



United Kingdom Accreditation Service – **Training 2012**

*Delivering
Confidence*

Welcome to UKAS Training

As the UK's National Accreditation Body, our aim is to enable laboratory, inspection, and certification personnel to meet the increasing need to demonstrate their competence.



UKAS has been a training provider for nearly a quarter of a century and has gained an outstanding reputation both in the UK and internationally. Our courses are delivered by specialists in their field, which equips you with high value knowledge and skills to make a practical difference in your organisation. Our well-developed and targeted training is highly rated by participants, who recognise the relevance of informed training from active industry practitioners. The UKAS training programmes are delivered in the highest quality residential training centres.

Our training portfolio includes a comprehensive package of resources designed to help both novice and experienced UK and international participants learn more about conformity assessment systems. Our courses are constantly updated to reflect changes in the standards or industry practice.

This year in the age of changing regulation, and competitive market forces, the spotlight is currently falling on Forensic Science providers. They are currently undergoing unprecedented levels of scrutiny and it is increasingly more important for them to be able to demonstrate their competence and the validity of the processes they use.

The Forensic Science Regulator has chosen UKAS accreditation as part of his Standards Framework thus requiring organizations that are providing forensic science services to the Criminal Justice System to gain ISO/IEC 17025 accreditation. Further courses tailored to the needs of forensic science providers are now in development including a specific Forensic Laboratory Internal Audit Course which will be available in May 2012.

Again, in this year's brochure we have included details of our new Imaging Services Accreditation Scheme (ISAS)

The feedback we receive about these courses confirms the value they offer both in terms of the course content and the venue facilities and our practical approach using real-world examples, student interaction and hands-on activities provide the most effective learning experience for all participants.

A handwritten signature in white ink that reads "Paul Stennett". The signature is fluid and cursive, written over a dark background.

Paul Stennett
Chief Executive

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Courses are delivered at Sunningdale Park, Ascot, Berkshire and at the UKAS offices in Feltham, Middlesex.

Contact **Jan Garman** of the UKAS training team for further information:
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In order not to compromise its impartial status, UKAS cannot provide company-specific training towards the development and implementation of systems for accreditation, nor can UKAS give specific advice for the development of an organisation's operations.

UKAS reserves the right to amend content, timing, location and price of its training programmes.

Why choose UKAS

UKAS is the sole body recognised by Government for the assessment and verification against international standards of certification, inspection, testing and calibration activities in both the private and public sectors. Accreditation by UKAS demonstrates an organisation's competence, impartiality and capability, and helps to underpin the credibility of performance, goods and services in both the UK and international arenas.

UKAS has over 20 years' experience in providing specialist training for laboratory staff and over 10 years' experience in certification and inspection body staff training in the UK and overseas, including mainland Europe, North and South America and the Pacific Rim countries.

Delegates attending UKAS training courses gain a thorough understanding of the value of accreditation and conformity assessment, which enables them to take back this understanding to add value to their organisations.

The majority of UKAS courses are residential with accommodation being provided at Sunningdale Park, Ascot (see page 7). This provides delegates with the opportunity to continue discussions, if they wish, with the tutors and fellow delegates into the evening.

UKAS provides all delegates with comprehensive course materials and issues a certificate of attendance on completion of a training event.



About the people

Our tutors are drawn from our in-house experts including assessment managers as well as external technical assessors, all of whom have current involvement and are active practitioners in assessment techniques and the application of international standards.



Kevin Belson

Kevin is the UKAS Technical Manager with responsibility for Technical aspects across all UKAS activities. Kevin joined UKAS in July 2002 as an Assessment Manager in the Certification Section and has been actively involved in the management and delivery of assessments to the accreditation standards ISO 17021, EN 45011, ISO 17024, and ISO 17020, including a high level of experience of assessing to these standards in the Far East. Prior to

joining UKAS, Kevin was involved in Compliance and Management Systems implementation within the manufacturing sector for over 20 years, mainly in the Automotive and related industries. Kevin also holds BSc (Hons) Natural Sciences.



David Compton

David Compton joined UKAS in March 2011 as an Assessment Manager in the Industrial Chemistry Section, he assesses the management systems of Forensic Laboratories for their compliance to ISO/IEC 17025. David also carries out technical assessments in the Digital Forensics area. He has a degree in Electrical and Electronic Engineering and a PhD in Electrical Engineering.

David previously worked for the Forensic Science Service (FSS) for 13 years, starting in the Research and Development Section managing a European project to develop forensic imaging processing techniques. After the completion of the project he implemented the solutions along with developing other digital forensic techniques into eForensic services, which supported Law Enforcement investigations. Whilst as Service Delivery Manager at the FSS, David obtained and maintained ISO 17025 accreditation for the eforensic service (Video, Audio, Mobile Phone and Computer).

David was also the National Scientific Lead for eForensics and was actively involved in setting the digital standards in the UK and the international community through his involvement in ACPO, ENFSI and IOCE working groups. More recently David has been involved with the development of the technical appendices for the new Forensic Regulator's Codes of Practice.



Ben Courtney

Ben is an Assessment Manager in the Agri-Food & Biosciences Section and joined UKAS in September 2008. Previously, Ben worked for almost 10 years in an NHS pathology department specialising in microbiology, serology and Chlamydia PCR testing before taking on management responsibilities. He currently assesses medical laboratories to ISO 15189, proficiency testing providers to ISO 17043 and a wide range of testing laboratories to ISO 17025 including clinical trial, veterinary, poultry and

tobacco laboratories. Ben is a member of the Institute of Biomedical Science and has a BSc and MSc in Medical Microbiology.



Kay Crittenden

Kay joined NAMAS in August 1989 from NPL Acoustics and is an Assessment Manager within the Construction-Mechanical Section of UKAS, specialising in the accredited laboratories for acoustical calibration and testing. She has a Diploma in Acoustics and Noise Control from the Institute of Acoustics and is a Corporate Member of the IOA. Projects within NPL Acoustics included subjective measurements on hearing protectors,

word lists for speech audiometry used in the NHS and evaluating subjective annoyance from impulsive noise. As well as duties as an Assessment Manager Kay also ran the NAMAS Technical Enquiries Desk, later to become the UKAS Information Desk, until October 2004.



Richard Forster

Richard joined UKAS as an Assessment Manager in 2007. He previously worked for the Home Office Forensic Science Service starting at the Chepstow laboratory in 1989, before transferring to the Wetherby laboratory in 1991. Richard became an Expert Witness in Forensic Drug analysis and after a number of promotions became a Service Delivery Team Leader heading various Forensic teams including Homicide investigation, Sexual assault

investigation and Property Crime. Richard joined UKAS in the Industrial Chemistry team where as an Assessment Manager he assesses Management systems to the requirements of ISO/IEC 17020 and 17025 in the Forensic and Asbestos sectors. Richard has a BSc (Hons) in Applied Biochemistry and a MSc in Forensic Science.

About the people continued



Janet Gascoigne

Janet recently joined the Development Section as a Development Manager, using her wide experience to develop new accreditation schemes. Previously she was a UKAS Assessment Manager, specialising in environmental certification, verification and inspection schemes, including ISO 14001, EMAS, BS 8555 and greenhouse gases. Before joining UKAS in 2004, Janet worked for two certification bodies specialising in environmental

schemes. With a background in waste management, recycling and environmental legislation, Janet represents UKAS on the IEMA Acorn Scheme committee, the EMAS Forum for Accreditation and Licensing Bodies, the European Co-operation for Accreditation Certification Committee Environmental Working Group and the EU Emissions Trading Scheme Emissions Trading Group



Delia Geary

Delia joined UKAS as an Assessment Manager in 1998. She previously worked for over 20 years for the Public Health Laboratory Service within both Clinical and Environmental Microbiology and was Deputy Quality Manager in the latter. The types of organisations she currently assesses include Veterinary Laboratories, Clinical Research Laboratories, Food Laboratories providers of Proficiency Testing, producers of Reference Material, Medical laboratories

and Point of Care Testing providers. Delia is a Fellow of the Institute of Biomedical Sciences and during her time at the Public Health Laboratory was involved in the writing of several papers on Yersinia.



Paul Greenwood

Paul joined UKAS in 2006 as an Assessment Manager in the Environment Section. He has a BSc (Hons.) in Applied Chemistry with Analytical Chemistry and is a Member of the Royal Society of Chemistry and Chartered Chemist. Paul has 4 years' experience as applications specialist in the field of atomic spectroscopy (ICP-OES, atomic absorption, GD-OES, spark emission) and has worked in accredited laboratory environments for a further

9 years. His laboratory experience is in a range of analytical sectors – drinking water, contaminated land and radiochemistry – and has involved use of atomic spectroscopy, ICP-MS, Ion Chromatography and classic chemical techniques (colorimetry, pH/EC, ISE, titrimetry, gravimetry, BOD, COD) as well as basic microbiology.



Debbie Hudson

Debbie joined UKAS in 2003 as an Assessment Manager in the Chemistry Section. She is a BSc (Hons.) in Applied Chemistry and is a Chartered Chemist and a Member of the Royal Society of Chemistry. Debbie has 20 years' experience in an analytical laboratory environment and her specialist areas are the analysis of inorganic and organic parameters in waters, effluents, soil, sediment, and biota using techniques such as ICP-MS, ICPOES,

atomic absorption, GC (including GC-MS), and HPLC. She has published (as D. Ashley) on the Determination of chromium in river water by ICP-MS.



John Hurlil

John is a UKAS Assessment Manager specialising in electrical calibration and testing activities. Before joining NAMAS in 1992, he held technical responsibility for the operation of a UKAS-accredited calibration laboratory with a comprehensive measurement capability. John has many years' experience of working in electromagnetic metrology and his expertise was recognised in 1993 with the award of the Institute of Electrical Engineers'

Measurements Prize for his work in Phase Angle Measurements. He has many years' experience in training activities covering topics that include management system activities, calibration methodology and uncertainty of measurement. John is the author of the UKAS document M3003, *The Expression of Uncertainty and Confidence in Measurement* and has published many papers on metrology related topics.



Lal Ilan

Lal is a senior manager at UKAS and he is currently responsible for developing new areas of accreditation. Lal has over 20 years of experience in assessment and accreditation of conformity assessment bodies and in particular accreditation of inspection bodies. Lal is a EA Peer Evaluator Team Leader and he has been recently appointed as the acting chair of the ILAC Inspection Committee. He has industry experience in the

fields of project management of design and manufacture of process plants in offshore, nuclear, petrochemical and chemical industries. Lal is a BSc. (Hons) (Mechanical Engineering), a Fellow of the Institution of Mechanical Engineers and a Chartered Engineer.



Peter Kelley

Peter is UKAS' Training Development Manager for external training and advisory services. He is also an internal trainer and an Assessment Manager in the Mechanical Calibration Section. He joined UKAS' predecessor organisation in 1990 following holding posts in manufacturing industry, the National Physical Laboratory and the former National Weights & Measures Laboratory where he was the Senior Metrologist. Peter is a BSc (Physics)

and Master of Business Administration. He has written technical guides and international reports on inter-laboratory measurement comparisons in a range of technical fields. He has presented conference and seminar papers covering Uncertainty of Measurement, Calibration and various accreditation matters, and has delivered training in the UK, Brazil, Dubai, Egypt, Germany, Greece, Slovenia and Thailand.



Robert Lightburn

Robert is a UKAS Assessment Manager in the Engineering Inspection Section. He has held senior technical management positions in a number of accredited inspection bodies. His principle fields of expertise are the in-service inspection of pressure plant and lifting equipment used in the offshore, petrochemical and chemical industries. Robert is a BEng. (Hons) (Mechanical Engineering) and he is a Chartered Engineer.



Gordon Marcham

Gordon is a UKAS Assessment Manager specialising in electrical calibration and EMC testing activities. Before joining UKAS in 2007, he held technical responsibility for the operation of a UKAS-accredited calibration laboratory with a comprehensive measurement capability and EMC testing capability. Gordon has many years' experience of working in electromagnetic metrology as head of several accredited laboratories. Before joining UKAS

several years were spent as the Quality Metrologist for a large organisation ensuring full implementation of policies and procedures to the requirements of ISO 17025. Gordon has also lectured at Middlesex University on EMC related areas.



Richard McFarlane

Richard Joined UKAS in February 2008 as an assessment manager in the environmental section. His previous experience has been in analytical chemistry including radiochemical analysis of nuclear submarine cooling waters and metals analysis in a range of environmental matrices including soils, effluents and groundwaters. The latter years before joining UKAS were spent as a group quality manager for a large testing

organisation ensuring full implementation of policies and procedures to the requirements of ISO 17025. In his current role he is involved in assessing testing organisations to the requirements of ISO 17025, inspection bodies to ISO 17020 and proficiency test providers to ISO 17043. He has qualifications from the Royal Society of Chemistry for advanced analytical techniques and also from the Institute of Quality Assurance for techniques and principles of quality management.



Alex McIntyre

Alex is a UKAS Assessment Manager in the Construction-Mechanical Section. He has held senior positions in a number of accredited laboratories. Before joining UKAS in 2001 he worked in Quality Management in his specialist area of expertise—soils and construction materials. Alex has a HNC in Civil Engineering and is an Incorporated Engineer and a Fellow of the Institute of Highway Incorporated Engineers. Alex has

been involved in training related to quality assurance and laboratory testing for some years.



Katherine Monnery

Katherine is an Assessment Manager in the Industrial Chemistry Section where she is primarily involved in the assessment of Forensic Science Laboratories. Prior to joining UKAS in 1996 she had previously worked for a water supply company and the Environment Agency undertaking the analysis of samples to monitor compliance with legal limits using a variety of different analytical techniques.

Katherine represents UKAS on national and international committees relating to the implementation of ISO17025 and ISO17020 in the forensic field including the Forensic Science Regulators Quality Standards Group and the ILAC Working Group reviewing ILAC G19. She is also involved in the development of the UKAS accreditation scheme for the assessment of Scene of Crime activities.

Katherine has a BSC (Hons) in Botany and an MSc in Environmental and Ecological Sciences.



Ian Ronksley

Ian joined UKAS in 2000 and is a Development Manager within the Development Section. His principal fields of expertise are Directives and Regulations, Certification and Inspection Body Assessments, Consumer Protection and Legal Metrology. In addition to delivering training, Ian is experienced in designing and developing the training courses across a range of accreditation standards. Before joining UKAS Ian worked in

Trading Standards and engineering. He has a Diploma in Trading Standards, a Higher Certificate in Mechanical & Production Engineering and is a Masters in Business Administration. He is a Member of the Trading Standards Institute.



Phil Shaw

Phil, who has been involved with conformity assessment activities for some twenty-five years, joined UKAS in 1995 and is an Accreditation and Development Manager. He has a comprehensive knowledge of third party certification principles and practices gained through twenty years direct experience and involvement with all aspects of accreditation and certification. In his current role he has responsibility for the technical management

of certification body accreditation. Phil worked for BNFL from 1980-1991 and was Head of Quality Systems and Audit at BNFL from 1987. He is a BSc (Hons) Metallurgy, a Chartered Engineer and a Member of the Chartered Quality Institute. He represents UKAS as a member of the IAF Technical Committee and is co-opted onto various international groups that develop international conformity assessment standards and IAF guidance. Phil has experience of providing training in the areas of accreditation and certification world-wide.



About the venue

De Vere venues are proud to work with UKAS to meet the requirements of the UKAS training programme. De Vere venues offers the complete solution for all training needs, providing UKAS and their delegates with everything required for a successful training course and more.

- A huge range of dedicated, distraction-free spaces designed with the needs of trainers and delegates in mind.
- A complete solution provided under one roof – fantastic training and syndicate rooms supported by comfortable bedrooms, excellent catering, great leisure facilities and loads of space for teambuilding and networking.
- The perfect out of office working environment with all the technological facilities to keep delegates in touch with office and home.

Training centres are of the highest quality and provide an ideal location for delegates to feel comfortable to ensure that they are given maximum opportunity to perform. The primary training venue for UKAS courses is Northcote House at Sunningdale Park,

Ascot. This Grade II listed neo-Georgian mansion, is set in over 70 acres of landscaped gardens, reputedly designed by Capability Brown. Northcote House offers a magnificent setting for any event, from the House itself to the private terrace and the gardens which roll down to the bridge and lake.

The De Vere venues offer the best hospitality to all UKAS delegates including modern, stylish bedrooms, great leisure facilities throughout Sunningdale Park and great dining. WiFi internet access is available and is complimentary to all training delegates. Sunningdale also has its own library and resource centre with PCs and free internet access.

De Vere venues and UKAS welcome you to enjoy your learning experience at Sunningdale Park.







Preparation for Laboratory Accreditation

1 day

£465 +VAT

Discounts are available – see page 30

The course is aimed at laboratory management and personnel of non-accredited laboratories, and laboratories with ISO 9001:2000 certification, who are considering or who would like to know more about accreditation to ISO/IEC 17025:2005.

What are the benefits?

This course provides laboratories with an overview of the concept of accreditation to ISO/IEC 17025:2005. The course covers the key aspects associated with the accreditation process and provides laboratory personnel preparing for accreditation and initial assessment with important information regarding ISO/IEC 17025:2005.

Course content

- > Welcome and introductions
- > Overview of ISO/IEC 17025:2005
- > The ISO/IEC 17025:2005 concept of management
- > Producing a Quality Manual
- > Route to Accreditation
- > Open forum and course conclusion

Course dates

7	February 2012	UKAS, Feltham
9	May 2012	UKAS, Feltham
11	July 2012	UKAS, Feltham
14	November 2012	UKAS, Feltham
6	February 2013	UKAS, Feltham

The course fee includes comprehensive course materials, refreshments and lunch.

Laboratory Management – Role of the Quality Manager and Technical Management

3 day

Residential

£1350 +VAT

Discounts are
available –
see page 30

All laboratories need to have sound business processes to enable them to deliver technically sound calibrations and tests to their clients. When a laboratory is seeking to have its competence recognised through accreditation by the United Kingdom Accreditation Service, these processes must also enable the laboratory to meet the requirements of ISO/IEC 17025:2005.

What are the benefits?

This course is designed to help delegates gain an understanding of how the business processes of their laboratory can be combined effectively with the requirements of ISO/IEC 17025:2005, and the roles of the quality manager and technical management in this framework.

Course content

Day 1

- > Laboratory structure
- > Organisation charts
- > QMS framework & role of ISO/IEC 17025:2005
- > Job descriptions
- > Laboratory facilities
- > Services & supplies
- > Equipment
- > Personnel
- > Training and competency records

Day 2

- > Review of customer requests
- > Subcontracting
- > Test and calibration methods
- > Method validation
- > Documentation
- > Documentation control
- > Customer samples & items

Day 3

- > Calibration & test performance
- > Work sheets
- > Management controls
- > Audit programme
- > Non-conforming work
- > Records
- > Opinions & interpretations
- > Complaints
- > UKAS assessment

Who should attend?

This course is aimed at personnel from accredited or applicant laboratories who have responsibility for the technical or quality management of the tests or calibrations performed.

Course dates

8-10	February 2012	Sunningdale Park, Ascot, Berkshire
15-17	May 2012	Sunningdale Park, Ascot, Berkshire
9-11	October 2012	Sunningdale Park, Ascot, Berkshire
8-10	January 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for two nights.



Laboratory Internal Audit

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

All laboratories need to carry out an internal audit of their business processes and performance of tests and calibrations to ensure delivery of a competent service to their clients. An accredited laboratory needs to check not only that laboratory personnel at all levels are implementing the prescribed processes but also that its systems and practices are compatible with the requirements of ISO/IEC 17025:2005.

What are the benefits?

The course aims to help delegates gain a sound understanding of the internal audit process and its value to management. This interactive course allows delegates to gain confidence in performing an internal audit through role-play.

Course content

Day 1

- > Internal laboratory audits
- > Content of an audit programme
- > Witnessing activities
- > Audit records
- > Audit checklists
- > Corrective & preventive action
- > Audit forms
- > Human aspects of auditing
- > Practical audit of a test
- > Writing observations and non-conformances

Day 2

- > Reporting findings to auditees
- > Preparing an audit report for management
- > Assignment of corrective actions
- > Management review

Who should attend?

The course is suitable for anyone involved with or interested in the use of internal audits, new quality managers and new laboratory staff.

Course dates

28-29 March 2012	Sunningdale Park, Ascot, Berkshire
27-28 June 2012	Sunningdale Park, Ascot, Berkshire
26-27 September 2012	Sunningdale Park, Ascot, Berkshire
12-13 December 2012	Sunningdale Park, Ascot, Berkshire
26-27 March 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

Combined Laboratory Management

4 day

Residential

£1700 +VAT

Discounts are available – see page 30

All laboratories need to have sound business processes to enable them to deliver technically valid calibrations and tests to their clients. When a laboratory is seeking to have its competence recognised through accreditation by the United Kingdom Accreditation Service, these processes should also enable the laboratory to demonstrate that they meet the requirements of ISO/IEC 17025:2005

This course combines the key elements of the Laboratory Internal Audit and Laboratory Management courses to provide skills for staff responsible for internal audit, quality management or technical management within a laboratory or organisation.

Benefits

To facilitate delegates' understanding of how the business processes of a laboratory can be combined effectively with the requirements of ISO/IEC 17025:2005 and to provide and aid understanding of the internal audit process and its value to management.

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

- > apply your knowledge and understanding of the principles taught to a wide variety of situations to allow the planning and delivery of internal audits
- > have a basis for deciding which tasks fall within the remit of your quality manager and technical management
- > understand how effective management controls can be implemented, and be able to undertake structured preparation for UKAS assessment.

Course outline

Day 1

- > Welcome & introductions
- > Laboratory structure and the roles of QM & TM
- > Exercise: Organisation chart
- > Management system - business processes framework & ISO 17025:2005
- > Exercise: Job descriptions of QM and the TM
- > Laboratory facilities
- > Services and supplies
- > Exercise: Fitness for purpose & list of approved suppliers
- > Ensuring competence – equipment
- > Exercise: Purchasing equipment
- > Exercise: Calibration programme

Day 2

- > Ensuring competence – personnel
- > Exercise: Personnel training
- > Tenders, contracts and requests – the review process
- > Subcontracting
- > Exercise: Subcontractors' register and assessment of competence
- > Ensuring competence – test and calibration methods
- > Exercise: Format of a test/calibration method
- > Exercise: Aspects of a test method that requires validation
- > Documentation and documentation control processes
- > Exercise: Documentation control and administrative procedure headings
- > Handling samples and test/calibration items
- > Exercise: Sample/item handling processes and booking in of samples/items



Day 3

- > Ensuring competence – management controls
- > Exercise: Audit programme
- > Ensuring competence – performance of calibrations and tests
- > Exercise: Worksheets production
- > Audit Records
- > Exercise: Development of an audit checklist
- > Witnessing tests and calibrations
- > Exercise: Development of an audit checklist for use during a witnessed audit
- > Nonconforming work
- > Exercise: Corrective/preventive action form
- > Human aspects
- > Exercise: Preventive/Improvement actions

Day 4

- > Exercise: Witnessing an activity and corrective actions
- > Exercise: Reporting back to the auditees
- > Exercise: Reporting back to management
- > Records
- > Reporting, opinions and interpretations
- > Complaints process
- > Exercise: Complaints process flowchart
- > Open forum, review and course close

A pre-course exercise must be completed prior to attending.

Who should attend

Personnel from accredited or applicant laboratories who have responsibility for the internal audits, technical or quality management of the testing or calibration performed. It is especially beneficial to those members of staff who are new to the roles.

Course dates

16-19	April 2012	Sunningdale Park, Ascot, Berkshire
17-20	July 2012	Sunningdale Park, Ascot, Berkshire
13-16	November 2012	Sunningdale Park, Ascot, Berkshire
12-15	February 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for three nights.



NEW Forensic Laboratory Internal Audit

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

All laboratories undertaking forensic work will need to carry out internal audits of their business processes and the performance of the testing activities to ensure they are delivering a competent service. An accredited laboratory needs to check not only that laboratory personnel at all levels are implementing the prescribed processes but also that its systems and practices are compatible with the requirements of ISO/IEC 17025:2005

What are the benefits?

This course is tailored to help personnel from forensic organisations gain a sound understanding of the internal audit process and its value to management. This interactive course uses examples relevant to a forensic laboratory, including the use of a fingerprint enhancement technique as part of the method witnessing exercise. It includes role play exercises relating to undertaking audits and giving the subsequent feedback. The course allows delegates to gain confidence and helps to stimulate ideas that the delegates can put in to practice in their own organisations.

Course content

Day 1

- > Internal laboratory audits
- > Development of an Audit programme
- > Audit records
- > Development of a Management System audit checklist
- > Witnessing tests
- > Production of a checklist for use during a witnessed test
- > Corrective and preventive action
- > Development of corrective/preventive action form
- > Human aspects of auditing

Day 2

- > Preventive actions
- > Witnessing tests and raising corrective actions
- > Reporting back after audit
- > Reporting findings of audit to auditee
- > Reporting to management
- > Management review

Who should attend?

This course is suitable for anyone involved with or interested in the use of internal audits in a forensic laboratory context; in particular new Quality Managers and new Internal Auditors.

Course dates

15-16 May 2012

Sunningdale Park, Ascot, Berkshire

6-7 November 2012

Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

Uncertainty of Measurement

3 day

Residential

£1350 +VAT

Discounts are available – see page 30

Any laboratory wishing to achieve accreditation to ISO/IEC 17025:2005 is required to have, and to apply, policies and procedures for the estimation, use and reporting of uncertainties of measurement for any tests or calibrations covered by their scope of accreditation

What are the benefits?

Drawing on experience of training skills of estimating uncertainty of measurement to more than two thousand testing and calibration practitioners over the years, this course aims to provide delegates with an appreciation of the concept of uncertainty of measurement in both a testing and calibration environment, and uses a combination of lectures and interactive exercises and demonstrations to take delegates through the process of calculating uncertainties.

Course outline

Day 1

- > Introductions and briefing
- > I think we may have dropped one! – A live witnessed test
- > Appreciation of Uncertainty: Individual Exercise in Open Session
- > History and Background
- > Traceability, calibration, corrections and SI units
- > Definition of Metrological Terms
- > Classifications of Uncertainty – Type A & Type B
- > Discovering Distributions
- > Symbols and Equations Part 1
- > Combination of Uncertainties
- > Pre-course Work – De-briefing
- > Calculation of Uncertainty for a Measurement
- > Report Back on Calculation and Introduction of Forms/Excel for calculating uncertainties.

Day 2

- > Ensuring understanding of material covered in Day One
- > Calculation of Uncertainty for a Measurement
- > Example of a test with influence quantities
- > Sources of Uncertainty
- > Exercise – Uncertain about methods?
- > Correlated Contributions
- > Human Factors
- > Exercise – Measurement of Body Mass Index with uncertainty estimate
- > Exercise: Calculation of uncertainty for the calibration of a weighing machine.

Day 3

- > Ensuring understanding of material covered in Day Two
- > Pooled Standard Deviations
- > Approaches to Evaluating sources of uncertainty
- > Exercise – Sources of Uncertainty and Report Back
- > Normal or not? – situations where a normal distribution cannot be assumed for the combined uncertainty
- > Symbols and Equations Part 2
- > Exercise - Effective Degrees of Freedom
- > How Many Measurements?
- > Stochastic modeling of uncertainty in quantitative measurements
- > Sampling, Destructive Testing, Non-numeric Results
- > Statements of Uncertainty and Compliance
- > Stochastic modelling.

Who should attend?

Any person who is, or will be, involved in the estimation, use and reporting of uncertainties of measurement for testing and/or calibration

Course dates

14-16	February 2012	Sunningdale Park, Ascot, Berkshire
24-26	April 2012	Sunningdale Park, Ascot, Berkshire
3-5	July 2012	Sunningdale Park, Ascot, Berkshire
23-25	October 2012	Sunningdale Park, Ascot, Berkshire
22-24	January 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for two nights.

Traceability and Uncertainty for Managers

1 day

£465 +VAT

Discounts are available – see page 30

This one-day training course is designed to provide a basic understanding of the concepts of measurement traceability and uncertainty for those who are not directly involved in measurements but who have managerial or budgetary responsibilities for these areas. It explains the importance of these topics and describes the benefits that can be obtained when they are implemented effectively.

What are the benefits?

Technical staff in calibration and testing laboratories can spend considerable time and effort ensuring that measurements are traceable and calculating the associated uncertainties. This course explains these ideas in a non-technical manner and describes how the relevant requirements of ISO/IEC 17025: 2005 can be met. It illustrates the benefits obtained and the risks associated with incorrect implementation of these requirements. It is aimed at managers and budget holders who do not require a detailed knowledge of the subjects but would benefit from an overview in order to help justify the resources needed to support them.

Course content

- > Traceability and SI Units
- > What is uncertainty of measurement?
- > Some simple demonstrations
- > When is uncertainty needed?
- > What is an uncertainty budget?
- > Compliance with specification
- > Use of spreadsheets
- > Best measurement capability

Who should attend?

The course is suitable for anyone with budgetary or managerial responsibility for calibration or testing activities, or anybody who wishes to gain a basic understanding of these topics.

Course dates

2	July 2012	UKAS, Feltham
21	January 2013	UKAS, Feltham

The course fee includes comprehensive course materials, refreshments and lunch.



Proficiency Testing ISO/IEC 17043

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

This course aims to provide an understanding of ISO/IEC 17043 (*Guidelines for the requirements for the competence of providers of proficiency testing schemes*). It focuses on understanding and applying the standard in an assessment context.

What are the benefits?

The course will enable delegates to gain a knowledge of ISO/IEC 17043 and how the standard is used in assessing the competence of proficiency testing providers.

Course content

Day 1

- > Outline of standards used
- > Visit management and assessment team
- > Schedule of accreditation
- > Review of steps in accreditation
- > Organisation and management
- > Internal audit and management review
- > Management system requirements

Day 2

- > Contract review
- > Scheme logistics
- > Advisory group
- > Personnel
- > Collaborators
- > Sample preparation/ homogeneity/stability
- > Statistical design and data handling
- > Communication and Collusion
- > Use of ISO/IEC 17025:2005

A pre-course exercise must be completed prior to attending.

Who should attend?

The course is aimed at those assessing proficiency test providers or those who subscribe to proficiency testing schemes within their laboratories and want a greater understanding with respect to those schemes.

This course will run on a demand basis only, when we have 5 delegates registering an interest.

For the latest course dates please contact the training team or visit our website: www.ukas.com/services/training

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

Assessor Training – Laboratories

ISO/IEC 17025:2005

3 day
Residential
£1350 +VAT

5 day
Residential
£2220 +VAT

Discounts are available – see page 30

This course aims to provide an understanding of ISO/IEC 17025:2005 and how the business processes of individual laboratories may be informed and enhanced in meeting its requirements. It focuses on understanding and applying the standard in an assessment context and on associated procedures and methodology.

What are the benefits?

The course will enable delegates to gain a knowledge of ISO/IEC 17025:2005 and its function as a framework for demonstrating competence and to gain an understanding of the UKAS assessment methodology – all of which is achieved through a combination of lectures, exercises and role play.

Course content

Day 1

- > Accreditation background
- > Holistic approach to assessment and accreditation
- > ISO/IEC 17025:2005 – review of pre-course exercise
- > Exploring organisation processes
- > You the Assessor 1: An approach to assessing
- > Overview of the accreditation process
- > Laboratory case studies
- > Opinions and interpretations
- > Flexible Scopes
- > You the Assessor 2: The Tasks
- > Accreditation Standards

Day 2

- > Management System documentation and appraisal
- > Pre-assessment activities
- > Reviewing a test method
- > Introductory Meeting
- > You the Assessor 3: Person to Person
- > Improvement opportunities and recording 1
- > Preventive & corrective action
- > Witnessing tests

Day 3

- > Improvement opportunities and recording 2
- > Calibration & Traceability
- > Internal audit & Management System review
- > Private meeting of assessors and final meeting
- > Final meeting role play
- > Post assessment activities.

A pre-course exercise must be completed prior to attending this course. There will be some evening work on this course.

Who should attend?

The course is aimed at senior laboratory staff responsible for their laboratory accreditation, those responsible for carrying out internal assessments and potential UKAS Assessors.

Course dates

5-7	March 2012	Sunningdale Park, Ascot, Berkshire
28-30	May 2012	Sunningdale Park, Ascot, Berkshire
3-5	September 2012	Sunningdale Park, Ascot, Berkshire
3-5	December 2012	Sunningdale Park, Ascot, Berkshire
4-6	March 2013	Sunningdale Park, Ascot, Berkshire
Assessor/Lead Assessor		
5-9	March 2012	Sunningdale Park, Ascot, Berkshire
28	May-1 June 2012	Sunningdale Park, Ascot, Berkshire
3-7	September 2012	Sunningdale Park, Ascot, Berkshire
3-7	December 2012	Sunningdale Park, Ascot, Berkshire
4-8	March 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation

Lead Assessor

2 day

Residential

£1080 +VAT

5 day

Residential

£2220 +VAT

Discounts are available – see page 30

Lead assessors are required to manage their team and the time and resources available to them and to be cost effective without compromising the assessment process. They therefore require excellent interpersonal skills. This course includes an introduction to the relevant soft skills, and time is allocated for role-play to help build confidence.

What are the benefits?

This course enables experienced assessors to extend their skills such that they can take on the role of lead assessor and effectively manage an assessment team.

Course content

Day 1

- > Contract review
- > Planning assessments
- > Extensions to scope
- > Documentation review
- > Giving feedback
- > Listening skills
- > Team leadership and management
- > Note taking
- > Time management
- > Assessment of internal audit & management review
- > Questioning techniques

Day 2

- > Improvement opportunity reporting & agreed actions
- > Managing meetings and discussions
- > Final meeting with management
- > Open forum

Who should attend?

The course utilises examples from ISO 17025 but an emphasis on soft skills means that anyone with a responsibility for leading audit teams or assessments will find this course helpful.

Course dates

8-9	March 2012	Sunningdale Park, Ascot, Berkshire
31 May-1 June	2012	Sunningdale Park, Ascot, Berkshire
6-7	September 2012	Sunningdale Park, Ascot, Berkshire
6-7	December 2012	Sunningdale Park, Ascot, Berkshire
7-8	March 2013	Sunningdale Park, Ascot, Berkshire

Assessor/Lead Assessor		
5-9	March 2012	Sunningdale Park, Ascot, Berkshire
28 May-1 June	2012	Sunningdale Park, Ascot, Berkshire
3-7	September 2012	Sunningdale Park, Ascot, Berkshire
3-7	December 2012	Sunningdale Park, Ascot, Berkshire
4-8	March 2013	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for two or four nights.



Assessor Training – Transition conversion course to ISO 15189:2007

1 day
£465 +VAT

Discounts are
available –
see page 30

This course aims to provide an understanding of ISO 15189:2007 and training in the assessment of its application for the accreditation of medical laboratories.

What are the benefits?

The course will enable delegates to build on their existing expertise in assessing laboratories using the principles of ISO/IEC 17025:2005 to include the particular requirements for quality and competence for medical laboratories, as defined in ISO 15189:2007

Course content

- > Introduction and briefing
- > Open feedback and discussions on pre-course work
- > Interpretations and Clinical Advice
- > Flexible Scopes
- > Assessment exercise, to include laboratory documentation against the requirements of the standard with report back
- > Quality management system review
- > Discussion and feedback
- > Open forum and close course

A pre-course exercise must be completed prior to attending.


Who should attend?

The course is for those with previous laboratory assessment training and experience who expect to become involved in the assessment of medical laboratories using ISO 15189:2007 as a basis for accreditation. The training is designed to meet the needs of the assessment staff of a National Accreditation Body, but the course is also likely to be of benefit to senior laboratory staff experienced in general laboratory competence criteria such as ISO/IEC 17025:2005 who now need to convert that experience to the adoption of ISO 15189:2007.

This course will run on a demand basis only, when we have 5 delegates registering an interest.

For the latest course dates please contact the training team or visit our website:
www.ukas.com/services/training

The course fee includes comprehensive course materials, refreshments and lunch.



Assessor Training – ISO 15189:2007

3 day

Residential

£1350 +VAT

Discounts are
available –
see page 30

This course aims to provide an understanding of ISO 15189:2007 and training in the assessment of its application for the accreditation of medical laboratories.

What are the benefits?

The course will enable delegates to gain knowledge of the particular requirements for quality and competence for medical laboratories, as defined in ISO 15189:2007 and used as the criteria for accreditation, and to gain a practical understanding of the assessment methodology used by a National Accreditation Body through lectures, exercises and role play.

Course content

Day 1

- > Introduction and briefing
- > Background to accreditation, UKAS and the international scene
- > Holistic Approach to assessment and accreditation
- > Open Feedback and discussions on pre-course work
- > Overview of the process of accreditation
- > Case Studies – identification of possible non conforming situations with report back
- > Interpretations and Clinical Advice
- > Flexible Scopes
- > Accreditation standards

Day 2

- > Quality Management system documentation and review
- > Exercise: Initial documentation review against the standard
- > Reporting findings from pre-assessment activities
- > Exercise: Detailed documentation review of a test procedure
- > Purpose of the introductory meeting
- > Observing the organisation at work – management of an assessment visit
- > Recording findings
- > Preventive and corrective action
- > Witnessing a test for an assessment, recording associated findings

Day 3

- > Report back on recording findings exercise
- > Calibration and traceability
- > Calibration exercise – review of information included on a certificate, followed by report back
- > Internal audit and management system review – assessing an organisation's internal audit system and the management review – benefits to the assessment
- > Private meeting of assessors and final meeting – format, structure and purpose
- > Exercise: Preparation for final meeting
- > Exercise: Final meeting role-play
- > Discussion and feedback
- > Post assessment activities
- > Open forum and close course

Who should attend?

The course is for those without previous laboratory assessment experience who expect to become involved in the assessment of medical laboratories using ISO 15189:2007 as a basis for accreditation. The training is designed to meet the needs of the assessment staff of a National Accreditation body and senior laboratory staff.

Course dates

11-13 June 2012

Sunningdale Park, Ascot, Berkshire

6-8 November 2012

Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.



Awareness Training – Certification and Inspection Bodies

2 day

Residential

£1080 +VAT

Discounts are
available –
see page 30

UKAS runs courses on Certification and Inspection body standards.

ISO/IEC Guide 65 (BSEN45011) ISO17065 General requirements for bodies operating product certification systems

ISO/IEC 17024 Conformity assessment – general requirements for bodies operating certification of persons

What are the benefits?

Each course will help delegates to understand and apply the relevant standard and the procedures involved. It will also help delegates understand the assessment methodology. A pre-course exercise must be completed prior to the course and feedback is provided during the course.

Who should attend?

These courses are suitable for those who already have an understanding of one or more of the accreditation standards, including ISO/IEC 17025:2005, and who wish to extend their knowledge and understanding of the standards applicable to inspection and certification bodies, and their application.

Course dates ISO/IEC Guide 65 (BSEN45011) ISO17065

11-12	April 2012	UKAS, Feltham
14-15	November 2012	UKAS, Feltham

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

Course dates ISO/IEC 17024

This course will run on a demand basis only, when we have a suitable number of delegates registering an interest.

To register your interest e-mail training@ukas.com.



ISO/IEC 17021:2011

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

This course aims to provide an ‘in-depth’ appreciation of the principles and requirements of the standard. It focuses on the output requirements for certification bodies

What are the benefits?

The course will enable delegates to gain knowledge of the standard especially the requirements for:

- > Impartiality
- > Competence processes
- > Auditing to meet the objectives
- > Reporting requirements
- > Certification and ongoing monitoring

Course content

Day 1

- > Certification of management systems
- > Principles
- > General Requirements
- > Management of impartiality
- > Structural Requirements
- > Resource Requirements
- > Certification Schemes Development

Day 2

- > Process Requirements
 - > Planning
 - > Initial Audit
 - > Reporting
 - > Certification
 - > Surveillance
 - > Re-certification
- > Management Systems

A pre-course exercise must be completed prior to attending.

Who should attend?

The course is aimed at those responsible in both certification and accreditation bodies for ensuring conformity with ISO/IEC 17021:2011.

Course dates

24-25 January 2012	Sunningdale Park, Ascot, Berkshire
22-23 May 2012	Sunningdale Park, Ascot, Berkshire
6-7 November 2012	Sunningdale Park, Ascot, Berkshire

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

ISO/IEC 17020:1998 Awareness

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

This course aims to provide delegates with an appreciation of the requirements of ISO/IEC 17020:1998 and related international guidance, and its application to the accreditation of various types of inspection, including an introduction to the UKAS assessment and accreditation process.

What are the benefits?

The course aims to help delegates increase their awareness of the standard and its application in differing inspection body environments with reference to UKAS processes used for assessment and reporting purposes. Key differences between ISO/IEC 17020:1998 and other accreditation standards will be highlighted.

Course content

During this interactive course, the requirements of the standard will be broken down into the six 'key' elements common across all accreditation standards.

Day 1

- > Introduction
- > Evaluation Outcomes
- > Inspection Process
- > The role and structure of the United Kingdom Accreditation Service
- > UKAS Accreditation for Inspection
- > Key Elements – Organisation, Independence etc
- > Exercise: Liability & Financial Arrangements
- > Group Exercise – Independence
- > Group Exercise – (Independence) and feedback
- > Review

Day 2

- > Key Elements – Scope, Management & Technical Competence
- > Key Elements – Evaluation Processes
- > Witnessing Inspections
- > Case Studies – Witnessing Inspection (Engineering/Asbestos) and Report back
- > Questions, Review (including Pre-course exercise)

A pre-course exercise must be completed prior to attending.

Who should attend?

This course is suitable for anyone needing an understanding of the requirements of ISO/IEC 17020:1998 for use in accredited inspection, and would be appropriate for managers needing to structure or maintain a suitable quality management system for an inspection body.

NB Delegates requiring an awareness of ISO/IEC 17020:1998 with emphasis on the audit/review of the necessary management system (not included within this course), should consider the 'Understanding ISO/IEC 17020:1998 – for internal auditors and managers reviewing the Quality Management System's Performance course (see page 25)

This course will run on a demand basis only, when we have a suitable number of delegates registering an interest.

For the latest course dates please contact the training team or visit our website: www.ukas.com/services/training

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.



Understanding ISO/IEC 17020:1998

– for internal auditors and managers reviewing the Quality Management system's performance

2 day

Residential

£1080 +VAT

Discounts are available – see page 30

All inspection bodies need to carry out internal audits of their business processes and performance of inspections to give feedback to management concerning the effective implementation of their mandated procedures and to ensure the delivery of a competent service to their clients. An accredited inspection body needs to check not only that personnel at all levels are implementing the prescribed processes but also that the systems and processes are in compliance with the requirements of ISO/IEC 17020:1998. Internal auditors therefore require an understanding of the standard and related guidance in order to audit effectively.

What are the benefits?

The course aims to help delegates increase their awareness of the standard and its application including a special focus to assist those who are involved in internal auditing and review of the inspection body's management system.

Course content *(Detailed course programme available from the [ukas.com](http://www.ukas.com) website)*

During this interactive course, the requirements of the standard and their interpretation and application will be discussed through a combination of Q & A sessions, group exercises, case studies and presentations.

A pre-course exercise must be completed prior to attending.

Who should attend?

This course will be limited to around 10 delegates, and will be suitable for those who are involved in the management of inspection bodies with particular responsibility for the internal audit or review of that management system.

NB Delegates requiring an awareness of ISO/IEC 17020:1998 without the audit/review focus included within this course, should consider the 'ISO/IEC 17020:1998 Awareness' course *(see page 24)*

This course will run on a demand basis only, when we have a suitable number of delegates registering an interest.

For the latest course dates please contact the training team or visit our website: www.ukas.com/services/training

The residential course fee includes comprehensive course materials, all meals and accommodation for one night.

Imaging Services Accreditation Scheme (ISAS) Preparatory Workshops

No Fee

(these workshops are delivered free of charge as part of the ISAS Programme)

Imaging Services Accreditation Scheme (ISAS) is a new scheme managed and delivered by UKAS, aimed at imaging services across the UK. **ISAS** is a patient focussed imaging service accreditation scheme that is assessed against a quality enhancing standard based on clinical and patient reported performance measures. ISAS **gives confidence** to patients, purchasers, staff, and managers about safety, effectiveness and sustainability.

UKAS are running a number of half-day ISAS Preparatory Workshops around the UK, for imaging services. The workshop is designed to give attendees an insight into the accreditation processes, fees, how to prepare, and how to apply for accreditation.

What are benefits of attending?

This half-day workshop will help delegates to understand ISAS, the steps for accreditation against the standard, and the chance to ask questions throughout the day. Delegates will also have the opportunity to familiarise themselves with the web-based tool, an integral part of accreditation process which only customers can access.

Who should attend?

The workshop is suitable for imaging services personnel that would like to learn more about ISAS, or that may have the intention to formally apply for accreditation.

Please check the ISAS website for dates www.isas-uk.org

Registering for the course

All applicants for the workshop must complete and submit a registration form to UKAS prior to attending. A registration form can be downloaded from the ISAS website on: www.isas-uk.org under the preparatory workshop page. General information about ISAS is also available on this website. Please note places are subject to availability and will only be allocated on receipt of completed forms.





Additional Training Services

UKAS' wide range of technical expertise enables us to offer training in many areas of accreditation. UKAS has been involved in the support of programmes to assist overseas accreditation bodies in the development of accreditation, EMAS and EMS systems, assisted in the development of training programmes and train-the-trainer courses and provided resources to industry events and seminars.

If your organisation has any training requirements please contact Jan Garman on **+44 (0)20 8917 8488** or email **jan.garman@ukas.com** to discuss your requirements.

UKAS take the opportunity to update, where relevant, courses to reflect changes to, and introduction of, standards. For details of changes and updates throughout the year please check the UKAS website **www.ukas.com**

Collaboration with LGC

In order to make maximum use of their respective expertise and provide an even greater range of training, UKAS and LGC Limited have agreed a programme of training collaboration. This involves co-operation in the publication of each other's training and knowledge transfer events and activities. Several LGC training events are detailed in the next few pages and these can be booked through UKAS. However, each company will continue to provide their own distinct training programmes.



*Setting standards
in analytical science*

Statistics for Analytical Chemists

1 day

£465 +VAT

Discounts are available – see page 30

The quality of analytical data is a vital aspect of the work of an analytical chemist. The application of statistics is central to the assessment of data quality and an understanding of statistics is essential to the interpretation of analytical results. The application of statistics is required for method validation and measurement uncertainty calculations, and is thus essential for meeting ISO/IEC 17025:2005 accreditation requirements. This computer-based course provides an introduction to the basic statistical tools that analytical chemists need for their work. The course starts from looking at data and then explains the most common statistical parameters and how to calculate them.

What are the benefits?

This course is designed to help delegates to understand some of the most important statistical concepts used by analytical chemists, calculate the most common statistics, apply significance testing and use linear regression in calibration.

Course content

The course will cover:

- > Introduction to statistics
- > Significance testing, F-test
- > Analysis of variance (one-way ANOVA Significance testing, t-tests)
- > Control charts
- > Linear regression

Who should attend?

This course is aimed at analytical chemists who need to use statistics and require a better understanding of the fundamental concepts. It is suitable for analysts with limited or no experience of statistics.

Course dates

9	February 2012	Teddington
19	September 2012	Teddington

All LGC's courses are run in South West London at Teddington. The courses are either held at LGC's modern laboratory and office facility situated in close proximity to Bushy Park or at Lensbury, a modern conference centre fronting the river Thames at Teddington Lock.

To book this event visit the UKAS website or contact **Jan Garman:**

Tel: + 44 (0)20 8917 8488 Fax: + 44 (0)20 8917 8499 Email: jan.garman@ukas.com



*Setting standards
in analytical science*

Method Validation

3 day

**Non-residential
only**

£1250 +VAT

Discounts are
available –
see page 30

Method validation is the process that provides evidence that a given analytical method, when correctly applied, produces results that are fit for purpose. No matter how well a method performs elsewhere, analysts need to confirm that the method is valid when applied in their laboratory. There is now much greater emphasis on method validation in the ISO/IEC 17025:2005 accreditation standard. Through a number of workshops, delegates build a validation protocol for a method of their choice.

What are the benefits?

This course will help delegates understand method validation and its requirements; select and apply the statistics required during method validation; select and use the appropriate types of method validation studies and appreciate and understand the links with measurement uncertainty.

Course content

Day 1

Essential statistics

- > Introduction to statistics for method validation
- > Significance testing t-tests and the F-test
- > Analysis of variance (ANOVA)
- > Linear regression

Day 2

Providing the tools

- > Introduction to the concepts of method validation
- > Building a validation protocol
- > Performance parameters; precision, bias and ruggedness

Day 3

Further tools

- > Performance parameters; selectivity, LoD, LoQ, linearity and working range
- > Using validation data to estimate measurement uncertainty

Who should attend?

This course is designed for analytical chemists and potential or existing laboratory managers who are involved in method development and method validation.

Course dates

27-29	March 2012	Teddington
10-12	July 2012	Teddington
4-6	December 2012	Teddington

All LGC's courses are run in South West London at Teddington. The courses are either held at LGC's modern laboratory and office facility situated in close proximity to Bushy Park or at Lensbury, a modern conference centre fronting the river Thames at Teddington Lock.

To book this event visit the UKAS website or contact **Jan Garman**:

Tel: + 44 (0)20 8917 8488 Fax: + 44 (0)20 8917 8499 Email: jan.garman@ukas.com



*Setting standards
in analytical science*

Booking Details

How to Book

Book online at:

www.ukas.com — following the links to Services/Training

or download the Booking Form and fax to:

+44 (0)20 8917 8499

Post to:

Jan Garman
Training Coordinator
UKAS
21-47 High Street
Feltham
Middlesex
TW13 4UN

Discounts

The fees shown in each of the individual programmes are subject to the following discounts for multiple bookings as follows:

- > Second delegate – **5%**
- > Third delegate – **8%**
- > Fourth and subsequent delegates – **10%**

If you have a large amount of staff requiring training further discounts may be available, please contact the training team to discuss.

Discounts can only be applied for bookings made at the same time.

Booking Form

Please complete this form and return to:

Jan Garman · Training co-ordinator

United Kingdom Accreditation Service · 21-47 High Street · Feltham · Middlesex TW13 4UN · United Kingdom

Fax: +44 (0)20 8917 8499 · Email: training@ukas.com

Personal Details

Title (Mr, Ms, Dr etc)	Surname	Forename
<input type="text"/>	<input type="text"/>	<input type="text"/>
Company	Position	
<input type="text"/>	<input type="text"/>	
Discipline	Email Address	
<input type="text"/>	<input type="text"/>	
Address		
<input type="text"/>		
Telephone		Post Code
<input type="text"/>		<input type="text"/>
Fax		
<input type="text"/>		<input type="text"/>

Other Delegates

Name	Name
<input type="text"/>	<input type="text"/>
Discipline	Discipline
<input type="text"/>	<input type="text"/>
Email Address	Email Address
<input type="text"/>	<input type="text"/>

Course Details

Course Title				
<input type="text"/>				
Residential	Non-residential	No of Delegates	Course Fee	Total Fee
<input type="checkbox"/> Tick box	<input type="checkbox"/> Tick box	<input type="text"/>	<input type="text"/>	<input type="text"/>

Payment Details *Please tick to indicate type of payment*

<input type="checkbox"/>	Cheque:	Please make cheques payable to United Kingdom Accreditation Service and mark the rear with the course name and reference number plus your company name
<input type="checkbox"/>	Invoice:	Purchase Order No. <input type="text"/>
<input type="checkbox"/>	BACS:	Use Reference 20-00-00 Barclays Bank Account 03304264
<input type="checkbox"/>	Credit/Debit:	We accept Delta, MasterCard, Switch, Visa (not AMEX or Diners)
	Card Number	<input type="text"/>
	Issue No.	<input type="text"/>
	Expiry Date	<input type="text"/>
	Signature	<input type="text"/>

PLEASE CUT HERE

Terms and Conditions

Fees

Payment for course bookings is due within 30 calendar days of the invoice date or 15 calendar days prior to the provision of the services, **whichever is the earlier**. Bookings made within the 15 calendar day period must be paid for immediately.

If payment is not received delegates will not be allowed to attend the course.

Payment can be made by cheque, credit/debit card or BACS

The course fee includes an extensive delegate pack, refreshments, accommodation and meals as described in the course programme.

Cancellations

A full refund will be provided for cancellations received more than thirty working days before the commencement of the training course.

A refund of 50% will be provided for cancellations received between fifteen and thirty working days before the commencement of the training course.

No refunds will be given for cancellations received less than fifteen working days before the commencement of the training course.

Substitutions

Substitutions will be accepted up to two working days before the course date. Details of the substitution must be given to and acknowledged by UKAS.

Transfers

Registered delegates who wish to transfer to a different date for the same event (subject to availability) can do so free of charge providing that:

- > The original invoice for course fees has been paid in full.
- > Notice is received and acknowledged by training department over 30 days before the commencement of the course.

Transfers requested within 30 days of the course commencement will be subject to a £50 admin fee +VAT and any additional charges for any accommodation reserved.

Subsequent transfers of the same delegate will be charged a £50 + VAT administrative fee.

UKAS constantly seeks to improve its training and reserves the right to amend its published courses and course dates.

UKAS reserves the right to cancel a training course. In this event registered delegates will be informed, and where applicable their course fee refunded.

UKAS does not sell its customer details to third parties. We may send you information about other products and services available from UKAS. If you prefer not to receive such information, please email jan.garman@ukas.com



Jan Garman
Training Coordinator

UKAS Training Course Calendar 2012

January

S M T W T F S S M T W T F S S M T W T F S S M **T W** T F S S M T
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

February

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March

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April

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

May

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

June

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July

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August

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

September

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

October

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

November

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December

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- Preparation for Accreditation
- Laboratory Management
- Laboratory Internal Audit
- Combined Laboratory
- NEW** – Forensic Laboratory Internal Audit
- Uncertainty of Measurement
- Traceability and Uncertainty for Managers
- Assessor Training – Laboratories ISO/IEC 17025:2005
- Lead Assessor
- Assessor/Lead Assessor
- Assessor Training ISO 15189: 2007
- Awareness Training EN45011
- ISO/IEC 17021 Awareness
- Statistics for analytical chemist
- Method Evaluation

Course dates – On demand For the latest course dates please contact the training team or visit our website: www.ukas.com/services/training

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