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Additional dates for all courses can be arranged to suit the needs of individual clients

Course Planner 2009: The following table shows course commencement dates

	S1	S2	S3	S4	S5	S6	MAR4/ OS4	MAR5	MAR6
Jan	19 th	22 nd		12 th	26 th	29 th	26 th		
Feb	23 rd			2 nd			16 th	9 th	23 rd
Mar				2 nd & 23 rd	16 th		9 th & 30 th	30 th	
Apr	14 th	17 th	8 th	20 th	6 th	9 th	27 th		
May	26 th			11 th	5 th		18 th		
Jun	29 th			1 st & 22 nd			15 th	8 th	
Jul			2 nd	13 th			6 th & 27 th		20 th
Aug				3 rd	17 th		10 th	24 th	
Sep	1 st	4 th	24 th	7 th & 28 th	21 st	24 th	14 th		
Oct	5 th			19 th			26 th	12 th	
Nov	2 nd	26 th	19 th	16 th	23 rd		9 th & 30 th		30 th
Dec				7 th			14 th		

Course Planner 2009: The following table shows course commencement dates

	M1	P1	P2	T1	T2	T3	T5	A1	L1
Jan	19 th								
Feb		9 th							
Mar	30 th		19 th	16 th	17 th	18 th	20 th	12 th	9 th
Apr		20 th							
May			7 th	5 th	6 th	7 th		6 th	
Jun		8 th							
Jul	20 th			6 th	7 th	8 th	10 th		6 th
Aug		24 th							
Sep			3 rd	28 th	29 th	30 th		4 th	28 th
Oct		12 th					2 nd		
Nov	30 th	30 th		2 nd	3 rd	4 th	6 th	27 th	
Dec									

Course Planner 2009: The following table shows course commencement dates

	L2	S11	C&G2377-01	C&G2377-02	C&G 2382-10 17 th Edition	C&G 2382-20 17 th Edition	C&G 2391-10	HAZ1
Jan					19 th	14 th		
Feb		23 rd	16 th	17 th	23 rd		9 th	
Mar	9 th				23 rd	16 th	9 th	
Apr				14 th	20 th	15 th		
May					11 th	26 th		18 th
Jun			29 th	30 th	22 nd		1 st	
Jul	6 th	20 th			13 th	27 th	20 th	
Aug					3 rd		10 th	
Sep	28 th			1 st	7 th	23 rd		
Oct			19 th	20 th	26 th	21 st		12 th
Nov		9 th			16 th	23 rd		
Dec				1 st	7 th	2 nd		

Course Planner 2009: The following table shows course commencement dates

	HAZ 2	HAZ 3	E1	E2	E3	E4 (3 days)	E4 (5 days)	E5
Jan			26 th					
Feb	18 th							2 nd
Mar		19 th		30 th				
Apr					14 th	27 th	27 th	
May								
Jun			29 th	15 th				
Jul					27 th			6 th
Aug	24 th		3 rd			17 th	17 th	
Sep		25 th		2 nd				
Oct					5 th			26 th
Nov						2 nd	2 nd	
Dec								

Introduction

The Faraday Centre Limited is a privately owned company located in the north east of England, specialising in the provision of Electrical Power Training, either at our purpose designed facilities, which are equipped with a wide range of operational high/low voltage electrical training equipment or at the client's site, in the UK and worldwide. Courses are delivered by qualified tutors, all with many years electrical engineering experience.

Courses include practical “hands on” exercises as well as theoretical lectures. An optional individual, comprehensive competence based theoretical and practical assessment is available at additional cost. Candidates successfully completing training courses would receive a Faraday Centre attendance/competence or City & Guilds certificate as appropriate.

This calendar details the public courses scheduled for the year 2009, taking place at The Faraday Centre's UK based facilities. Please note that additional dates can be arranged to meet particular needs.

The Faraday Centre is an Institution of Engineering & Technology Endorsed Training Provider. (IET, previously the IEE), City & Guilds Approved Centre, IMCA Member (International Marine Contractors Association), Associate Member of ECA (Electrical Contractors Association), MoD's ELCAS Approved Training Provider, ISO 9001 registered company and a member of RoSPA.

Thomas Faraday Training Ltd, Cyprus is an associated company of the Faraday Centre Ltd UK and was established in 2006 as part of our international expansion. Located in the centre of Limassol, the 6000 square feet training facility is fully equipped to offer a wide range of electrical training programmes similar to those delivered in the UK.

Administration

Course bookings may be made initially by telephone but these should be confirmed by fax, email or letter prior to the course starting date. A booking form, which may be photocopied, is included within this Course Calendar.

Unless notified to the contrary, courses will commence at 09.00 hours and conclude at 16.30 hours. The course fee includes light lunch. With prior notice, special arrangements maybe possible to meet specific dietary requirements such as vegetarian, Halal, etc. We will endeavour to meet religious requirements such as prayer mat/quiet room etc.

Please note that, in accordance with the UK laws, smoking is not permitted in any of The Faraday buildings or vehicles.

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Group General Manager: Mr. Suhail Mitoubsi
Sales & Marketing: Mr. Subhan Beg
Course Development: Mr. Al Katib
Operations Manager: Mr. Paul Dobbin
Course Bookings: Mrs. Jenny Bulloch / Miss. Jennifer Millard / Mrs. Brooke Szymik

Location

Middlesbrough – North East England (UK)

By Road :	Aberdeen	280 miles	(450 km)
	Darlington	18 miles	(24 km)
	Glasgow	200 miles	(320 km)
	London	270 miles	(430 km)
	Manchester	125 miles	(200 km)
	Newcastle City	50 miles	(75 km)
	Newcastle Airport	70 miles	(112 km)
	Durham Tees Valley Airport	15 miles	(24 km)
	York	50 miles	(80 km)

International, by air: (Direct flights to Durham Tees Valley Airport from Aberdeen, Dublin, London Heathrow and Amsterdam).

Abu Dhabi	3100 miles	(4960 km)
Amsterdam	298 miles	(476 km)
Athens	1700 miles	(2720 km)
Kuala Lumpur	6757 miles	(10800 km)
New York	3640 miles	(5825 km)
Brussels	417 miles	(670 km)
Lagos	3217 miles	(5150 km)
Paris	463 miles	(740 km)

Conditions of Sale

- 1 Course bookings may be made initially by telephone but are not confirmed until receipt of a fully completed and signed order form. To guarantee availability of places, this confirmation must be received 14 days prior to the course commencement.
- 2 All confirmed bookings will be acknowledged and will include joining instructions, which the clients contact must pass to each of his delegates.
- 3 Clients may substitute candidates, without penalty, up to the course commencement date, providing this is notified in writing.
- 4 Where bookings include transport/accommodation, it is the client's responsibility to advise Faraday of the local transport requirements at least 2 working days in advance.
- 5 Where bookings include accommodation, any subsequent cancellation of that accommodation will be subject to the hotel's cancellation policy.
- 6 Liability for full course fees becomes due 7 days prior to the course commencement date. Payment terms must be specified at the time of booking. Failure to pay in the specified time will result in a surcharge of £50.00 and the withdrawal of any early payment discount offered.
- 7 Failure to specify payment terms will result in fees being charged on the basis of the highest rate in force.
- 8 No fee will be charged for cancellations received in writing by The Faraday Centre Ltd at least 14 days prior to the course commencement. A cancellation charge of 50% of the full course fee will be charged for cancellations within 14 days, and 100% charge for cancellation within 7 days.
- 9 For Faraday based courses, unless stated to the contrary, fees include course manuals, certificates and a light lunch.
- 10 Fees are quoted exclusive of U.K. Government Value Added Tax, which is charged as appropriate and is applicable to all training delivered in the United Kingdom.
- 11 All courses are offered on a basis of there being sufficient candidates to justify holding the course. Where this or other circumstances force The Faraday Centre Ltd to cancel a course, liability shall be limited to a refund of any fees paid and alternative dates suggested.
- 12 Course certificates are despatched to the clients contact for bookings upon completion of the course and payment of the invoice.
- 13 The Faraday Centre Ltd cannot accept responsibility for the competence level of any particular candidate upon completion of the course.
- 14 The fee charged for courses tailored to customers specific requirements are by negotiation.
- 15 All delegates are required to observe the Health & Safety Policy of The Faraday Centre Ltd. Persons ignoring this policy will not be allowed access to the training centre.
- 16 Unless agreed in writing to the contrary, these conditions of sale shall take precedence over any other contractual conditions for all services supplied by The Faraday Centre Ltd.
- 17 Failure to pay in the specified time may result in the withdrawal of credit facilities to a defaulting client.
- 18 These conditions of sale shall be interpreted in accordance with English Law.

Section 1: High Voltage Courses

S1 Introduction to the Safe Operation of High Voltage Power Systems (Limited High Voltage Authorisation)

Duration: 3 days

Introduction: This is an intermediate training programme that requires a basic level of electrical knowledge. Upon successful completion of the course, candidates will be able to enter high voltage switchrooms and perform limited switching operations, etc, on high voltage equipment. They would be permitted to issue limited safety documents e.g. isolation documents, but not to issue permits to work, sanction for test etc. (The S1 course progresses to the S4 course, if more advanced training is required).

Participants: Electrical/non-electrical personnel required to carry out restricted HV switching operations with limited safety document issuing responsibilities.

Aim: To introduce personnel to the basic concept of electrical power systems to enable them to enter substations/switchrooms, carry out restricted switching operations, monitor the performance and condition of the system (including relay operation) in a safe and competent manner. The course is intended to provide knowledge and awareness of limited safety document issuing responsibilities.

Outline Contents

- Safety requirements
- Electrical hazards and precautions
- Arrangement of high voltage substations/switchrooms
- Emergency conditions
- Philosophy of high voltage distribution
- Operation and safety features of switchgear
- Limited Operational Procedures
- High voltage safety rules
- Introduction to electrical protection
- Practical switching exercise (1)
- Case studies
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

19 th – 21 st Jan	23 rd – 25 th Feb	14 th – 16 th Apr	26 th – 28 th May
29 th Jun – 1 st Jul	1 st – 3 rd Sep	5 th – 7 th Oct	2 nd – 4 th Nov

S2 Awareness of the Operation of High Voltage Power Systems

(Access to substations & switchrooms)

Duration: 1 day

Introduction: This course is designed for electrical and non-electrical personnel with no previous experience of electrical HV power systems, who require substation/switchroom access for defined duties (not HV) within the substation/switchroom. Persons who would benefit from this course are those who require to work in the vicinity of but not on electrical power equipment, but not actually working on the electrical systems directly. The course covers the safety requirements for working adjacent to electrical equipment, electrical hazards and precautions and the arrangement of equipment within the substation or switchroom, in addition to safety procedures, understanding of key safes and isolok systems and steps to be taken in an emergency.

Participants: Electrical/non-electrical personnel with no previous experience of electrical power systems, who require substation/switchroom access for defined duties within the substation/switchroom.

Aim: To enable personnel to enter substations and switchrooms for specific duties and to recognise the dangers associated with high voltage power equipment. These duties may include: meter reading, switchroom lighting, telephone repairs, cleaning, etc.

Outline Contents

- Safety requirements
- Electrical hazards and precautions
- Arrangement of high voltage substations
- Basic high voltage safety procedures
- The role of protective relays
- Emergency conditions
- Demonstration of switchgear principles
- Electrical incidents
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

22nd Jan

17th Apr

4th Sep

26th Nov

S3 Basic Refresher Training in the Safe Operation of High Voltage Power Systems

Duration: 2 days

Introduction: This is a refresher programme designed for personnel who have limited high voltage authorisation. Limited authorisation is taken to be authorisation for work on single ended circuits, such as motor drives. It is not intended to cover refreshers for persons carrying out work on distribution systems which include transformers, feeders or ring main systems.

Participants: Personnel experienced in carrying out routine switching duties associated with the safe operation of electrical power systems with limited authorisation and have previously attended courses such as the S1.

Aim: To provide refresher training to authorised personnel required to carry out routine switching operations and issue of isolation documents associated with single end circuits

Outline Contents

- Hazards of electricity
- Electrical statutory regulations
- Causes of electrical accidents
- Interpretation of basic electrical protection under fault situations
- Case studies
- Safety documents and lock out/tag out procedures
- Practical switching exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

8th – 9th Apr

2nd – 3rd Jul

24th – 25th Sep

19th – 20th Nov

S4 Fundamentals of the Safe Operation of High Voltage Power Systems

(Full authorisation)

Duration: 5 days

Introduction: This is an advanced training programme that requires a good foundation of electrical knowledge. It is designed to bring candidates up to a “Senior Authorised” level. However, the course does not provide the “authorisation” itself.

Participants: Personnel with a prior knowledge of the inspection, operation, maintenance, and repair of electrical power systems and who are to be responsible, as authorised/senior authorised person, for switching and issue of safety documents (e.g. electrical permits to work).

Aim: To improve the understanding of HV/LV power systems including statutory regulations, safe operation, protection and fault diagnosis on a wide range of power equipment. Also to enable candidates to perform HV switching operations on HV network and to prepare them for HV authorisation in accordance with their companies’ safety regulations.

Outline Contents

- Statutory regulations
- Electrical hazards and precautions
- Arrangement of high voltage systems
- Operational and safety features of switchgear
- High voltage safety rules
- Issue and control of safety documentation
- Key safes and Iso-lok systems
- Application of electrical protection
- Application of fault levels
- Emergency conditions
- Practical exercises (3-switching/ safety documents/ synchronisation).
- Fault incidents
- Case studies
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

12 th – 16 th Jan	2 nd – 6 th Feb	2 nd – 6 th Mar 23 rd – 27 th Mar	20 th – 24 th Apr
11 th – 15 th May	1 st – 5 th Jun 22 nd – 26 th Jun	13 th – 17 th Jul	3 rd – 7 th Aug
7 th – 11 th Sep 28 th Sep – 2 nd Oct	19 th – 23 rd Oct	16 th – 20 th Nov	7 th – 11 th Dec

S5 **Advanced Refresher (Consolidation) Training in the Safe Operation of High Voltage Power Systems**

Duration: 3 days

Introduction: This is an advanced training programme that requires a good foundation of electrical knowledge. It is designed to refresh the knowledge, skills and experience of the candidates relating to safe practices and legislation within the high voltage and electrical safety industry.

Participants: Personnel experienced in carrying out complex switching duties and testing, as authorised/senior authorised person, associated with the safe operation of electrical power systems and who previously attended a course such as the S4.

Aim: To provide refresher training to authorised/senior authorised personnel with a responsibility for carrying out complex switching duties and the issue of permits to work/sanctions for test associated with such work.

Outline Contents

- Electrical statutory regulations
- Causes of electrical accidents
- Electrical hazards and precautions
- Case studies
- Application of electrical protection
- An outline of electrical testing
- Maintenance requirements
- Practical exercises
- Fault situations and investigation
- Fault switching exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

26 th – 28 th Jan	16 th – 18 th Mar	6 th – 8 th Apr	5 th – 7 th May
17 th – 19 th Aug	21 st – 23 rd Sep	23 rd – 25 th Nov	

S6 Safe Operation Review & Competence Assessment

Duration: 1 day

Introduction: This is a practical programme designed to assess candidates' safe switching practices when operating on high voltage power systems. It is intended for candidates requiring independent external assessment of their level of competence.

Participants: Electrical / plant / engineers / supervisors / technicians / electricians responsible for the inspection, operation, maintenance and repair of high voltage systems.

Aim: To assess the competency of electrical personnel prior to becoming an authorised person for safety and operational switching duties of electrical power systems. It includes theoretical, verbal and practical assessment. This is an individual assessment and most dates can be arranged to suit clients' requirements.

Outline Contents

- Determination of required individual competence levels
- Summary of electrical protection
- Operational and safety features of switchgear
- Practical demonstration by tutor of appropriate switchgear.
- Individual practical competence exercises, including switching/safety document issue, as appropriate.
- Theoretical paper
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

29th Jan

9th Apr

24th Sep

MAR4/OS4 Fundamentals of the Safe Operation of Marine/Offshore High Voltage Power Systems

Duration: 5 days

Introduction: This is an advanced training programme that requires a good foundation of electrical knowledge. It is designed to bring candidates up to a "Senior Authorised" level. However, the course does not provide the "authorisation" itself. The course is a marine/offshore development from our S4 course.

Participants: Marine/offshore personnel with a prior knowledge of the inspection, operation, maintenance, and repair of high voltage systems and who are to be responsible for switching and issue of safety documents (such as electrical permits to work).

Aim: To improve the understanding of HV/LV power systems including statutory regulations, safe operation, protection, maintenance and fault diagnosis on a wide range of marine/offshore power equipment. Also to enable candidates to perform HV switching operations on marine offshore power equipment and to prepare them for HV authorisation in accordance with their companies' safety regulations.

Outline Contents

- UK and other national marine/offshore statutory electrical regulations.
- Electrical hazards and precautions
- Arrangement of high voltage switchrooms.
- Operation and safety features of switchgear.
- Operational Procedures.
- Marine/offshore high voltage safety rules.
- Issue and control of safety documentation
- Key safes and Iso-lok systems.
- Appreciation of fault levels.
- Marine/offshore application of electrical protection.
- Emergency conditions.
- Practical exercises (3-switching/ safety documents/ synchronisation).
- Case studies.
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday "Competence" certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday "Attendance" certificate.

Dates: For courses undertaken at our UK training centre

26 th – 30 th Jan	16 th – 20 th Feb	9 th – 13 th Mar 30 th Mar – 3 rd Apr	27 th Apr – 1 st May
18 th – 22 nd May	15 th – 19 th Jun	6 th – 10 th Jul 27 th – 31 st Jul	10 th – 14 th Aug
14 th – 18 th Sep	26 th – 30 th Oct	9 th – 13 th Nov 30 th Nov – 4 th Dec	14 th – 18 th Dec

MAR 5 Principles of the Safe Operation of Marine/Offshore High Voltage Power Systems

Duration: 5 days

Introduction: This is an advanced training programme that requires a good foundation of electrical knowledge and experience of high voltage switching.

Participants: Electrical engineers, electrical officers and contractor’s electrical engineers, responsible for the design, construction, commissioning and operation of marine/offshore electrical power systems, and to be responsible for switching and the issue of safety documents.

Aim: This course has been developed to meet requirements of I.M.C.A. (International Maritime Contractors Association) and other organisations, in the safe operation of high voltage systems in marine/offshore applications (HV systems not control systems) This course is more advanced course than the MAR4 course and includes a wider range of technical aspects with less emphasis on switching operations.

Outline Contents

- Marine/offshore statutory electrical requirements
- Philosophy of high voltage distribution
- Operational and safety features of switchgear
- Operational Procedures
- Marine / offshore high voltage safety rules
- Basic fault calculations
- Marine / offshore application of electrical protection
- Principles of power management systems
- Outline of electrical testing
- Synchronisation
- Electrical maintenance
- Case studies
- Automatic voltage regulation
- Practical exercises (2-switching/ safety documents/ synchronisation)
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

9th – 13th Feb

30th Mar – 3rd Apr

8th – 12th Jun

24th – 28th Aug

12th – 16th Oct

MAR 6 **The Control & Management of Offshore & Marine High Voltage Power Systems**

Duration: 5 days

Introduction: This course is designed for candidates involved in the management and operation of marine/offshore high voltage power systems requiring an understanding of the principles of power generation and high voltage distribution systems and how to safely control and manage abnormal situations such as power failures and emergencies. The course also introduces the safe operation of high voltage systems but it does not authorise participants to carry out high voltage switching operations (see MAR4 course).

Participants: Non-electrical personnel responsible for the safe control and management of high voltage power systems in a marine or offshore environment.

Aim: To give participants an understanding of the functional, operational and safety requirements for marine and offshore high voltage systems and the remedial action necessary during system faults. This course is not intended to authorise participants to carry out switching duties (see MAR4 course).

Outline Contents

- Statutory electrical regulations
- Situation / stress management
- Operational and safety features of switchgear
- High voltage safety rules and procedures
- An introduction to electrical protection
- Synchronisation and control of generators
- An outline of DCS and SCADA systems
- An introduction to power management systems
- The operation of power systems during planned and fault situations
- Action to be taken during loss of high voltage control facilities
- Simulated and practical exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

23rd – 27th Feb

20th – 24th Jul

30th Nov – 4th Dec

M1 Basic Principles of the Maintenance of Electrical Switchgear

Duration: 5 days

Introduction: This course is intended to provide theoretical and practical instruction on the maintenance and repair of HV/LV switchgear of various types.

Participants: Engineers, supervisors and technicians with a responsibility for the maintenance of HV/LV electrical switchgear

Aim: To provide theoretical and practical instruction on the maintenance and repair of HV/LV switchgear of various types.

Outline Contents

- Statutory regulations and codes of practice
- Operational and safety features of switchgear
- Primary conductors
- Circuit breakers – oil/gas/air/vacuum
- Auxiliary equipment
- Exterior of switchpanels
- Switchroom housekeeping
- Battery units
- Trouble shooting
- Practical maintenance exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

19th – 23rd Jan

30th Mar – 3rd Apr

20th – 24th Jul

30th Nov – 4th Dec

Section 2: Electrical Protection Courses

P1 Protection of Electrical Power Systems

Duration: 5 days

Introduction: This is an advanced training programme that requires a good foundation of electrical knowledge. The course covers electrical protection in great depth and involves a number of practical exercises and demonstrations combined with classroom theory. A wide range of protective devices are used during the course including mechanical, electromechanical and microprocessor based relays.

Participants: Electrical/plant engineers, supervisors, technicians, electricians with responsibility for the application, commissioning and/or maintenance of electrical protective equipment used on electrical power systems

Aim: To provide detailed theoretical and practical instruction on HV/LV electrical protective equipment including primary and secondary injection of electronic and electro mechanical devices

Outline Contents

- The role of protection
- Current and voltage transformers
- Fuses and other protective devices
- Methods of achieving discrimination
- Fault calculation
- The calculation of graded time settings for IDMTL relays
- Testing procedures
- Motor protection, feeder protection, transformer protection, generator protection
- Busbar zone protection
- Standard marking of switchgear panel wiring
- Tutorials
- Case studies
- Practical exercises: CT magnetisation tests, primary/secondary injection, bench testing
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

9th – 13th Feb

20th – 24th Apr

8th – 12th Jun

24th – 28th Aug

12th – 16th Oct

30th Nov – 4th Dec

P2 Appreciation of the Protection of Electrical Power Systems

Duration: 2 days

Introduction: The P2 course is intended to give personnel an introductory insight into the protective apparatus that would be fitted to high voltage switchgear connected to feeders, transformers, motors and generators in industrial, commercial and marine installations.

Participants: Electrical/plant engineers, supervisors, technicians, electricians requiring an outline knowledge of the application of electrical protective equipment used on electrical power systems.

Aim: To provide outline theoretical and practical instruction on HV/LV electrical protective equipment, so that candidates may understand the function, role and application of various protective devices.

Outline Contents

- The role of protection
- Fuses and other protective devices
- Current and voltage transformers
- Methods of achieving discrimination
- Relay grading
- Motor protection
- Feeder protection
- Transformer protection
- Generator protection
- Busbar zone protection
- Trip circuit supervision requirements
- Tutorial / practical
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

19th – 20th Mar

7th – 8th May

3rd – 4th Sep

Section 3: Testing Courses

T1 Electrical Pressure Testing

Duration: 1 day

Introduction: The T1 course covers theoretical and practical training of the principles of electrical pressure testing of HV distribution systems including the different insulating materials characteristics as well as the methods used to test electrical pressure of high voltage equipment, including cables, switchgear, transformers and motors with emphasis on safety requirements and interpretation of test results.

Participants: Authorised electrical engineers/electrical engineers/technicians responsible for carrying out high voltage pressure testing or with a responsibility for supervising personnel who carry out high voltage pressure testing. It is recommended that candidates should be authorised before taking this course.

Aim: To cover the theoretical and practical aspects of electrically testing the insulation of power cables, switchgear, transformers, motors etc

Outline Contents

- Safety requirement
- Power cables
- Insulation resistance
- Polarisation index
- Flash testing
- AC pressure tests
- DC pressure tests
- Practical testing exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

16th Mar

5th May

6th Jul

28th Sep

2nd Nov

T2 Earth Electrode Testing

Duration: 1 day

Introduction: The T2 course covers different types of earth electrode systems used in conjunction with high voltage networks with practical methods of testing earth electrode systems and interpretation of the test

Participants: Electrical engineers/technicians responsible for the installation, commissioning and maintenance of earth electrode systems used on electrical power systems

Aim: To provide theoretical and practical instruction in the testing of earth electrode systems and conductance testing of earth bars.

Outline Contents

- Purpose of test
- Testing conditions
- Test equipment
- Safety considerations
- Statutory regulations and standards
- Test results
- Remedial work
- Testing procedures
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

17 th Mar	6 th May	7 th Jul	29 th Sep
3 rd Nov			

T3 Transformer Testing and Maintenance

Duration: 2 days

Introduction: The T3 course provides technical information about the significance of various tests that are carried out on High Voltage transformers. It also covers practical methods of transformer testing including practical routine tests for post fault and preventive maintenance.

Participants: Electrical engineers/technicians responsible for the installation, commissioning, operation and maintenance of electrical power transformers.

Aim: To provide understanding in the practical, technical and safety aspects of transformer operation, maintenance and testing.

Outline Contents

- Safety requirements
- Transformer design and construction
- Installation/periodic testing
- Transformer oil
- Buchholz protection unit
- Open circuit tests
- Short circuit tests
- Vector group tests
- Temperature devices
- Insulation testing
- Routine maintenance
- Practical exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

18th – 19th Mar

7th – 8th May

8th – 9th Jul

30th Sep – 1st Oct

4th – 5th Nov

T5 Cable Identification / Spiking

Duration: 1 day

Introduction: The T5 course designed for electrical personnel responsible for ensuring the safety of personnel working on underground electrical power cable systems. The course aims to provide instruction in the practical, technical and safety aspects of identifying underground electrical power cables and their subsequent spiking to ensure the safety of personnel required to work upon these cables.

Note: This is not a cable fault location course.

Participants: Electrical engineers/technicians responsible for ensuring the safety of personnel working on underground electrical power cables.

Aim: To provide instruction in the practical, technical and safety aspects of identifying underground electrical power cables and their subsequent spiking to ensure the safety of personnel required to work upon these cables

Outline Contents

- Safety requirements
- Ground clearance
- Methods of cable identification
- Cable spiking
- Case studies
- Practical exercises
- Course review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

20th Mar

10th Jul

6th Nov

Section 4: Low Voltage Courses

This section is predominantly LV however some courses are applicable to HV

A1 Electricity at Work Regulations 1989

Duration: 1 day

Introduction: This course explains the requirements and the implications of the Electricity at Work Regulations 1989 for those responsible for electrical safety at work. The duties and responsibilities of everyone affected by the legislation are clearly outlined.

Participants: Personnel with a functional and/or managerial responsibility for the safe use of electricity and electrical equipment.

Aim: To provide delegates with an understanding of the Electricity at Work Regulations 1989 and the application of the regulations throughout industry, commercial premises, shops, offices, schools, hospitals etc.

Outline Contents

- Hazards & Effects of Electricity.
- The Purpose & Back ground of the Regulations.
- Scope of the Regulations.
- Employers, Employees & Contractors Responsibilities.
- Review of Regulations.
- Legal Implications of non Compliance.
- Case Studies.
- Course Review.

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

12th Mar

6th May

4th Sep

27th Nov

L1 Live Testing on Systems up to 1000 Volts AC

Duration: 3 days

Introduction: This course is designed to provide best practises for safe working methods for those who need to perform live testing on various electrical equipment & systems. Instruction will be provided to personnel regarding the need and justification for performing tasks or faultfinding on or near live conductors, in accordance with statutory regulations.

Participants: Electrical engineers, electrical technicians, electricians and multi-skilled technicians required to carry out fault finding on or near live conductors.

Aim: To identify potential hazards, determine safe working procedures and carry out fault finding to avoid danger from such work. The course is not designed to cover any live work for maintenance, repair or modification purposes.

Outline Contents

- Hazards & Effects of Electricity.
- Safe Electrical Isolations.
- Electricity at Work Regulations 1989.
- Statutory Regulations.
- The Necessity for Live Testing.
- Fault Energy.
- Safe use of Electrical Test Equipment.
- Risk Assessments.
- Fixed Wiring Colour Change.
- Case Studies.
- Construction Installation & Maintenance of Electrical Equipment.
- Practical Exercises.
- Course Review.

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

9th – 11th Mar

6th – 8th Jul

28th – 30th Sep

L2 Live Testing on AC & DC Systems up to 1000V AC / 1500V DC

Duration: 3 days

Introduction: This course is designed to provide best practises for safe working methods for those who need to perform live testing on various electrical equipment & systems. Instruction will be provided to personnel regarding the need and justification for performing tasks or faultfinding on or near live conductors, in accordance with statutory regulations. Due to the inclusion of DC modules there will be less exposure to AC equipment, which is covered in more detail within the L1 course.

Participants: Electrical engineers, electrical technicians, electricians and multi-skilled personnel required to carry out fault finding on or near live conductors.

Aim: To identify potential hazards, determine safe working procedures and carry out fault finding, and avoid danger while performing the work. The course is not designed to cover any live work for maintenance, repair or modification purposes.

Outline Contents

- Hazards & Effects of AC & DC Power.
- Safe Electrical Isolations.
- Electricity at Work Regulations 1989.
- DC Power Sources.
- Safe Handling & Maintenance of Batteries.
- Statutory Regulations.
- The Necessity for Live Testing.
- Fault Energy.
- Safe use of Electrical Test Equipment.
- Risk Assessments.
- Fixed Wiring Colour Change.
- Case Studies.
- Construction, Installation & Maintenance of Electrical Equipment.
- Practical Exercises.
- Course Review.

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

9th – 11th Feb

6th -8th Apr

8th – 10th Jun

14th – 16th Sep

S11 Low Voltage Authorised Person Training (Formerly known as The Safe Operation of Low Voltage High Power Systems)

Duration: 5 days

Introduction: This is an advanced training course aimed at experienced electricians/engineers who are required to carry out switching operations for the safe isolation and de-isolation of low voltage power systems up to 1000V. Candidates will be introduced to the safe operation procedures including lockout/tagout, risk assessment and the issue and control of safety documentation. The course includes several practical sessions on a wide range of industrial power installations as well as the preparation of Task Risk Assessments.

Participants: This course is intended for personnel involvement with the operation of low voltage installations (up to 1000 Volts) for the purpose of commissioning, testing, inspection, maintenance or repair.

Aim: This course is intended to enhance candidates knowledge of statutory regulations, codes of practice, safe procedures and technical aspects of low voltage power systems.

Outline Contents

- Electricity at Work Regulations
- Electrical hazards and precautions
- Outline of the design, construction, installation and maintenance of low voltage equipment
- Appreciation of earthing system, power equipment and safety earths
- Outline of HV and LV installations (including incoming transformers)
- Electrical isolation and safety procedures
- Safety documentation (switching programme – lockout)
- Electrical permit to work
- Safe testing of low voltage electrical equipment and installations
- Risk assessment
- Application of low voltage protection
- Case studies
- Practical exercises

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

23rd – 27th Feb

20th – 24th Jul

9th – 13th Nov

**C&G
2377-001**

**Management of Electrical Equipment Maintenance
(Portable Appliance Testing, City & Guilds 2377-001)**

The Faraday Centre is an MoD ELCAS Approved Training Provider for this course

Duration: 1 day + City & Guilds examination

Introduction: The C&G2377-001 is the first unit to City & Guilds 2377 Portable Appliance Testing qualification. The course addresses the setting up and management of the systems involved for the in-service inspection and testing of electrical equipment. The unit is aimed at those who will manage and administer the system.

The course includes a FREE copy of the “IEE Code of Practice for In-service Inspection and Testing of Electrical Equipment” (worth £35).

Participants: Electrical and non-electrical personnel with a responsibility for the safe use of electrical equipment (portable appliances).

Aim: To provide information and familiarise candidates with the management of electrical equipment maintenance based on the IEE Code of Practice for in-service inspection and testing of electrical equipment.

Outline Contents

- The Law and scope of the legislation
- Electrical equipment classification
- In-service inspection and testing
- Documentation and labelling
- Training for competence
- Instruments
- City and Guilds 2377-001 examination. (Additional option at an extra charge)

Examination: The online multiple choice examination comprises 45 questions (1.5 hour) and must be booked in advance either at the time of course booking or at least 7 days prior to course commencement.

Certification: Candidates who successfully complete the course and City & Guilds examination will receive a City & Guilds certificate and a Faraday “Attendance” certificate. Those who fail the examination will receive a Faraday “Attendance” certificate only.

Dates: For courses undertaken at our UK training centre

16th Feb

29th Jun

19th Oct

**C&G
2377-002**

**Inspection & Testing of Electrical Equipment (Portable Appliances
Testing) City & Guilds 2377 –002**

The Faraday Centre is an MoD ELCAS Approved Training Provider for this course

Duration: 1 day + City & Guilds examination

Introduction: The C&G2377-002 is the second unit to City & Guilds 2377 Portable Appliance Testing qualification. During the course, a number of practical exercises are undertaken using a range of portable appliance testing equipment. This course is aimed at individuals that who be undertaking the practical inspection and testing of electrical equipment.

The course includes a FREE copy of the “IEE Code of Practice for In-service Inspection and Testing of Electrical Equipment” (worth £35).

Participants: Electrical and non-electrical personnel with a responsibility for the safe use of electrical equipment (portable appliances).

Aim: To give delegates theoretical and practical experience in the implementation of a formal inspection and testing regime for electrical equipment (portable appliances)

Outline Contents

- Hazards of electricity
- Classification of appliances
- Dangers associated with the use of various types of portable and fixed electrical appliances.
- Legal requirements
- IEE Code of Practice
- Approved inspection and testing procedures
- Portable appliance testers
- Recording of results and maintenance documents
- Practical exercises
- Course review
- City and Guilds 2377-002 examination. (Additional option at an extra charge)

Examination: The online multiple choice examination comprises 30 questions (1 hour) and must be booked in advance either at the time of course booking or at least 7 days prior to course commencement.

Certification: Candidates who successfully complete the course and City & Guilds examination will receive a City & Guilds certificate and a Faraday “Attendance” certificate. Those who fail the examination will receive a Faraday “Attendance” certificate only.

Dates: For courses undertaken at our UK training centre

17th Feb

14th Apr

30th Jun

1st Sep

20th Oct

1st Dec

**C&G2382-10 Certificate in the Requirements of Electrical Installations
BS7671:2008: (IEE 17th Edition Wiring Regulations)**

The Faraday Centre is an MoD ELCAS Approved Training Provider for this course

Duration: 4 days including City & Guilds examination

Introduction: The C&G2382-10 course is designed around the required syllabus for the City & Guilds 2382-10 exam and qualification. It is an industry standard qualification for the electrical trade. It is highly recommended that candidates are working electrical personnel before undertaking this course. This course is aimed to cover all of the alterations with the new BS 7672 (2008) Regulations for Electrical Installations.

It is a requirement of the course that candidates provide their own copy of the BS7671 (2008) IEE 17th Edition Wiring Regulations and IEE On-site Guide.

Participants: All electrical personnel with a responsibility for the safe installation of electrical apparatus operating up to 1000 volts in industrial /commercial and domestic premises.

Aim: To familiarise participants with the layout, content and application of the 17th Edition Wiring regulations

Outline Contents

- Background to BS7671 (2008).
- Legal status and association with statutory documents
- Layout and numbering system
- Scope, object and fundamental requirements for safety
- Assessment of general characteristics
- Protection for safety
- Selection and erection of equipment
- Special installation or locations
- Inspection and testing
- Course review
- City and Guilds 2382-10 examination. (Additional option at an extra charge)

Examination: The online multiple choice examination comprises 60 questions (2 hours) and this must be booked in advance either at the time of course booking or at least 7 days prior to course commencement.

Certification: Candidates who successfully complete the course and City & Guilds examination will receive a City & Guilds certificate and a Faraday “Attendance” certificate. Those who fail the examination will receive a Faraday “Attendance” certificate only.

Dates: For courses undertaken at our UK training centre

19 th – 22 nd Jan	23 rd – 26 th Feb	23 rd – 26 th Mar	20 th – 23 rd Apr
11 th – 14 th May	22 nd – 25 th Jun	13 th – 16 th Jul	3 rd – 6 th Aug
7 th – 10 th Sep	26 th – 29 th Oct	16 th – 19 th Nov	7 th – 10 th Dec

C&G2382-20 Certificate in the Requirements of Electrical Installations BS7671:2008: (IEE 17th Edition Wiring Regulations).

This course is an update certificate for those that have achieved C&G 2381 since 2001

The Faraday Centre is an MoD ELCAS Approved Training Provider for this course

Duration: 2 days including City & Guilds examination

Introduction: The C&G2382-20 course is designed around the required syllabus for the City & Guilds 2382-20 exam and qualification. It is an industry standard qualification for the electrical trade. This course is an update conversion from the 16th edition to the 17th edition Requirements for Electrical Installations.

It is a requirement of the course that candidates provide their own copy of the BS7671 (2008) IEE 17th Edition Wiring Regulations and IEE On-site Guide.

Participants: All electrical personnel with a responsibility for the safe installation of electrical apparatus operating up to 1000 volts in industrial / commercial and domestic premises. All participants must have passed BS 7671 2001 exam since 2001 and must be able to provide proof of certification along with photographic identification..

Aim: To familiarise participants with the layout, content and application of the recent changes to BS 7671 (2001) the wiring regulations.

Outline Contents

- Background to the changes within BS7671 (2008).
- Legal status and association with statutory documents
- Layout and numbering system
- Scope, object and fundamental requirements for safety
- Assessment of general characteristics
- Protection for safety
- Selection and erection of equipment
- Special installation or locations
- Inspection and testing
- Course review
- City and Guilds 2382-10 examination. (Additional option at an extra charge)

Examination: The online multiple choice examination comprises 30 questions (1 hour) this must be booked in advance at the time of course booking.

Certification: Candidates who successfully complete the course and City & Guilds examination will receive a City & Guilds certificate and a Faraday “Attendance” certificate. Those who fail the examination will receive a Faraday “Attendance” certificate only.

Dates: For courses undertaken at our UK training centre

14 th – 15 th Jan	16 th – 17 th Mar	15 th – 16 th Apr	26 th – 27 th May
27 th – 28 th Jul	23 rd – 24 th Sep	21 st – 22 nd Oct	23 rd – 24 th Nov
2 nd – 3 rd Dec			

**C&G2391-10 Inspection, Testing & Certification of Electrical Installations
BS7671:2008: City & Guilds 2391-10**

The Faraday Centre is an MoD ELCAS Approved Training Provider for this course

Duration 4 days including practical assessment & City & Guilds examination

Introduction: This course is designed around the required syllabus for the City & Guilds 2391-10 exam and qualification. It is an advanced qualification and is becoming an industry standard for electricians and other contractors who are required to test and inspect their own, or others electrical installations. Candidates should provide their own copy of the BS7671 IEE 17th Edition Wiring Regulations and IEE On-site Guide.

Participants: Electrical personnel responsible for the inspection, testing, and certification of electrical installations operating up to 1000 volts in industrial, commercial and domestic premises. Participants should possess relevant experience and City & Guilds 2382 or equivalent qualification, and must be able to provide proof of certification along with photographic identification.

Aim: To give participants theoretical and practical experience of the Inspection, Testing and Certification requirements of BS7671.

Outline Contents

- The Purpose and frequency of inspection and testing
- The main inspection requirements
- The requirements and sequence of tests
- Test apparatus
- Understanding and completion of certification documents
- Practical exercises
- City and Guilds 2391-10 examination. (Additional option at an extra charge)

Examination: City & Guilds 2391-10 written exam (2.5 hours) must be **booked at least 8 weeks** in advance and is taken on dates and times specified by City & Guilds, usually commencing at 18:30 hours. The practical assessments are scheduled to take place on either morning or afternoon time slots on Thursday or Friday immediately following the course. Late registration entry up to 3 weeks prior to examination week is subject to additional charges. For further information, please refer to ‘Price Schedule’.

Certification: Candidates who successfully complete the course and City & Guilds examination will receive a City & Guilds certificate and a Faraday “Attendance” certificate. Those who fail the examination will receive a Faraday “Attendance” certificate only.

Dates: For courses undertaken at our UK training centre

9 th – 12 th Feb	9 th – 12 th Mar	1 st – 4 th Jun	20 th – 23 rd Jul
10 th – 13 th Aug			
Examination dates:			
12 th Feb	12 th Mar	4 th Jun	23 rd Jul
13 th Aug			

HAZ 1 Safe Use of Electrical Equipment in Hazardous Areas

Duration: 3 days

Introduction: This course is designed for personnel working within hazardous area environments. The course provides an overview of the hazards associated with installing, operating and maintaining electrical equipment within potentially explosive areas. This is not a COMPEX course however the same theories, details and standards are covered.

Participants: All personnel in any position within a company working on a plant / installation or within any environment which contains hazardous gases / vapours / dusts that are potentially explosive. This particularly applies to personnel involved with operating or working with any electrical plant / equipment or machinery in the oil & gas industry.

Aim: To provide personnel working within potentially explosive environments with sufficient knowledge, and detail to ensure that they perform any task relating to the installation, operation & maintenance of electrical equipment safety.

Outline Contents

- Definitions of Hazardous Areas
- Protection Concepts
- Hazardous Area Classification
- Gas Groups
- Flash Point
- Ignition Temperatures
- Explosive Limits LEL / UEL
- Zone Definitions 0 1 & 2 Safe Areas
- Temperature Classification
- Equipment Selection
- Labelling & Certification to CENELEC Standards
- ATEX Directives
- Duties of the installer, Manufacturer & Operator
- Inspections & Maintenance of Electrical Equipment
- Intrinsically Safe (IS) Equipment & Systems

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

18th – 20th May

12th – 14th Oct

Awareness of Electrical Equipment in Hazardous Areas

HAZ 2: Gas & Vapour Environments

HAZ 3: Dust Environments

Duration: HAZ 2: 1 day HAZ 3: 1 day

Introduction: These courses are designed for personnel working within hazardous area environments. Each course provides an overview of the hazards associated with installing, operating and maintaining electrical equipment within potentially explosive areas.

Participants: All personnel in any position within a company working on a plant / installation or within any environment which contains hazardous gases / vapours / dusts that are potentially explosive. This particularly applies to personnel operating or working with any electrical plant, equipment or machinery.

Aim: To provide personnel working in potentially explosive environments with information to ensure that they perform any task relating to the installation, operation and maintenance of electrical equipment safely.

Outline Contents

- Definitions of hazardous areas
- Safe working practices
- Hazardous areas classification
- Labelling and certification of equipment
- ATEX directives
- Types of protection
- Duties of installer, manufacturer and operator
- Inspections and maintenance of electrical equipment
- Course review

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

HAZ 2:

18th Feb

24th Aug

HAZ 3:

19th Mar

25th Sep

E1 Basic Electricity

Duration: 5 days

Introduction: This course is designed to provide the fundamental aspects of electricity and electrical equipment and the associated safety and regulations relating to working with electricity.

Participants: Personnel entering into electrical engineering and also any personnel requiring basic electrical knowledge. This may include safety, operations or trade personnel requiring a basic electrical understanding.

Aim: The course aims to provide personnel with an understanding of the basic concepts of electrical engineering and become familiar with typical electrical equipment, systems and procedures. This is to permit all personnel to work and operate electrical equipment in a safe and competent manor.

- Hazards & Effects of Electricity.
- Safe Systems of Work.
- Basic Electric Principles.
- Harmonised Cable Conductor Colours & Markings.
- Portable Appliances / Power Tools.
- Cables & Support Systems.
- Circuit Protection Devices.
- Earthing Systems & Bonding.
- Electrical Drawings & Symbols.
- Electrical Connections & Terminations.
- Motors & Control Circuits.
- Faultfinding & Troubleshooting.
- Industrial Lighting Types, Purposes and Maintenance.
- Lighting & Power Circuit Theory.
- Safe Use of Test Equipment.
- Testing of Electrical installations & Equipment.
- Course Review.

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate. Candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

26th – 30th Jan

29th Jun – 3rd Jul

3rd – 7th Aug

E2 Electrical Safety Awareness

Duration: 3 days

Introduction: This course is designed to provide guidance on working safely on low voltage electrical equipment & systems (up to 1000V AC 1500V DC) located within industrial environments. The course will assist employees and companies reduce the risk of personal injury, due to electrocution and arc flash, also to help prevent damage to assets due to operator error.

Participants: Electrical and non electrical personnel requiring electrical safety awareness training to enable them to become aware of the hazards associated with installing, maintaining or operating electrical equipment.

Aim: To raise the level of safety awareness for all personnel working with electrical equipment and for the candidates to comprehend the safety rules, regulations & guidelines related to current legislation.

- Hazards & Effects of Electricity.
- Arc Flash.
- Selection & Use of Suitable PPE.
- Electricity at Work Regulations 1989.
- Permit to Work (PTW).
- Electrical Documentation.
- Safe Electrical Isolations.
- Risk Assessments.
- Harmonised Cable Conductor Colours & Markings.
- Earthing & Bonding.
- Portable Appliances.
- Fault Levels & Fault Energy.
- Electrical Equipment in Hazardous Areas.
- Maintenance of Electrical Equipment.
- Safe Use of Test Equipment.
- Course Review.

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

30th Mar – 3rd Apr

15th – 19th Jun

2nd – 6th Sep

E3: Industrial Electrical Plant Maintenance

Duration: 3 days

Introduction: The purpose of the course is to provide electrical maintenance personnel with the relevant information relating to the various aspects of industrial electrical plant maintenance, including plant shutdown periods. To include an overview of planning, estimating and scheduling of the various types of maintenance and the stages of preparing and executing a shutdown programme.

Participants: Electrical or non electrical personnel requiring an overview of the aspects of preparing, scheduling, planning and executing maintenance programmes for general routine maintenance and shutdown / outage periods.

Aim: To provide the candidates with an understanding of what is required to co- ordinate departmental activities relating to the organisation of maintenance programmes and maintenance management models. Including – Corrective maintenance, preventative maintenance and predictive maintenance.

Outline Contents

- Maintenance & Shutdown Safety.
- Defining Maintenance.
- Planning & Scheduling.
- Maintenance Managing Models.
- Co-ordinating Activities.
- Types of Maintenance.
- Corrective Maintenance.
- Preventative Maintenance (PM).
- Predictive Maintenance (PDM).
- Work Packages.
- Solving Logistic & Material Problems.
- Emergent Work.
- Prioritising Maintenance Work.
- Importance of Meetings and Communication.
- Course Review.

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

14th – 16th Apr

27th – 29th Jul

5th – 7th Oct

E4: Electrical for Non-Electrical

Duration: 3 days, and
5 days

Introduction: This (low voltage) course is designed to provide personnel working within industrial/commercial environments electrical knowledge to work safely & effectively. The course is ideal for personnel working within multi craft environments where skills enhancement and development are required. This course is not designed for domestic installers.

Participants: The course is suitable for non-electrical personnel (mechanical, instrumentation, civil, process, operations & production) to provide an understanding of essential electrical safety and typical industrial electrical equipment, systems and procedures. To include installation, testing, inspection, protection and maintenance of electrical circuits, control systems and equipment.

Aim: To introduce non-electrical personnel to electrical equipment and build confidence within individuals working within industrial / commercial environments and to develop existing knowledge and skills.

Outline Contents

- Hazards & Effects of Electricity
- Safe systems of work
- Harmonised Cable Conductor Colours & Markings
- Circuit protective devices
- Understanding electrical drawings & symbols
- Cable types & glanding
- Industrial lighting types, purposes & maintenance
- Motors / motor circuits & associated theory
- Motor Control Centres (MCC's)
- Testing & configuration of motors
- Faultfinding on electrical circuits
- Safe use of test equipment
- Testing of electrical installations
- Course Review

Certification: Candidates who successfully complete the theoretical and practical competence assessments, will receive a Faraday “Competence” certificate, candidates who fail or do not wish to undertake the competence assessments will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

3-day course:

27th – 29th Apr

17th – 19th Aug

2nd – 4th Nov

5-day course:

27th Apr- 1st May

17th – 21st Aug

2nd – 6th Nov

E5: Introduction to Electrical Power Engineering

Duration: 5 days

Introduction: This course is designed to provide an overview of many of the concepts which make up electrical power engineering (LV& HV). The course covers electrical safety rules & regulations, power generation and distribution systems & the associated switchgear, protection and cabling.

Participants: Personnel entering into electrical engineering from a higher education background or from other engineering back grounds with a view to improving their knowledge of electrical power systems.

Aim: The course aims are to enable personnel to understand the various concepts of electrical engineering in relation to both low & high voltage power systems & equipment.

Outline Contents

- Hazards & Effects of Electricity.
- Safe Systems of Work.
- Electrical Principles.
- Electrical Power Systems.
- Power Generation & Distribution.
- Switchgear & Protection.
- Power Transformers.
- Motor Control Centres (MCC's)
- Electrical Diagrams & Symbols.
- Electrical Documentation.
- Fault Levels & Fault Energy.
- Electrical Cables Types, Uses and Applications.
- Case Studies.
- Course Review.

Certification: Candidates who successfully complete the theoretical competence assessment will receive a Faraday “Competence” certificate. Those who fail or do not wish to undertake the competence assessment will receive a Faraday “Attendance” certificate.

Dates: For courses undertaken at our UK training centre

2nd – 6th Feb

6th – 10th Jul

26th – 30th Oct

Section 5: Customised Courses

In addition to our standard scheduled programmes, customised courses can be designed to clients' specific requirements and duration. Whether a single day training or a full staff development programme over several months, the Faraday Centre's extensive experience can help to achieve clients' training objectives.

Course content and duration can be designed to suit clients' needs:

- Tailor the content and duration of our existing course(s).
- Combine contents of existing scheduled courses.
- Design hands-on practical training to suit clients' environment.
- Develop new training solutions to client specifications.

Training programme can be delivered at our training facilities in Middlesbrough UK, Cyprus and, where practicable, on-site at clients' premises.

For further information, please contact the Faraday Centre to discuss your specific training requirements.

Section 6: High Voltage Safety Rules/Documents Audit & Development

The Faraday Centre offers consultancy service in auditing and developing high voltage safety rules/documents and operational procedures designed specifically to meet client's requirements, complying with

- Electricity at Work Regulations 1989
- Management of Health & Safety at Work Regulations 1999
- Health & Safety at Work Act 1974

It covers the selection, use, care and maintenance of 3-phase electrical switchgear up to 33kV AC (oil, air, SF6, vacuum). The high voltage safety rules/documents will include:

- Operation of electrical supply systems
- Access to high voltage switchroom
- Operation of switches and isolators
- Record Keeping
- Safe switchgear maintenance
- Locking of switchgear shutter
- Isolation of transformers
- Earthing
- Permit to Work, safety programme, sanction for test, limitation of access
- Danger notices
- Commissioning and testing of switchgear
- Electric shock treatment

For further information, please contact the Faraday Centre to discuss your specific requirements.

Course Booking Form

The Faraday Centre Ltd

Tel: +44(0)1642 467236

Fax: +44(0)1642 454197

Please complete the following questions in full and read our Conditions of Sale on page 8 before signing

Contact Name **Position**

Company **VAT Reg. No.**

Address

.....

Tel **Fax**

E mail

Course Title

Course Reference **Order No**

Date Commencing **No. of Days**

Name of delegates:

(1) (2)

(3) (4)

(5) (6)

Do you require: *(Use a separate sheet if necessary)*

- Course only
- Individual Competence Assessment, available at additional cost
- Course + accommodation with local travel package arranged by The Faraday Centre

Signed

Date

Account Details

Company Details

Company Name

Trading Name (if different from above)

Company Reg. No. VAT No.

Company Address

.....

.....

..... Post Code

Tel Fax

Email

Contact Name Position

Invoice Address (if different from above)

.....

.....

..... Post Code

Tel Fax

Email

Contact Name Position

Payment Details

- Discounted pre-payment
- 30-day credit account
- 60-day credit account

Please see Price Scheduling and Conditions of Sale