

# Analytical quality training programme 2011

• Statistics • Proficiency testing • Evaluating measurement uncertainty



• Method validation

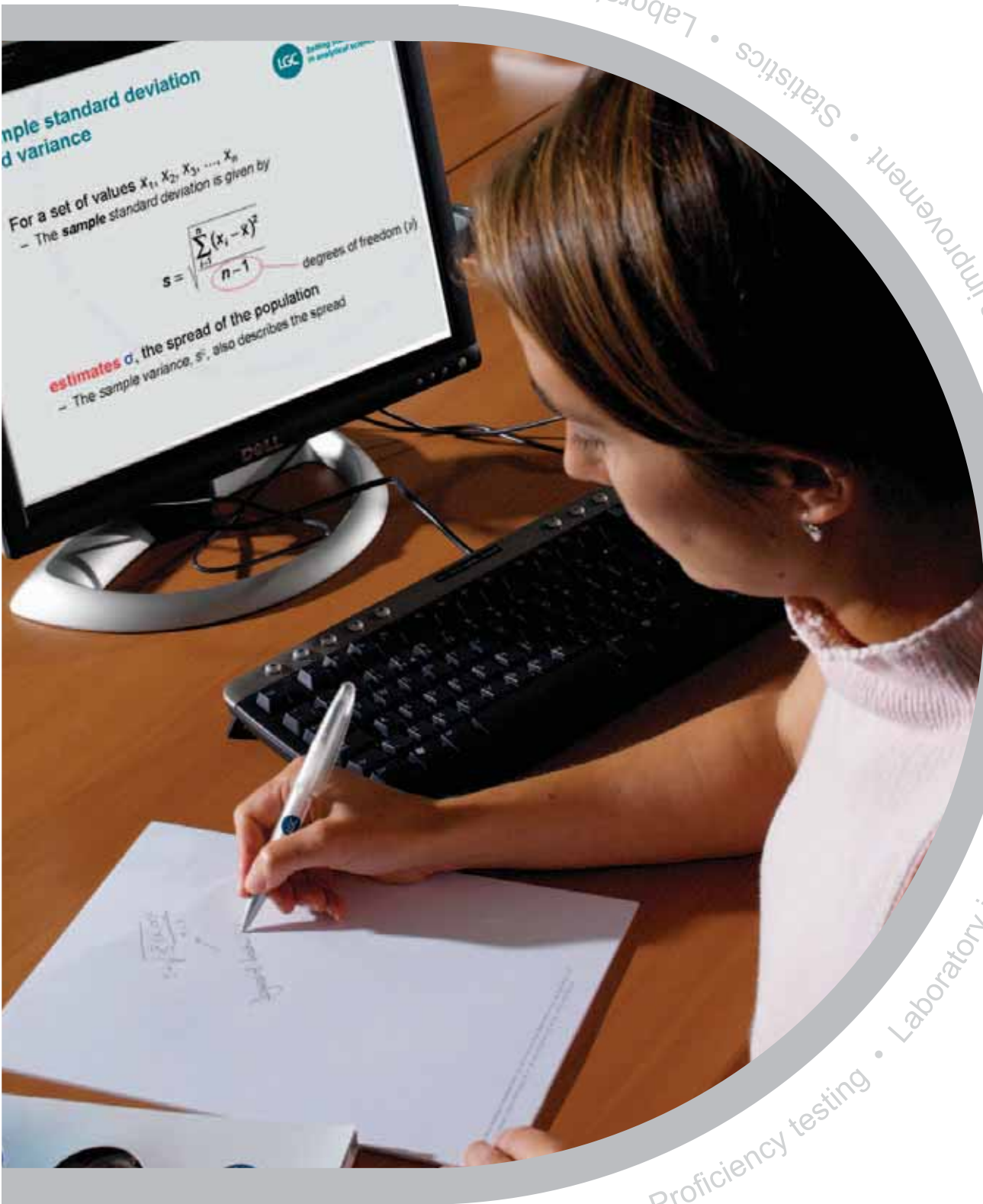
• Process improvement

• Laboratory internal audit • Statistics



**Setting standards  
in analytical science**

• Proficiency testing • Laboratory management



• Evaluating measurement uncertainty

• Statistics • Process improvement • Method validation • Laboratory internal audit • Proficiency testing • Laboratory management

# Contents

## Training from LGC

Training course calendar	2
Analytical quality training courses from LGC	3
About LGC	4
Our trainers	5
Bespoke courses	6
Course venues	7

## Courses from LGC

Statistics for analytical chemists	8
Further statistical tools for analytical chemists	9
Evaluating measurement uncertainty for chemical testing laboratories	10
Method validation	11
Using proficiency testing in the analytical laboratory	12
Lean process improvement	13

## Courses from UKAS

Laboratory management – role of the Quality Manager and technical management	14
Laboratory internal audit	15
Registration details	16
Registration form	17

# Training course calendar

January

S	M	T	W	T	F	S
						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

S	M	T	W	T	F	S
		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					

March

S	M	T	W	T	F	S
		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		

April

S	M	T	W	T	F	S
					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

S	M	T	W	T	F	S
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

S	M	T	W	T	F	S
			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		

July

S	M	T	W	T	F	S
					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						

August

S	M	T	W	T	F	S
	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

S	M	T	W	T	F	S
				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

S	M	T	W	T	F	S
						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

S	M	T	W	T	F	S
		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			

December

S	M	T	W	T	F	S
				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

Statistics for analytical chemists

Further statistical tools for analytical chemists

Evaluating measurement uncertainty for chemical testing laboratories

Method validation



Using proficiency testing in the analytical laboratory

Lean process improvement

Laboratory management - role of the Quality Manager and technical management

Laboratory internal audit



## Analytical quality training courses from LGC

At LGC 'Setting standards in analytical science' is not just a strap-line, but an integral part of what defines the organisation. As such we are committed to providing first-rate training courses for analytical scientists. With over 10 years' experience in delivering analytical quality training programmes, our team of professionals will help ensure you meet current quality standards by providing:

- Courses written and delivered by expert analytical scientists ensuring up-to-date information on current accreditation and regulatory issues
- Best practice training for all laboratory personnel, whether working at the bench or in management
- Courses relevant to the laboratory environment with focus on application rather than theory
- Comprehensive course packs; a vital reference source
- Seminar and workshop sessions with opportunities to practise newly acquired knowledge
- 'Off-the-shelf' and tailored training solutions, delivered at LGC Headquarters or your site.

## Why attend an LGC analytical quality training course?

Analytical quality is of paramount importance in chemical and bioanalytical measurements in order to make sound decisions based upon results. The need to meet increasingly stringent regulatory and quality requirements has resulted in greater emphasis on method validation, evaluating measurement uncertainty and establishing the traceability of results. This is reflected in the international accreditation standard ISO/IEC 17025, used as the basis for establishing the competence of testing and calibration laboratories by accreditation bodies such as UKAS (United Kingdom Accreditation Service).

Attending LGC's training courses will help you meet current accreditation and regulatory requirements and give your customers confidence in the quality of the data you produce. In addition, companies which invest responsibly in the development of the skills of their staff maximise their business opportunities. Those individuals with enhanced skills are better placed to take advantage of workplace opportunities, helping to build a rewarding career and contribute to their futures.

Our team of trainers has extensive experience of analytical quality assurance, with expertise in method validation, measurement uncertainty, traceability, reference materials and proficiency testing. This ensures that our training remains topical and can be tailored to meet the needs of individual organisations.

Our training programme consistently receives positive feedback from delegates, many of whom have attended a number of courses. To provide continued value for money for our customers we have held the prices of the majority of our courses for 2011. We also offer discounts for group bookings.

LGC has agreed a reciprocal programme of training with UKAS to extend both organisations' range of training courses. As part of this memorandum of understanding, the UKAS courses listed in this brochure can be booked through LGC.

For further details or to register for a course please contact Bernadette Francis:

### LGC Training Centre

Queens Road  
Teddington  
Middlesex  
TW11 0LY

Email: [training@lgc.co.uk](mailto:training@lgc.co.uk)  
Tel: +44 (0)20 8943 7631  
Fax: +44 (0)20 8943 2767  
Web: [www.lgc.co.uk/training](http://www.lgc.co.uk/training)

## About LGC

LGC is an international science-based company and market leader in analytical, forensic and diagnostic services and reference standards. As the UK's designated National Measurement Institute (NMI) for chemical and bioanalytical measurement, we deliver world-class measurement science in response to national challenges and support businesses to compete and innovate in the global economy. With a history in measurement dating back to 1842, we have extensive knowledge of the development and validation of analytical methods, and the production and certification of reference materials. Working in collaboration with key industrial, academic, regulatory and international metrology stakeholders we apply our established expertise in measurement research to a range of challenging scenarios encompassing medical, pharmaceutical, environmental, food and veterinary applications. Many of the analytical methods used at LGC are accredited by UKAS to ISO/IEC 17025.

LGC Science & Technology division is accredited to ISO Guide 34 (General requirements for the competence of reference materials producers) for the production of reference materials. The measurement capabilities used to produce certified reference materials in our capacity as a designated NMI, are verified through participation in key comparison studies organised by the Consultative Committee for Amount of Substance (CCQM) of the International Bureau of Weights and Measures (BIPM).

LGC has a proven track record in developing training resources and delivering training courses on quality assurance. The continued success of our courses is illustrated through the longevity of the analytical quality training programme. LGC's scientists have also collaborated on the development of a number of international documents on measurement uncertainty and method validation.

## LGC's divisions

LGC operates internationally through four divisions – LGC Science & Technology, LGC Standards, LGC Forensics and LGC Genomics.

**LGC Science & Technology** offers a comprehensive range of analytical, research and consultancy services for government, public sector and commercial organisations. We provide high value analytical services to the pharmaceutical, food and agriculture sectors and a wide range of environmental surveillance and testing services. The division houses LGC's role as the UK's designated NMI for chemical and bioanalytical measurement. For further information, please visit [www.lgc.co.uk](http://www.lgc.co.uk).

**LGC Standards** combines expertise in laboratory quality with knowledge of laboratory requirements for reference standards and proficiency testing. The division supplies over 100,000 reference materials, produces pharmaceutical impurity reference standards and provides extensive proficiency testing schemes. This makes LGC Standards the ideal global partner for products and services designed to enhance laboratory quality. For further information, please visit [www.lgcstandards.com](http://www.lgcstandards.com).

**LGC Forensics** serves the police and crime enforcement agencies as well as an increasing number of private sector clients. LGC Forensics offers a comprehensive range of forensic science services, utilising the latest innovations – often developed in-house – to establish the facts of cases under investigation. LGC is the largest privately owned forensic science service provider in the UK. For further information, please visit [www.lgcforensics.com](http://www.lgcforensics.com).

**LGC Genomics** provides an array of flexible nucleic acid sample preparation services and products, DNA sequencing services and genomic services designed to fulfil customers' specific project goals. The division's dedicated sequencing teams use state-of-the-art technologies to provide customers with a fast, personal service, the highest quality data and value for money. For further information, please visit [www.lgcgenomics.com](http://www.lgcgenomics.com).

## Our trainers

LGC trainers bring to our courses a wealth of knowledge and experience gained from their different technical backgrounds. Below are details of our core team of trainers.

**Vicki Barwick** has over 15 years' experience in the area of analytical quality and has considerable knowledge of method development and the application of measurement uncertainty principles to analytical chemistry. Vicki has produced many training resources on analytical quality assurance and was a co-author of 'Quality Assurance in Analytical Chemistry', published by Wiley.

**Maria Chisholm** is Team Leader of LGC's Process and Operational Efficiency Team (POET). She has an academic background in physical chemistry with industrial experience in materials chemistry and catalyst research. Since 2003 her work has focused on the application of lean management and high throughput technologies to laboratory applications.

**Simon Cowen** leads the statistics team at LGC. His primary interests are measurement uncertainty and the use of statistics in forensic science. He has 18 years' postdoctoral experience of research project management and delivery and, prior to joining LGC, taught electronics and mathematics.

**Steve Ellison** is an international expert in measurement uncertainty. He is a co-author of the Eurachem/CITAC Guide 'Quantifying Uncertainty in Analytical Measurement'. Steve lectures throughout the world on measurement uncertainty, and is a member of a number of national and international networks and technical committees working on quality assurance and statistics for analytical chemistry.

**Jesus Miguez** is a statistician with a background in chemistry. He worked for 10 years in R&D in the pharmaceutical industry where he was involved in data analysis for technology transfer and method development. Jesus is currently working at LGC as a consultant statistician and has an MSc in applied statistics.

**Fraser Nicholson** is a Senior Advisor in POET and is an expert in process mapping and coaching in lean practice. Fraser trained as an analytical chemist and has extensive laboratory experience including 10 years in the LGC Forensics division. He has also worked on a variety of projects including the development of training and education materials for analytical scientists, before joining POET in 2004.

**Tracey Noblett** has over 20 years' experience in microbiology, working in various fields including clinical, water and food testing. The past 10 years have been spent in the field of proficiency testing, and have included developing new schemes, provision of technical support, ensuring quality and gaining accreditation to ISO 43-1. Tracey is a member of the Eurachem Proficiency Testing Working Group.

**Ulf Örnemark** is currently a consultant in analytical quality. Prior to this he was LGC Standards' Technical Manager for clinical reference materials. He has a broad background in quality assurance including proficiency testing, uncertainty evaluation and quality management systems. Ulf is a member of Eurachem's Proficiency Testing Working Group, and of the Institute for Reference Materials and Measurements (IRMM) certification advisory panel. He is also an advisor to the Swedish accreditation body (SWEDAC).

**Matthew Whetton** has over 15 years' experience working in the field of analytical chemistry using state of the art techniques for the analysis of phytochemicals and pesticides in food and environmental matrices. Matthew is the Head of Chemistry for the Proficiency Testing group at LGC Standards, where he is responsible for the production, development and technical operation of eighteen proficiency testing schemes in a diverse range of analytical fields.



## Bespoke courses delivered at your site

We recognise that the needs of each individual company may differ so a customised solution is often required. If you have specific requirements, or you have a group of staff who require training, then our customised and on-site training may be the most cost effective and practical answer.

We can deliver any of the LGC courses listed in this calendar at your site. We can also offer training on quality systems for testing laboratories, and establishing the traceability of measurement results. An analytical quality course can be tailored to specifically match your particular training requirements. For example, we can run courses which combine elements of the programmes listed in this brochure to give a training course which covers the areas most relevant to your organisation. Customised courses can be run at LGC's training venue or at your own site.

We are happy to discuss your requirements for bespoke training at any time.

**Please contact Bernadette Francis on +44 (0)20 8943 7631 or email [training@lgc.co.uk](mailto:training@lgc.co.uk)**

## Course venues

LGC's courses are held at our Headquarters in Teddington, South West London, which are situated close to Bushy Park.

### **LGC**

Queens Road  
Teddington  
Middlesex  
TW11 0LY  
UK

LGC's training venue is conveniently located for travel by either car (easily accessible from the M3, M4 & M25), rail (thirty minutes direct from London, Waterloo) or air (thirty minutes by taxi from Heathrow airport).

Detailed directions and a map will be sent to delegates prior to the course. Information on local accommodation will also be provided.

The courses listed in this programme that are provided by UKAS, are all held in Sunningdale Park.

### **UKAS - Sunningdale**

Sunningdale Park  
Ascot  
Berkshire  
SL5 0QE  
UK





# Statistics for analytical chemists

1 day training course

## Find out how to get the most from your data by applying key statistical techniques

Ensuring the quality of analytical data is a vital aspect of the work of an analytical chemist. The effective planning of experiments and evaluation of data requires an understanding of statistics. Knowledge of statistics is also needed to carry out method validation and evaluate measurement uncertainty. This course is aimed at analysts and covers the statistics most commonly applied to analytical data. It will allow analysts to answer questions such as, 'Which is the best way to summarise my data?', 'Is there a real difference between the results produced by different test methods?', 'How should I evaluate the results obtained from an instrument calibration experiment?'

### Who should attend?

The course is aimed at analysts who need to evaluate data or carry out tasks such as method validation and uncertainty estimation. The course focuses on the practical application of statistical techniques and is suitable for those with limited or no prior experience of statistics.

### What are the benefits?

This course will help you:

- Understand some of the most important statistical concepts used by analytical chemists
- Calculate the most commonly used statistical parameters
- Carry out significance tests to identify differences between sets of data
- Use linear regression in calibration.

### Contents

The course will cover:

- Introduction to statistics
- Significance testing: t- and F-tests
- Control charts
- Analysis of variance (ANOVA)
- Linear regression.

### Course details

Dates	Code	Price
8 February 2011	TRSTAT30	£465 + VAT
14 September 2011	TRSTAT31	£465 + VAT

# Further statistical tools for analytical chemists 1 day training course

## Further your knowledge of the application of statistics to analytical chemistry

Modern analytical instruments are capable of producing a large amount of data. To interpret this data effectively requires the application of statistics. This course builds on the topics covered in the 'Statistics for analytical chemists' course and includes some more advanced statistical tools. It will allow analysts to address issues such as identifying outliers in a data set, handling non-normal distributions of data and carrying out weighted and non-linear regression.

### Who should attend?

This course is aimed at analytical chemists who have to plan experimental studies and/or make decisions based on sets of data. It is suitable for those who have a basic knowledge of statistics.

### What are the benefits?

This course will help you:

- Deal with normal and non-normal distributions
- Identify cases of normally distributed data with outliers
- Calculate statistical parameters in the presence of probable outliers
- Identify where two-way ANOVA is appropriate
- Use some of the more advanced regression tools.

### Contents

The course will cover:

- Handling of non-normal data
- Dealing with outliers
- Robust statistics
- Fitting non-linear functions
- Weighted regression
- Two-way ANOVA with and without replication.

### Course details

Dates	Code	Price
16 March 2011	TRFST15	£465 + VAT
18 October 2011	TRFST16	£465 + VAT





# Evaluating measurement uncertainty for chemical testing laboratories

2 day training course

## Learn the principles and practice of estimating measurement uncertainty

Measurements are always made for a reason – to answer a particular question or to help solve a problem. Whenever a measurement is made there will always be some uncertainty about the result due to unavoidable errors in the measurement process. Knowledge of the uncertainty associated with measurement results allows a judgement to be made as to whether the data are likely to be 'fit for purpose'. If comparisons of results are being made, for example when determining whether a limit has been exceeded, a meaningful interpretation of the results can only be achieved if the uncertainty is known. The evaluation of the uncertainty associated with measurement results is a requirement for testing laboratories accredited to ISO/IEC 17025. This course provides a practical approach to evaluating uncertainty in testing laboratories which is in line with the ISO principles for uncertainty estimation and current accreditation requirements. The course assumes no prior knowledge of uncertainty evaluation.

### Who should attend?

The course is aimed at analysts who have limited knowledge of measurement uncertainty but need to be able to evaluate the uncertainty associated with their results.

### What are the benefits?

This course will help you:

- Understand how uncertainty can be evaluated for chemical test results
- Use method validation and quality control data in uncertainty estimates
- Give your customers confidence in your results
- Determine the fitness for purpose of your results
- Demonstrate compliance with regulatory limits and contract specifications
- Make valid comparisons between results obtained at different times and places
- Meet ISO/IEC 17025 accreditation requirements.

### Contents

The course will cover:

#### Day 1 – The principles

- Introduction to the concept of measurement uncertainty
- Statistics for measurement uncertainty estimation
- The basic principles of evaluating uncertainty
- Converting and combining uncertainties
- Quantifying uncertainty components
- Evaluation of an uncertainty budget using spreadsheets
- How to handle precision.

#### Day 2 – The practice

- Using data from validation studies
- Cause and effect analysis
- Dealing with data from recovery estimations
- Using precision data from validation studies
- Handling uncertainty for large concentration ranges
- Using and conveying uncertainty estimates.

### Course details

Dates	Code	Price
2-3 February 2011	TRMU54	£825 + VAT
8-9 June 2011	TRMU55	£825 + VAT
11-12 October 2011	TRMU56	£825 + VAT

## Learn how to demonstrate that your test methods are fit for purpose

Method validation is an essential part of establishing and ensuring the quality of analytical data. It cannot be guaranteed that data will be fit for purpose unless the performance of the test method has been studied and demonstrated to be adequate. Method validation is the process that provides evidence that a test method is capable of providing data that are suitable for a particular application. It is a requirement of the ISO/IEC 17025 laboratory accreditation standard and many other sectoral regulations and directives. Method validation should always be a planned activity. This course introduces the statistics required for interpreting validation data and provides the tools to plan and carry out effective validation studies.

### Who should attend?

This course is designed for analysts and laboratory managers who are involved with method development and assessing the performance of analytical methods.

### What are the benefits?

This course will help you:

- 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
- Appreciate and understand the link between method validation and measurement uncertainty.

### Contents

The course will cover:

#### 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

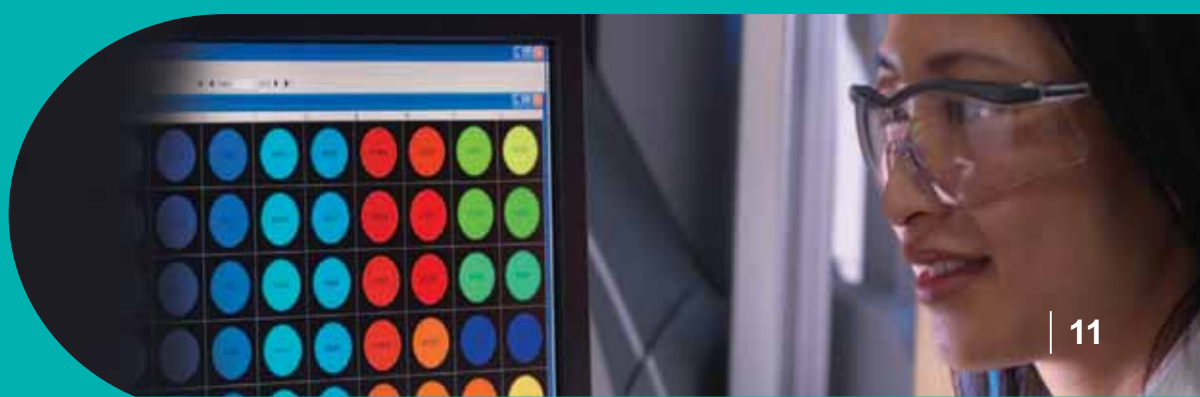
- Introduction to the concepts of method validation
- Performance parameters: precision, bias and ruggedness.

#### Day 3 – Further tools

- Performance parameters: selectivity, capability of detection, linearity and working range
- Using validation data to estimate measurement uncertainty.

### Course details

Dates	Code	Price
8-10 March 2011	TRMV44	£1250 + VAT
12-14 July 2011	TRMV45	£1250 + VAT
29 November - 1 December 2011	TRMV46	£1250 + VAT





# Using proficiency testing in the analytical laboratory

1 day training course

## Learn how to get the maximum benefit from participation in proficiency testing schemes

Proficiency testing (PT) is the only way laboratories can obtain an independent assessment of their performance. Participation in a scheme gives laboratories an objective measure of the quality of their output and is therefore a highly effective diagnostic tool for a laboratory's quality system. There is more to be gained from PT results than a simple assessment of 'satisfactory' or 'unsatisfactory' performance. This course focuses on the interpretation of PT performance scores and the types of investigations and corrective actions that may be required in the event of an unsatisfactory score. The course also covers the statistics commonly used in PT schemes which will aid with the interpretation of PT data.

### Who should attend?

This course is designed for laboratory staff (chemists and microbiologists) who participate in PT schemes and/or are responsible for the interpretation of PT results. The course is also suitable for laboratory customers and auditors who use PT scheme performance as a tool for monitoring a laboratory's quality.

### What are the benefits?

This course will help you:

- Understand how PT works and the different types of schemes that are available
- Interpret and use effectively the results and evaluation from PT schemes
- Understand the statistical approaches used in proficiency testing.

### Contents

The course will cover:

- An introduction to PT, how it works and its objectives
- Statistics used in PT schemes
- Interpretation of PT scheme data
- Feedback on laboratory performance and corrective actions.

### Course details

Participants in LGC Standards proficiency testing schemes will receive a 10% discount.

Dates	Code	Price
6 April 2011	TRPT17	£465 + VAT

## Discover the Lean approach to building efficient and competitive laboratory and office based operations

In order for businesses to remain agile and competitive in the market place it is essential for them to improve services whilst reducing cost. The Lean approach to process improvement, developed in the manufacturing industry, is just as applicable to laboratory and office based businesses wishing to improve quality and performance within the work place.

Lean practice has transformed many leading global industries and has been shown to help businesses:

- Streamline processes and eliminate waste
- Reduce delivery times
- Increase productivity
- Improve customer communication and satisfaction.

This course introduces the fundamental principles behind Lean practice and the systematic approach to continuous improvement. Participants will learn how to use valuable tools such as; CANDO, KANBAN, process mapping, cause & effect diagrams, Pareto diagrams, process modelling and performance measurement tools.

### Who should attend?

This course is aimed at anyone interested in developing a culture of continuous improvement in their workplace including, individuals who manage day to day delivery, team leaders and project managers.

The course provides greatest benefit when groups of individuals from a company attend together with the intention of developing team based improvement projects.

### What are the benefits?

This course will help you:

- Gain an understanding of the systematic Lean approach to continuous improvement
- Develop practical skills that will enable you to develop a Lean culture within your team

- Understand how and when to use key process improvement tools
- Produce simple, effective plans for successful improvement projects.

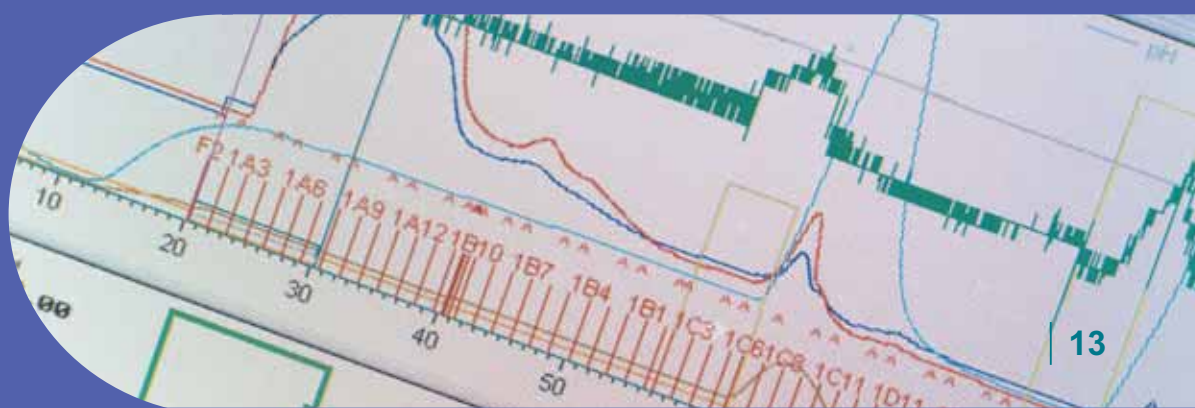
### Contents

The course will cover:

- An introduction to Lean theory
- Practical coaching in the use of Lean tools and methods
- The systematic approach to managing continuous improvement.

### Course details

Dates	Code	Price
18 May 2011	TRLMI03	£360 + VAT
20 October 2011	TRLMI04	£360 + VAT





# Laboratory management – role of the Quality Manager and technical management

3 day training course

## UKAS provides this course

This training course covers the integration of the requirements of the laboratory accreditation standard, ISO/IEC 17025 within laboratory business processes.

### Who should attend?

Personnel from accredited or applicant laboratories who have responsibility for the technical or quality management of the tests or calibrations performed.

### What are the benefits?

This course will help you:

- Understand how the business processes of your laboratory can be combined effectively with the requirements of ISO/IEC 17025
- Understand the roles of Quality Manager and technical management.

### Contents

The course will cover:

#### Day 1

- Laboratory structure to ensure integrity and competence
- Quality management system as a framework for the business processes
- Laboratory facilities, services and supplies
- Ensuring competence – equipment
- Ensuring competence – personnel.

#### Day 2

- The review process – tenders, contracts and requests
- Subcontracting
- Ensuring competence – test and calibration methods
- Documentation and document control process
- Handling of samples and items from customers for calibration and test.

#### Day 3

- Ensuring competence – performance of calibration and tests
- Ensuring competence – management controls
- Identifying potential and actual non-conforming work
- Process of recording, storage and retrieval of records
- Reporting results to customers including opinions and interpretations
- Complaints process
- UKAS assessment and the roles of the Quality Manager and Technical Manager.

### Course details

\* Includes accommodation (breakfast, lunch and dinner) for two nights.

Dates	Code	Price (residential)*	Price (non-residential)
22-24 February 2011	TRLM25	£1300 + VAT	£1100 + VAT
11-13 May 2011	TRLM26	£1350 + VAT	£1130 + VAT
18-20 October 2011	TRLM27	£1350 + VAT	£1130 + VAT
8-10 February 2012	TRLM28	£1350 + VAT	£1130 + VAT



# Laboratory internal audit

2 day training course

## UKAS provides this course

This training course covers the processes involved in undertaking an internal audit. The course is run on an interactive basis and provides an opportunity for delegates to perform an internal audit through role-play.

## Who should attend?

Anyone involved with, or interested in the use of internal audits, new quality managers and new laboratory staff.

## What are the benefits?

This course will help you:

- Understand the internal audit process and its value
- Gain hands-on experience of the auditing process.

## Contents

The course will cover:

### Day 1

- Internal laboratory audits
- Witnessing tests and calibrations
- Audit records
- Corrective and preventive actions
- Human aspects of auditing.

### Day 2

- Auditing the performance of a test and raising observations
- Proposing corrective actions for given scenarios
- The audit report
- Management review.

## Course details

\* Includes accommodation (breakfast, lunch and dinner) for one night.

Dates	Code	Price (residential)*	Price (non-residential)
30-31 March 2011	TRLIA26	£1050 +VAT	£950 + VAT
14-15 June 2011	TRLIA27	£1080 + VAT	£980 + VAT
20-21 September 2011	TRLIA28	£1080 + VAT	£980 + VAT
13-14 December 2011	TRLIA29	£1080 + VAT	£980 + VAT
28-29 March 2012	TRLIA30	£1080 + VAT	£980 + VAT



# Registration details

## How to register

Book online at: [www.lgc.co.uk/training](http://www.lgc.co.uk/training)

Fax the registration form to: **+44 (0)20 8943 2767**

Call **Bernadette Francis: +44 (0)20 8943 7631**

Email: [training@lgc.co.uk](mailto:training@lgc.co.uk)

## Post the registration form to:

**Bernadette Francis**

LGC Training Centre

Queens Road

Teddington, Middlesex

TW11 0LY, UK

The course fee includes a delegate pack, lunch and refreshments.

A list of local accommodation is available on request.

## Payment and discounts

- All fees must be paid in advance of the course
- VAT is payable on all training course fees
- Payments can be made by cheque, credit card and BACS
- To be invoiced for the course fees, please supply a purchase order number with your booking
- Provisional bookings can only be held for ten working days
- There are discounts available for group bookings. Please ask for details.

## Cancellations and substitutions

- A full refund will be provided for cancellations received more than 30 working days before the commencement of the training course
- A refund of 50% will be provided for cancellations received between 15 and 30 working days before the commencement of the training course
- No refunds will be given for cancellations received fewer than 15 working days before the commencement of the training course
- Substitutions will be accepted at any time at no additional charge.

## Transfers

Registered delegates who wish to transfer to a different date for the same course (subject to availability) can do so for the following charges:

- No charge for transfer notification received more than 30 working days before the commencement of the training course
- A charge of £50 + VAT for transfer notification received between 15 and 30 working days before the commencement of the training course
- A charge of £100 + VAT for transfer notification received fewer than 15 working days before the commencement of the training course.

LGC reserves the right to cancel or amend its training courses. Registered delegates will be informed and, where applicable, their training course fee refunded.

# Registration form

For your convenience, please photocopy this form before either posting or faxing to:  
Bernadette Francis, LGC, Queens Road, Teddington, Middlesex TW11 0LY, UK  
Fax: +44 (0)20 8943 2767

Register online at: [www.lgc.co.uk/training](http://www.lgc.co.uk/training)

## Delegate details (block capitals please):

Name: (as required on delegate badge)			
Company:			
Address:			
		Postcode:	
Telephone:		Fax:	
Email:			

## Course details (block capitals please):

Course title:			
Course code:		Course date:	
Course price:		Total (incl. VAT) £:	

## Payment details (Please tick to indicate payment type):

Cheque:  (payable to LGC Limited)      BACS:  (please contact Bernadette Francis for bank details)

Invoice:       PO number

Credit/debit card:  (Not Amex/Diners)

Card type (e.g. Visa, Mastercard):			
Card number:			
Name on card:			
Expiry date:		Issue no. (Switch/Maestro only):	

By returning this form, you agree to your personal information being processed by LGC Limited for the administration and provision of our training services. **Please tick this box  to indicate that you wish to receive information about LGC's products and services. LGC does not pass personal details on to third parties.**

• Process improvement • Laboratory internal audit • Method validation



• Method validation • Proficiency testing • Laboratory management



***Setting standards  
in analytical science***

**LGC**, Queens Road, Teddington, Middlesex TW11 0LY, UK  
**[www.lgc.co.uk](http://www.lgc.co.uk)**