

UNIVERSITY OF
Southampton

SUPPORTING
TECHNICIAN AND
TEACHER
DEVELOPMENT

**MATHEMATICS AND SCIENCE
LEARNING CENTRE**

CLEAPSS TRAINING COURSES FOR
TECHNICIANS AND TEACHERS 2018

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CLEAPSS

We are delighted to offer these courses for science technicians and teachers in partnership with **CLEAPSS (Consortium of Local Education Authorities for the Provision of Science Services)** whose courses support exciting and safe practical work in schools and colleges.

These high quality sessions are delivered by experienced trainers from CLEAPSS who have worked in partnership with the Mathematics and Science Learning Centre, University of Southampton for 15 years. The trainers and their sessions have consistently received very good evaluations for both the training and CLEAPSS course materials included with each session.

CLEAPSS courses are suitable for a range of audiences including Heads of Departments, Teachers, Technicians and Senior Leaders who line manage practical subjects. See www.cleapss.org.uk for further details.

At only £125 per person to attend, these one day courses including lunch, refreshments and all CLEAPSS course materials represent excellent value for money.

These courses are running in Southampton at the Mathematics and Science Learning Centre. The courses typically run 9.30am – 3.30pm.

The venue is:

Mathematics and Science Learning Centre
Highfield Campus
University of
Southampton
SO17 1BJ

Stay in touch with the Mathematics and Science Learning Centre (MSLC)

If you would like to receive emails on CPD, funding, and new projects and initiatives, please visit: <http://eepurl.com/dsxA1X>



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How to book

For dates of the next scheduled course, please see our website

www.southampton.ac.uk/mslc

Or to have specific questions answered:

T: +44 (0)23 80 59 8810

E: mslc@soton.ac.uk

“Presentation and content was excellent. Really helped focus my ideas about health and safety and risk assessment.”

“Brilliant. Interesting, useful, entertaining and thoroughly engaging.”

CLEAPSS course participants 2017



Health and Safety Management for Heads of Science

Suitable for: Heads of science

The main emphasis of this one-day course is on management issues and risk assessment. It is intended for Heads of Science, their deputies, heads of physics, chemistry and biology and those aspiring to such posts.

Legal requirements for risk assessment both in the curriculum and in the prep room will be considered. Included in the package will be checklists which Heads of Department or other senior managers could use to audit their school's processes and procedures.

Common and not so common, but more serious, accidents which occur in school science will be examined along with a discussion of the implications for management. There will be plenty of opportunities for participants to identify their own areas of concern.

Topics covered include:

- Raise awareness of current and significant safety issues in science teaching.
- Develop a better understanding of what is required by health and safety legislation.
- Consider the implications of this for the management of safety in science departments.
- Consider the risk assessment process, as required by the Management regs, COSHH regs and others
- Understand the uses of a safety policy and how it can be monitored
- To devise an action plan

Date: 19 September 2018

Radiation Protection Supervisor Training

Suitable for: Teachers

This one-day course is for the school Radiation Protection Supervisor (RPS), i.e. the person responsible for managing the safe storage, use and monitoring of radioactive sources in the science department. CLEAPSS believes that the RPS should be a member of the teaching staff, often the Head of Physics. Technicians are welcome to attend in addition (See CLEAPSS leaflet PS75, which explains why the RPS should be a teacher).

The course is based on the CLEAPSS guide L093 *Managing Ionising Radiations and Radioactive Substances* (2013). It includes numerous practical demonstrations with the relevant safety points embedded within them, and answers questions frequently asked on the CLEAPSS Helpline. There are opportunities to raise issues and to ask specific questions.

Topics covered include:

- Legislation and guidance, the role of the RPA, RPO & RPS
- Nuclear physics, radioactivity and radiation - teaching and resources
- Storage of radioactive substances
- Using radioactive sources to demonstrate the properties of ionising radiations
- Doses and biological effects of ionising radiations
- Radiological protection and its management
- Responsibilities of the RPS, including Local Rules
- Different types of radioactive sources and their care (including preparing sources for half-life investigations)
- Cloud chambers
- Monitoring and record keeping, including leak testing and contamination checking
- Disposal of radioactive sources

Date: 3 October 2018

Date: 21 November 2018

Health and Safety Update for Science Technicians

Suitable for: Science technicians in schools and colleges

This is a one-day introduction to health and safety for science laboratory technicians from schools and colleges.

- To raise awareness of safety issues and current Health & Safety legislation
- To make technicians more confident with their responsibilities
- To consider and practise the risk assessment process for technician activities
- To consider what safe management – managing safely means in practice for technicians
- To devise an Action Plan
- To raise awareness of the range of CLEAPSS services and advice

Topics covered include:

- Legislation on health & safety including the Health and Safety at Work Act 1974 and its subsequent regulations
- Legal bans, myths and rumour
- Risk assessment in general, and personal risk assessment for technicians
- Safe management and handling of resources for practical science
- Communication with colleagues and with line management

Dates: 10 October 2018

Health and Safety update for Science Teachers

Suitable for: All science teachers

Science teaching has a very good health and safety record. Nevertheless science teachers need to be familiar with health and safety legislation as there are many potentially hazardous chemicals, living organisms, pieces of equipment and procedures in use in school science laboratories.

Topics covered include:

- To consider the reasons why we do practical work in science
- To raise awareness about health and safety in school science
- To partly fulfil the legal requirement of employers to provide health and safety training for staff
- To help you become more familiar with CLEAPSS services and advice
- To practise procedures for risk assessment
- To allow you to share concerns, and discuss common problems

The course has 5 sessions:

Session 1 Why do we do practical work?

Session 2 Science IS safe!

Session 3 Introduction to H&S legislation

Session 4 How CLEAPSS can help

Session 5 Risk Assessment

Each session will include a number of activities including presentations, discussion in groups and quizzes. These will de-bunk a number of common myths and look at legal requirements and the duties of teachers and their employers.

Activities in the lab that commonly give rise to problems will be highlighted and discussed. There will be opportunities to discuss each participant's own safety concerns.

There will be opportunities to check model risk assessments, such as Hazcards, and to consider how these might need to be modified to reflect the circumstances of a particular school, room or class. The importance of adopting control measures, such as eye protection, and of sticking to agreed procedures will be emphasised.

The day will end with an opportunity to consolidate the lessons learned during the day.

Date: 17 October 2018



How to book

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www.southampton.ac.uk/mslc

Or to have specific questions answered:

T: +44 (0)2380 59 8810

E: mslc@soton.ac.uk

Primary Science: Making Science Fun, Memorable and Safe

NEW

Suitable for: Primary science leaders, primary teachers and support staff

Our goal is to ensure that primary school staff are confident to deliver fun, exciting and safe practical work to primary aged children.

Topics covered include:

- Participate in practical science activities and reflect on their purpose
- Access and use CLEAPSS teaching resources
- Learn how CLEAPSS supports teachers to risk assess practical activities
- Practice using CLEAPSS resources during science planning
- Discover how to teach a tricky topic e.g. light

Date: 14 November 2018

“Well presented, well documented, well informed and plenty of discussion.”

“Very knowledgeable and highly informative. Cleared up a lot of ‘myths’ that I’d questioned but never answered.”

Working with Glass

Suitable for: Technicians

This one-day practical course will provide technicians with the knowledge and skills required to make most of the simple bends, and other items required for gas preparation, in most secondary school science departments. It will also demonstrate how some items of broken glass equipment can be repaired.

Topics covered include:

- Introduction to types of glass, their properties, uses & safe handling
- Different types of burners
- Cutting and polishing tubes and rods
- Simple glass bends
- More advanced bending including double bends
- How to safely insert / remove glass into/ from bungs
- Sealing wire into glass
- Repairing glass
- Making a manometer, simple potometer, Charles law tube
- Other techniques including, drawing pipettes, closing tubes, joining & blowing glass

You will also have the opportunity to repair a piece of broken or cracked glassware that you have brought to the course.

Date: 20 November 2018

Supporting Safe and Successful Classroom Physics

Suitable for: Technicians

This 1-day course is designed to enable secondary school science laboratory technicians to be more confident in supporting the teaching of practical physics. It also provides a valuable opportunity for technicians to meet together and share expertise.

This course assumes a basic level of experience in physics.

Technicians who are completely new to supporting physics are recommended to attend the introductory physics course, *Introduction to Supporting Physics teaching for Technicians*.

Topics covered include:

Physics Safety - overview

- Hazard identification and risk assessment with demonstrations, including: *lasers, microwaves, ionising radiations, heat, flammable liquids, electrical and mechanical hazards.*

Practical Workshop

- Hands-on activities, with an emphasis on the work often carried out by technicians to support physics teaching.

The list below is subject to change, depending on availability of equipment:

Electricity; a circus of activities which includes work with Extra High Tension power supplies, Transformers and power lines, electron beam tubes and the Van de Graaff generator; Low voltage work including using ammeters, voltmeters and multimeters, thermistors, light dependent resistors and electric motors, Model steam engines; how to set one up, and what to look for before each use, Ionising radiation; Waves; Oscilloscopes and signal generators, the Rubens tube, Lasers and LED's.

Date: 27 November 2018



How to book


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www.southampton.ac.uk/mslc

Or to have specific questions answered:

T: +44 (0)2380 59 8810

E: mslc@soton.ac.uk



“A very useful and fun session. Chris is so helpful and he explains the session very clearly.”

“Amazing! Perfect ‘hands-on’ course that enabled me to gain confidence in manipulating glass.”

CLEAPSS course participants 2017

Supporting Safe Practical Microbiology

Suitable for: Technicians and teachers

Do you lack confidence/experience in providing for school microbiology? This intensive course covers all the essentials of H&S and aseptic technique that are necessary for safe and effective KS3, GCSE and A level microbiology practicals.

The course is entirely “hands on” so you will gain confidence as you practice the skills during the day. At the end of the course you can take away the cultures and plates you have made, to watch them develop.

Topics covered include:

- H&S aspects to comply with the COSHH regulations
- Skills required for provision of safe equipment and materials
- Safety aspects when culturing unknown environmental microbes. - Safe sub-culturing of microbes for student use in lessons
- Dealing with spillages and contaminated materials
- Ideas for safe and successful practical activities
- Disposal

Date: 29 November 2018

Introduction to Preparing Solutions and Apparatus Safely

Suitable for: Technicians

This one-day practical course is designed as a first introduction for new and/or inexperienced science technicians. The aims of the course are to:

- Introduce the basic skills needed to work safely and effectively in the prep room
- Provide an introduction to H&S requirements including clarifying the need for control measures to manage risks
- Develop confidence in how to recognise risk and how to respond appropriately if problems arise
- Introduce technicians to CLEAPSS resources and support

Topics covered include:

- Introduction to CLEAPSS and keeping up to date
- The need for control measures
- Recipe Sheets
- Getting the right chemical and knowing when to ask for help
- Making solutions safely: basic techniques and equipment and simple adaptations to recipes
- Supporting class activities: preparing, delivering, retrieving and clearing up, identifying and setting up
- Equipment for a class activity or demonstration
- Simple glasswork

Each technician should bring to the course as many of the following as possible:

- Eye protection
- Protective gloves
- A lab coat
- A set of cork borers
- A glass cutter

Date: 4 December 2018



How to book

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www.southampton.ac.uk/mslc

Or to have specific questions answered:

T: +44 (0)2380 59 8810

E: mslc@soton.ac.uk



“Really helpful course, covered lots in one day. Lots of practical, which was great.”

“Well presented. Very knowledgeable presenter. Engaging, interesting and very clear.”

CLEAPSS course participants 2017

Safety with Chemicals for Technicians

Suitable for: Technicians

This course is suitable for technicians who are taking on/have responsibility for chemicals. No prior chemical knowledge is required. *Note:* the course is not intended for those with detailed chemical experience, though it can help in adapting outside experience to work in school science.

The aims of the course are to use CLEAPSS information and practical skills:

- To find information on chemicals and their hazards in school use
- To work with chemicals safely for school practical work
- To develop knowledge about storage, disposal and dealing with emergencies with chemicals

Topics covered include:

- Chemicals and their names
- Ordering and receiving chemicals
- Understanding and using safety information: labels;
- Hazcards: their role and how to use them
- Storing chemicals
- Control measures: personal protection and fume cupboards
- Solutions: molar, percentage and 'vol' concentrations
- Making labels: why, when and how
- Waste and recycling: an introduction
- Chemical emergencies and the need for training: spills
- Practical and fire demonstrations

Date: 5 December 2018

Keep it Safe, Health & Safety for New Teachers (NQTs)

NEW

Suitable for: All new or recently qualified science teachers

Science teaching has a very good health and safety record. Nevertheless, science teachers must comply with health and safety legislation as there are many hazardous chemicals, living organisms, pieces of equipment and procedures in use in school laboratories. There are many pitfalls to trap the unwary, particularly newly-qualified science teachers.

As well as knowing how to work safely, new teachers also have to develop the skills needed to run a successful practical lesson. As part of the course we will consider what this means and offer suggestions and tips based on new CLEAPSS publications.

The objectives for this course are to:

- Raise the awareness of health and safety matters amongst new science teachers
- Fulfill, in part, the obligation on employers to provide health and safety training for new staff
- Develop an understanding of risk assessment
- Allow participants to share concerns about health and safety matters
- Further develop skills and techniques for running a successful practical lesson

There will be 4 main workshops:

- Safety in school science – the role of the NQT
- Risk assessment and dealing with emergencies
- How to make the best use of CLEAPSS resources
- Dealing with issues raised by participants including learning from past accidents

The course will seek to reassure the over-anxious, whilst restraining the too independently-minded teacher. It will de-bunk a few myths and look at legal requirements and the duties of teachers and their employers.

Date: 12 December 2018



How to book

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www.southampton.ac.uk/mslc

Or to have specific questions answered:

T: +44 (0)2380 59 8810

E: mslc@soton.ac.uk

BOOKING AND CONTACT DETAILS

At only £125 per person to attend, these one day courses including lunch, refreshments and all CLEAPSS course materials represent excellent value for money.

Please note if you would like to attend any of these courses, you must work at an institution or organisation that is a CLEAPSS member. CLEAPSS reserves the right to charge a higher fee (usually twice the standard rate) for non-members.

For any queries or to book a place please contact the Mathematics and Science Learning Centre using the contacts below.

Contact Details

T: +44 (0)23 80 59 8810

E: mssc@soton.ac.uk

www.southampton.ac.uk/mssc

Stay in touch with the Mathematics and Science Learning Centre (MSLC)

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ABOUT THE MSLC

We have been building our network of teaching professionals for almost 15 years. We are passionate about education and keep our finger on the pulse of new projects and initiatives to act quickly and give you the support you need. We offer professional development opportunities including our own locally developed courses, Science Learning Network courses, CLEAPSS courses, network meetings and local conferences and coordinate the Stimulating Physics Network in the South of England. We believe the more the teaching community work together and share ideas the better we all are at what we do. If you would like to connect with us complete our online survey here: eepurl.com/dsxAtX or use the QR code.



HOW TO FIND US

MATHEMATICS AND SCIENCE LEARNING CENTRE

Graham Hills Building 29, Level 3,
University of Southampton
Highfield Campus
University of Southampton
Southampton
Hampshire
SO17 1BJ

By rail: Highfield Campus is three miles from Southampton Central, and two miles from Southampton Airport Parkway.

By car: Southampton is 75 miles (120km) from London. The M3 and M27 provide fast, direct access to the city.

From the M3 - exit at junction 14 (Southampton A33).

From the M27 - For Highfield Campus and Avenue Campus (parking), and also, if coming from the east, exit at junction 5 (Southampton Airport).

The *Unilink* bus service is available between the rail stations and the University. Please see *Unilink* website for details: www.unilinkbus.co.uk

Details of venue and parking arrangements will also be sent by email to participants following course booking confirmation.

TERMS AND CONDITIONS

Alterations to courses and events

We will use all reasonable efforts to deliver advertised programmes and other services and facilities in accordance with the descriptions set out in our brochures, printed communications and website.

We reserve the right to cancel any event where we need to do so (including but not limited to circumstances outside of our control, where sufficient numbers have not booked for the event or the speakers are unavailable or cancel the event) any time prior to the date for providing that event. Where such a cancellation takes place, the University will notify you in writing by email of that cancellation.

Financial or other losses

The University will not be held liable for any direct or indirect financial or other losses or damage arising from changes made to the event timetable, location, content or method of delivery of various services and facilities set out herein.

The University shall not be liable for any costs, losses or expenses that you may incur due to such cancellation of an event, including but not limited to any travel or accommodation costs unless you paid for these through us. We shall refund your payment (in full as soon as possible) or offer you an alternative event if one is available. You have the choice of accepting the refund, a credit note or attending the alternative event.

It is important therefore that you supply an up to date email address and telephone number for notifications and notify us if these change.

Transfers or non-attendance

If you are unable to attend, there is no charge to replace the original participant with a substitute. Please inform us of the substitute's details.

If you wish to transfer a booking to an alternative date for the same CPD activity or to an alternative activity, a request must be made at least 14 days prior to the start of the original CPD activity. If the request is accepted, there will be no charge other than any additional cost of the alternative activity above that of the original CPD activity.

If the transfer request is received within 14 days of the original course start date, we reserve the right to charge an administrative fee of £25.

Please note that all requests to transfer bookings are entirely at our discretion.

If you do not attend a course without giving at least 14 days' notice and do not send a substitute, you will be charged the full amount of the course fee.

Please consult www.southampton.ac.uk/mslc online for further details and/or any changes to courses or events run by the Mathematics and Science Learning Centre or phone 023 80 59 8810 for more information.

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Find out more:

www.southampton.ac.uk/mslc



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www.southampton.ac.uk/mslc

UK and EU enquiries:

mslc@soton.ac.uk

+44 (0)23 8059 8810



“Excellent session from a clearly very well informed presenter.”

CLEAPSS course participant 2017

