variety of courses that meet your training requirements and the specific needs of different roles or competence levels. They can also be structured to supplement existing development programmes.

Maximise your return on training expenditure

This programme can be a swift and cost-effective mechanism to fill gaps in key skills or manage your transition from one operational or competence level to another. The programme can be further underpinned by formal qualifications:-

- City & Guilds Level 2 Diploma in Electrical Power Engineering – Transmission and Distribution
- EAL Level 3 Diploma in Engineering Technologies

For further information or
to book a place visit:
www.eatechnology.com

Email: eatraining@eatechnology.com

Module index

Module 1: Power Systems Foundation - Core Module

The aim of this module is to provide new entrants and non-engineers with a sound underpinning knowledge of the power industry to support their ongoing career progression. It will also enable those already in the industry to update their knowledge and understanding of the underlying technology and terminology associated with UK electricity supply.

Substation Courses

Module 2: Insulating Oil Diagnostics and Analysis

This course will cover the sampling, analysis, storage and disposal of insulating oil used in transformers and switchgear and its role in condition-based asset management. It will provide participants with an understanding of this condition assessment technique which can help identify potential faults, prevent failures and improve strategic planning for maintenance, repairs and replacement

Module 3: Measuring Partial Discharge

A two-day course from the pioneers of Partial Discharge (PD) technology, covering PD theory, PD detection instruments and PD measuring techniques. The first day of the course will focus on hand-held equipment while the second day will cover the installation and operation of the UltraTEV® Monitor in detail.

Module 4: SF6 Management

This one-day course is designed to give learners all the information that is required to ensure they stay up to date with the latest SF6 legislation. The course will assist with making asset management decisions by explaining the practical elements of running a network that include assets containing SF6.

Module 5: SF6 Training and Certification

An essential two-day course covering the UK training requirements for anyone involved in the handling or recovery of SF6 filled high voltage switchgear, leading to certification that is required and recognised throughout the UK*.

Module 6: Substation Design

High voltage substation design is a complex engineering activity that embraces engineering functions from numerous disciplines. This intensive course considers the aspects required to design a high voltage air or gas insulated substation. It looks at the design process, substation design methods and interfaces required to build a substation.

Module 7: Substation Earthing

A three-day course providing a comprehensive review on the latest developments in earthing practice at transmission and distribution voltages. It considers specifications, regulations (CENELEC TC112), earth grids, resistivity, site areas, conductors and earth rods.

Module 8: Transformers and Switchgear Technology for Power Systems

This course is designed to give both experienced and newly qualified engineers a comprehensive overview of the role of transformers and an essential update on the latest switchgear technology to improve decision making for safe operation, maintenance and renewal.

Specialist Courses

Module 9: The Essentials of Asset Management

This course offers a unique perspective on Asset Management; it provides practical lessons on a variety of approaches and 'how to' guidance for key stages of Asset Management implementation. It introduces the main concepts and common approaches to the management of physical assets from the relevant published standards and draws on the experience of Asset Management strategists, trouble-shooters, auditors and operational engineers

Module 10: Failure Investigation

This course examines best practice, procedures and methods for failure analysis and investigation. It covers well-documented investigation techniques, handling and analysis of evidence and reporting, panels of inquiry and how the impact of information gleaned from investigations can be used for asset management decisions.

Module 11: Power Quality and Harmonics

A two-day power quality course that explains the Engineering Recommendations associated with power quality, and demonstrates its practical application through worked examples and case studies.

Module 12: Project Management: Electrical Projects

This course aims to help managers, engineers and technicians to become effective managers of electrical projects. Delegates can work through case study examples to reinforce the course's key learning points. The course is equally applicable to those who manage single projects or a portfolio of electrical projects at all voltage levels from HV/LV, 132/33kV through to 400/275kV.

Module 13: Lightning Protection, Risk Assessment and Design: BE EN 6230

A comprehensive two-day course covering everything from the basics of lightning and its effects, to the use of risk assessment in the formulation of protection strategies. It will not only provide you with a clear understanding of the threat from lightning and the protection options available, but also introduce you to the economics involved in protection system selection.

Cable Courses

Module 14: Cables: Part One and Accessories

A concise yet comprehensive overview of all the main aspects of power cable engineering, from initial design and specification to ongoing asset management, including the latest cable technology and issues surrounding installation and testing.

Module 15: Cables: Part Two

A three-day course on cable system engineering, using example circuits, to take the participants from the planning stage through the preparation of technical and commercial specifications for the tender document, bid adjudication, contract award, manufacture, installation, maintenance and operation. The management of existing cable assets is considered in terms of condition assessment, life estimation, repair and diversions.

Power Network Courses

Module 16: Distributed Generation

A two-day course focussing on distributed generation and its impact on both LV and HV networks, including connection issues, network design and operation, regulations, commercial aspects and the future of distributed generation.

Module 17: Distribution Overhead Lines

This two-day course has been designed to cover many overhead line issues of the moment including the effect of European regulations on our standards, line design, lightning protection, and helicopter and foot line patrols, including condition assessment, and live line working.

Module 18: HV Network Planning and Design

This two-day course combines the theory of network planning to relevant GB standards and legislation with the practice of carrying out load flow studies and calculations to ensure compliance with those standards. Fault Level, Voltage and Network Capacity Planning are all considered along with supporting knowledge in the areas of earthing design, basic HV protection and typical HV supply connection arrangements.

Module 19: LV Distribution Planning and Design

This network design foundation course introduces the basics of electricity distribution, the components, and the language of LV distribution networks before considering how these components are put together to produce a safe, reliable and economically viable LV distribution network. Using a series of tutorials and practical exercises, your knowledge of load diversity, thermal constraints, voltage constraints, fault level, earthing, power quality and protection will be built up in sufficient detail for you to be able, by the end of the two days, to create (and justify!) a simple compliant LV distribution network design.

Protection Courses

Module 20: Commissioning and Testing

A practical course covering the complete process of commissioning and testing new protection systems prior to initial switch-on, and the testing of existing asset protection to prove its continuing integrity.

Module 21: Power Systems Protection: Part One

A comprehensive course covering the principles of power system protection. The course includes practical exercises and a 'walk through' the LV and HV system. It provides a very detailed introduction to essential protection principles at a level that does not require knowledge of complex numbers.

Module 22: Power Systems Protection: Part Two

This course covers the role of protection, fault characteristics and design principles for a range of networks and network assets including a detailed examination of transformers and embedded generators. The management of protection is examined including the use of new knowledge based systems to create cost-effective maintenance procedures. This course includes complex numbers and introduces inductance and capacitance.

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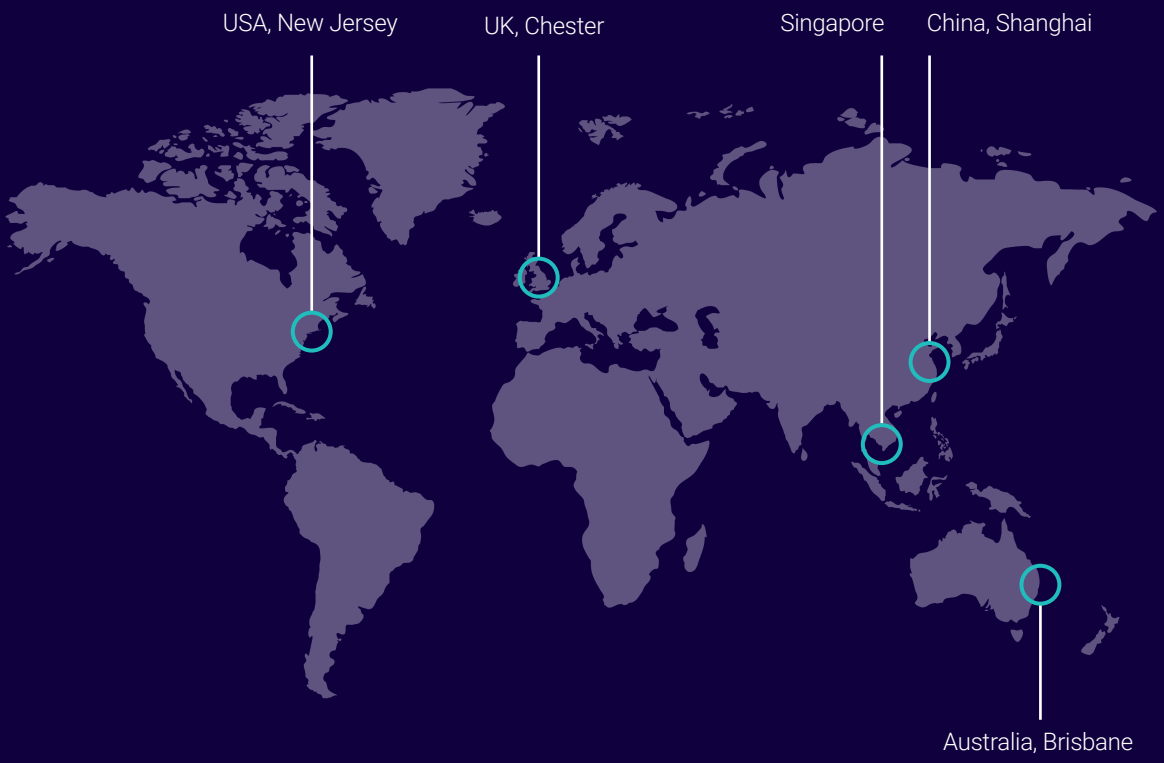
Course Brochure

Global Footprint

At EA Technology we specialise in asset management solutions for owners and operators of power network assets.



Founded in 1966 we have over 50 years' experience in the industry and 6 regional offices around the world to support our global customer base.

We work with a lot of our clients on a long-term basis to help them safeguard their power networks.

We advise our clients on strategy and implementation of a range of technology solutions to manage power assets, delivering maximum life and minimise cost.

ea technology

Safer, Stronger, Smarter Networks

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