

## DEPARTMENT OF ELECTRONIC AND ELECTRICAL ENGINEERING HEALTH AND SAFETY ARRANGEMENTS

The Department is legally obliged to ensure that staff and students performing potentially hazardous tasks are competent to do so safely, and that all reasonable measures are taken to ensure that the risks involved are kept as low as is practicable.

We ensure this by insisting that:

- All activities must be risk assessed in accordance with UCL policy before they are carried out.
- All staff and students must have received and understood all required safety training.
- Our facilities, equipment and safety systems meet all the requirements of current safety legislation.

The Department's Health & Safety Policy statement and Departmental Objectives can be found on our [departmental website](#). These pages are a reference of Department safety rules and codes of practice, and ensure that our methods of training staff, safely working in laboratories and offices, and our auditing arrangements are collated, recorded, and made easily available to staff and students.

UCL-wide safety policy documents may be found on the central [Health & Safety webpages](#). These pages contain further safety guidance and a list of available safety training modules. If you cannot find the information you require either on the UCL safety pages or in this document, please contact the [department safety officer](#).

A wide range Health & Wellbeing of resources and guidance is available for students via [Student Support and Wellbeing](#) and support is also provided by [Student Psychological and Counselling Services](#) (SPCS). For staff and postgrads the [employee assistance program](#) can be contacted 24/7 for confidential, impartial support, UK Freephone - 0808 196 5808 as well as an app available to download for holistic wellbeing activities.

### Key Department Contacts

Position	Name	Deputy
Head of Department (HoD)	Professor John Mitchell	Professor Sally Day (Teaching) Professor Andreas Demosthenous (Research)
Departmental Safety Officer (DSO)	Ms. Roshni Harkishin	N/A
Departmental Manager (DM)	Mr. Andy O'Reilly	N/A
Technical Services Manager (TSM)	Mr. Simon Barnes	Dr Steve Hudziak
Senior Fire Evacuation Marshal (Roberts Building) (SFEM)	Ms. Roshni Harkishin	Mr. Andrew Moss
Laser Safety Officer (LSO)	Professor Cyril Renaud	N/A
Chemical Safety Officer (CSO)	Ms. Roshni Harkishin	N/A
Radiation Protection Supervisor. (RPS)	Mr. Simon Barnes	Dr. Firoz Alam (TBC by appointment from HoD)
Legionella Awareness Officer (LAO)	Dr. Steve Hudziak	N/A
Wellbeing Champion (WC)	Ms. Roshni Harkishin (training)	Thomas Gilbert

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## Mandatory Safety Training

### Department and Mandatory Training

All new staff and postgraduate students must complete the Department's local fire & general safety induction. These inductions are held monthly by the [Department Safety Officer \(DSO\)](#). New starters should attend a session as soon as possible after arrival- you will be contacted with the next available date. These sessions are held virtually via Zoom or MS Teams.

As part of their mandatory training, new staff and postgraduate students must also complete the online UCL Safety Induction and UCL Fire Safety training courses. These must be completed within one month of the start of employment/enrolment.

- [UCL Safety Induction](#)
- [UCL Fire Safety](#)

Note that visiting and agency staff and visiting students who join the department for extended periods (e.g. a week or more) are treated in the same way as any of our permanent staff or students for training purposes.

People visiting for less than a week are considered guests of the department. Unlike official visitors they do not have to undertake training, but they should be escorted at all times by a staff member. They must not be allowed or expected to perform any hazardous tasks that require safety training.

Staff members may require other safety training, depending on your role and responsibilities, such as Manual Handling and Lifting training or Emergency First Aid at Work training

Your line manager will discuss with you any further safety training you may require.

### Prospective laboratory workers

New lab workers must:

- Have completed all mandatory safety training as described above
- Completed the UCL online training module [Principles of Risk Assessment](#)
- Received a laboratory safety induction from a lab mentor (a competent person permitted to train new laboratory users), which covers the key risks and controls in the laboratory and any local covid safety measures in place which is recorded using the induction form.

Access will be permitted once these steps are completed.

## Specialised and high-hazard laboratory activities

These activities may require further training before they may be performed by staff and students. Access permission to some laboratories, and permission to operate certain machinery and equipment, requires successful completion of this training.

These activities include:

- Use of class 3B and class 4 laser systems
- Use of X-ray generating equipment
- Working safely in a cleanroom environment
- Working with cryogenic liquids and compressed gases
- Working with hazardous chemicals, and COSHH (control of substances hazardous to health) risk assessment
- Activities in the Department mechanical workshop

Note that this list is not exhaustive, and you may be asked to undertake further instruction before being allowed use of certain equipment.

**Do not assume because you have been given access to an area that you are allowed to use all of the equipment within it.** If in doubt, check with your supervisor, line manager or the laboratory manager before proceeding.

## Refreshing your safety training

To ensure ongoing knowledge and understanding, individuals will be required to refresh the mandatory training courses again as part of a refresher cycle once their completed training has reached its cadence.

### Annual Refresh Cycle

- Data Protection and Freedom of Information
- Information Security (hosted externally on the Cybsafe platform)

### Two year Refresh Cycle

- Local Fire Safety

### Three-Year Refresh Cycle

- UCL Fire Safety
- UCL Safety Induction
- Prevent at UCL
- Introduction to Equality, Diversity, and Inclusion
- Disclosing and Managing Conflicts of Interest

- Change Possible: Sustainable UCL
- **Other training may have differing refresher dates.** For staff, H&S training refresher courses should be identified as part of the annual appraisal process.

## Building Access & Out-of-Hours Working

UCL buildings require a staff ID/pass card to enter. You will be directed to the UCL security office in the Andrew Huxley Building to collect this card on your first day. Please see the Security webpages [here](#) for more information on your pass card.

Most Department floors in the Engineering buildings are open during normal working hours (**7am to 7pm, Monday to Friday, excluding closure days and national/bank holidays**). Outside of these times, corridor entrances require a pass card to enter. The exception are floors hosting our high-hazard lab facilities, which have more restrictive access.

## Laboratory Access

Some laboratories in the Department also use a pass card for access, but most use a combination of key and code pad system for entry. You will be added to the pass card entry lists for a laboratory, or given the code and/or key, following completion of the required safety training.

Most offices in the Department use a key entry system. You will be given your office key on your first day of employment/enrolment.

Office & lab keys are managed by the [IT team](#). There is a £20 deposit for keys, so try not to lose them!

## Security Awareness & Challenge Policy

Due to its very public central London location and a largely open site, UCL buildings have occasionally suffered unauthorised entry and thefts.

We therefore ask all our staff and students to try to be as security aware as possible, namely;

- Watch out for people trying to tailgate you when entering via exterior doors and through card barriers on entry to buildings,
- Don't leave office and lab doors intentionally open or accidentally ajar,
- Don't allow people you don't recognise entry to offices and labs if they don't have a key or pass card,
- Report any people acting suspiciously to Security.

Due to the possibility of physical threat, we do not recommend you directly challenge people acting suspiciously. Instead, contact Security personnel, either in person or via phone on 020 7679 2222, with a location and description of the people concerned. For more information see [Staying Safe at UCL](#) on the Security Services webpages.

## Out of hours & lone working

If members of the department will be working **alone in offices or laboratories before 7am or after 7pm, or at weekends, it is essential for them to inform the front Security Lodge** (ext. 32108) of their presence and their departure.

Department policy is to generally restrict laboratory work to normal working hours (as defined above).

Individuals may still come into the Department outside these hours to work in offices. However, experimental work should not be performed unless:

- 1) the academic supervisor authorises it on a one-off (i.e., not regular) basis;
- 2) the laboratory manager agrees that the work is safe to perform in these circumstances;
- 3) a second worker is present to assist at all times if the task has been risk assessed as unsuitable for lone working.

This should be regarded as exceptional rather than normal working practice and a record should be kept of the authorisation.

**Lone working is not permitted at any time if an activity has been risk assessed as too hazardous to perform alone.** Note that having others present periodically in the area is not sufficient to count as group working; the supporting workers must be able to give their full attention to assisting the primary worker.

Lone working should be avoided wherever practicable- but it is recognised that with lower occupancy rates during the pandemic, it will be inevitable that staff and students will often end up working alone.

Safety services recommend:

- 1) Staff & students use a 'buddy' system when working alone. For lower risk activity, your buddy can be remote and contacted by phone (WhatsApp, MS Teams). For higher risk work, your buddy must be close, but can be in an adjacent room in order to maintain social distancing.
- 2) Teams should co-ordinate activities and attendance in advance of lone work taking place.
  - Contact your manager (or another buddy) when you arrive in your department.
  - Make follow up contact every 30 - 60 minutes to say you are OK.
  - Contact your manager (or other buddy) when you leave work.
  - Contact your manager (or other buddy) when you arrive home.

## Guest access

All guests and short-term visitors must report to the Departmental Office (Room 705) on arrival. All guests are the responsibility of the member of staff inviting them, and they are expected to follow [UCL's Code of Conduct for Visitors](#). Guests are to be made aware of emergency procedures and if requested given a copy of the Department Safety Policy Statement.

The following restrictions on access apply:

- They should not be loaned keys, access cards or told access code details.
- They should be accompanied at all times.

Note that access to laboratories in this case is primarily permitted for observation; guests and short-term visitors are not expected or permitted to perform hazardous tasks that require mandatory training.

### Visitors & Agency Staff

Visitors and agency staff spending extended periods in the department must follow the same rules and requirements as any other staff member or student. Sufficient notice should be provided to departmental administrative and support staff so that ID cards & keys may be arranged, and training needs identified, prior to the visitor's arrival.

### Permits to Work

Repair and building work by UCL Estates personnel and contractors in laboratory areas requires 'Permits to Work' to be arranged with the laboratory manager and/or [Technical Services Manager](#) (specifically, a 'type D' permit). If you are working in a laboratory, you should be notified in advance if works will take place; if you find contractors in a laboratory unexpectedly, please notify the laboratory manager or the [Technical Services Manager](#). Please also direct any Estates or contractor access requests to the laboratory manager or the Technical Services Manager.

Note if access to high-hazard areas is required by contractors, this should also first be agreed by the [Technical Services Manager](#).

### Safe working in offices & communal spaces

We expect all staff and students to share responsibility for the general cleanliness of their offices and for keeping the shared areas of the Department free of spillages, clutter, food and accumulated rubbish.

Building faults and damage should be reported to [defects@ee.ac.uk](mailto:defects@ee.ac.uk).

We expect staff and students to avoid creating obvious health and safety hazards such as trailing wires and other trip hazards, unstable filing cabinets, blocking fire escape routes etc.

### Housekeeping & Hygiene

- Don't bring laboratory activities into offices, especially anything involving open mains voltage equipment or chemicals
- Don't block doors, especially fire exits
- Don't allow your office area to become cluttered with trip hazards or unstable storage
- Don't leave waste or packaging in the corridor assuming someone else will deal with it for you
- Don't leave food waste or dirty plates/cutlery in offices
- Keep communal areas and shared appliances clean and tidy
- Use or dispose of food in fridges before it goes out of date.



**In general, if you make a mess, clean it up!** If you are expecting to create a lot of waste (e.g., a large order is arriving with lots of packaging) request for a collection by the porters via [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk).

Many of UCL's buildings are very old, and there are inevitably pest problems. You will see traps in our corridors and communal areas, and in some offices; please do not touch these as they contain poison. You can help avoid pest problems by ensuring you do not leave food or food waste in offices. The technical team reserves the right to dispose of food that is left out and open in offices.

If you find issues with the building in your work area - leaks, faulty heating/cooling, damage to floors or walls etc. Please raise a report by emailing [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk). If the problem is urgent contact the [Technical Services Manager](#) directly.

Please report faulty furniture either via [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk) or directly to the [Departmental office](#) in room 705. It is very important that any furniture with damaged fabric is reported as soon as possible- once the foam interior is exposed, **the furniture is no longer fire safe and should be replaced immediately**.

For more information on reporting faults and safety issues, please see the [Reporting Safety Concerns](#) pages.

**The Cullen room** kitchen is open and available for use. The kitchen can be used for preparation of food and drinks and for socialising. Informal meetings can take place there however it is primarily a social space and should be treated as such.

- Staff and students using the facility must clean any shared appliances, surfaces etc. with the cleaning materials provided, both before and after use.

### Display Screen Equipment

All staff & students who work with Display Screen Equipment (DSE) – e.g., PC monitors, all-in-one PC screens, and also portable systems such as laptops and tablets- are required by law to complete a [DSE assessment](#) for their use in the workplace.

Should you also work the majority, or a significant minority, of your time from home, you should also complete a DSE assessment for your home workspace- please see the '[working from home](#)' section for more guidance.

This assessment is completed using the [RiskNet](#) system; new staff and postgraduate students will receive information on how to do this in their local H&S induction.

If a user's DSE assessment suggest extra support is required, the [Department's DSE lead](#) will be informed and they will contact the user for a face-to-face assessment of their DSE needs.

DSE related Health and Safety issues may also be brought directly to the attention of either the [DSE lead](#) or the [Departmental Safety Officer](#).

### Electrical safety in offices

We ask that staff and students act responsibly with electrical equipment in offices and communal areas:

- Don't overload sockets or 'daisy chain' power extension blocks,

- Don't run trailing electrical cables where people may trip over them,
- Check for signs of damage (especially frayed/exposed cables) before using equipment.

Although you are permitted to bring your own electrical equipment into the department (phone chargers for example), we ask you to be wary of cheap electrical equipment bought online; often it does not meet UK safety standards.

All UCL mains powered electrical equipment must be checked periodically to ensure it is electrically safe. This is done either by performing a Portable Appliance Test (PAT) or a visual inspection. Unless it is a brand-new item (that is still under manufacturer warranty) any mains powered equipment that you are provided should have an in-date PAT or have had a visual inspection- usually the record will be a sticker or mark on the item. If you suspect that your equipment may be out of test, please report this to [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk).

Please note, all department office IT equipment is generally replaced after the warranty has expired, so will not have a PAT record.

Please be aware that electrical equipment has to be disposed of correctly and **cannot be put into normal waste**. Please bring this type of waste to the [IT team](#) who will dispose of it with the IT waste.

### Manual handling in offices

You should only move equipment, items, stationary etc. if you are confident that:

- The load is not excessive for your ability to lift and/or carry,
- It is not so bulky as to be unwieldy, or is slippery/difficult to grip
- The location does not require you to move or lift in an awkward way,
- The items are not in an inaccessible place, with a risk of falling or tripping.

If possible, break loads into manageable sizes, ask a colleague to assist, make a safer working space by clearing other items in the way, etc. Please see the [UCL guidelines on manual handling](#) for further advice.

The movement of items that remain very heavy for more than one person to lift, are very bulky or unwieldy, or stored inaccessibly, should only be led by staff who have completed [UCL's Manual Handling and Lifting](#) course. Movement of such items should be done in accordance with the Department's manual handling risk assessment for office equipment. Wherever possible, lifting aids (sack barrows, trolleys, pallet trucks, etc.) should be used.

Individual large heavy pieces of office equipment and furniture should be handled by arrangement with UCL Porters. Please ask the [Technical Services Manager](#) to arrange.

### Slips, trips & falls

By the far most common injuries in workplaces are caused by slips, trips, and falls. Trip, slip & fall hazards can be minimized by keeping your work area clean and tidy, reporting damage (loose tiles, torn carpets etc.) and performing manual handling tasks safely, as discussed above. The risk may also be reduced by staying safety aware and acting conscientiously on shared spaces:

- Do not run in corridors

- Don't push past people if they (or you!) are carrying things, especially hot drinks
- Don't block routes when stopping for conversation with others
- Pay attention to where you are walking (don't become focussed only on your phone!)

Liquid spills should be cleaned up- large spills or floods may be reported to Estates Cleaning Services via the department office. Please mark any large spills/floods or damp, slippery floor areas with warning signs to alert others to the hazard- these may be obtained from the department technical team.

## Outside the department

### Working from home/remote working

There is no requirement to do a DSE assessment for brief periods of remote working (if you only do an occasional home-working day, for example no more than once per week on average). However, you should still carry out self-checks of your home workspace:

- Try to think about finding a space within your home environment that enables you to work undisturbed, has sufficient lighting (preferably natural daylight) and is maintained at a comfortable temperature.
- Ensure you take regular breaks ensuring your body and eyes get a rest.
- Using a separate monitor, keyboard and mouse is also recommended instead of using a laptop and trackpad, if available.

Colleagues and students will usually have an onsite workplace and may voluntarily work from their home however your place of work remains as stated in your employment contract.

Regular homeworkers may voluntarily work from home either on an occasional ad hoc basis or regularly for up to 60% of their working time.

Where remote working is a voluntary arrangement, it is the responsibility of the remote worker to ensure that they have:

- At home, and at their own expense, a suitable workstation which meets legal requirements for a workstation. This may include a suitable desk, an adjustable chair, a keyboard and mouse which is separate to the laptop, and a laptop stand.
- Appropriate broadband width (at their own expense).

Where recommendations arise from remote working DSE assessments, the department & UCL will bear the cost of measures where they are considered proportionate and appropriate i.e. your contracted place of work is home and you are not offered an on campus alternative.

The most common issues remote workers identify can often be resolved with items costing £50 or less:

- Keyboard & Mouse: to attach to a laptop for greater comfort and usability than a touchpad/integrated laptop keyboard
- Footrest: if feet do not touch the floor when seated or user requires foot support
- Laptop stand: allows laptop screen to sit at correct eyeline without requiring external monitor
- Extra back support- mesh back/lumber support for chairs for users with back issues

If you feel that an under £50 item will assist with issues identified in your assessment, these can be purchased and reclaimed as an expense. Please note that research staff will need to discuss any purchases they wish to make for remote working with their supervisors prior to making any purchases.

The department appreciates that not everyone has a suitable work area or furniture that can be adapted easily this easily. If necessary, the Dept. will also meet the cost of larger items over the £50 threshold, for example:

- Basic office desks
- Office chairs
- Adjustable platforms to adapt desks/tables to standing-height desks

Where equipment or furniture costing over £50 is necessary, please contact the [Dept. Finance Manager](#) in the first instance.

The Department recognises these items may still be insufficient, particularly if you have specific health issues or accessibility needs. Please contact the [Department DSE advisor](#) in such cases to discuss your support needs.

### Visiting other institutions, conferences, travel etc.

Off-site working is any teaching, research or work activity carried out by UCL staff, students or visiting research workers on behalf of UCL in places or premises which are not rented or owned by UCL.

A generic risk assessment covering key risks associated with TRAVELLING TO AND FROM MEETINGS, EVENTS AND CONFERENCES (staff and students) at other institutions or locations in the UK or abroad is available through riskNET - search for RA042911/10 – Title: UCL Generic Risk Assessment for travelling to and from meetings, events, and conferences (staff and students). The current iteration is valid until 28.06.2025.

A specific risk assessment will be needed if you decide to do collaborative research or fieldwork in addition to attending a conference or meeting, if you will be visiting another institution specifically to do research there, or if you are a member of a vulnerable group (for example people more at risk due to their ethnicity, age, disability, or status as new or expectant mothers).

For further guidance on the process of risk assessing visits to other sites, conferences, undertaking fieldwork etc. please see the [off-site working pages](#) on the Safety Services website. For more guidance on risk assessment & RiskNet please see the risk assessment section.

### Reporting Safety Concerns & Building Faults

#### Reporting routes

Should you have a safety concern about you work or workplace, the first instance you should raise the issue with the laboratory manager for the area and/or your supervisor or line manager.

If they are unable to resolve the issue, or if you do not feel comfortable raising it directly with them, you may also speak in confidence with the [department safety officer](#) and/or the responsible officer for the work type (e/.g. for a laser-related safety issue, contact the dept laser safety officer). In extremis, you may raise your concerns directly with the [Head of Department](#).

For less immediate problems, or for suggestions and feedback on safety, contact your peer safety representatives- UGs, Postdocs & Researchers each have a have safety representative on the department safety committee.

Safety concerns may also be reported using the RiskNet Accident & Incident reporting system (please see the [Accident & Incident Reporting](#) section for more information). They can also be raised directly with UCL Safety Services – contact [Bodrul Azad](#) the central Safety Advisor assigned to EEE.

### Building faults and Defects

If you find issues with the building in your work area - leaks, faulty heating/cooling, damage to floors or walls etc. please raise a report by emailing [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk). If the problem is urgent, please also contact the [Technical Services Manager](#) directly.

Should there be safety implications for the fault- for example, if you believe it may have caused a near miss, or it may lead a threat to health, please also raise an incident report in RiskNet and notify all relevant department persons, as [explained in the previous section](#).

Please report faulty furniture either via [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk) or directly to the [Departmental office](#) in room 705. It is very important that any furniture with damaged fabric is reported as soon as possible- once the foam interior is exposed, **the furniture is no longer fire safe and should be replaced immediately**.

### Regulatory & policy non-compliance

The rules set out in our policies and in national regulation are there for good reason- to ensure we all work safely, and no one is exposed to unnecessary risk.

Please always:

- Follow all UCL, department, and laboratory safety rules
- Report accidents & safety incidents you are involved in honestly and promptly
- If you spot colleagues or fellow students not following safety rules report this in confidence using one of the routes [listed above](#).

Failure to follow safety rules will be treated extremely seriously and will likely result in disciplinary action.

UCL may change policy, procedure and guidance in light of new safety legislation changes so please adapt accordingly to keep yourself and those around you safe.

### Risk Assessment

The purpose of a risk assessment is to identify the hazards involved in a procedure, to set out how those hazards are to be controlled, and to communicate that information to those who need to know.

UCL policy requires that all hazardous activity must have a suitable and up-to-date risk assessment, and these assessments must be recorded in the [RiskNet](#) system. Any person who is going to carry out any new activity involving a hazard must conduct a suitable and sufficient assessment of the risk, and establish any required control measures, **prior** to starting the work.

To be valid, risk assessments must be authorised within RiskNet by a competent person. For research students, this person will usually be their supervisor, and likewise for researchers this will usually be their line manager. However, where someone is working in a lab outside of their supervisor or line manager's direct control, it may instead be the laboratory or facility manager or a delegated deputy (such as an experienced researcher or technician). Any activity that involves a high hazard task also requires authorisation by the department safety officer.

Our most hazardous environments are our department laboratories and research facilities. Each laboratory or laboratory facility should have general risk assessment prepared, which details the hazards anyone with unsupervised access to the area must be aware of and any controls they must follow.

All laboratory workers are expected to become competent in performing risk assessments; they are required to complete the University's Principles of Risk Assessment eLearning course before they commence work, so they are able to carry out a proper assessment of the risks involved and the precautions necessary to ensure their safety and the safety of others.

### When is a new risk assessment required?

If proposed laboratory work falls within the scope of the activities already covered in the laboratory or facility risk assessment, there is no requirement to do a full, separate new assessment. However, line managers and supervisors should ensure that their staff and students are familiar with the hazards & controls and receive any necessary training required by the risk assessment, this should be covered and recorded as part of their lab induction.

When a new Risk Assessment is required it is a good starting point for a new assessment to use the existing laboratory assessment as your starting point. This way, you ensure you include all of the hazards and controls that already exist in your workplace. RiskNet allows existing assessments to be copied across to new entries- see below for more information- which makes this very easy.

Likewise, where an existing risk assessment for a similar task to your work exists in RiskNet, it is both permitted- and encouraged!- to use this as the basis for your new assessment, rather than starting from scratch. In this way, you can make good use of existing expertise. Remember, if the risk assessment was for work in different lab or was completed a long time ago, it will need to be changed to include the latest safety information for the correct lab.

Similar to laboratory risk assessments, certain equipment and specialised processes often have their own safety assessments already prepared. Examples include X-ray generators, high power laser systems, and processes involving hazardous chemicals. Often it is not appropriate for non-specialists to attempt risk assessment for these types of equipment and processes, so you will instead be provided suitable training covering the safe operation and safety controls required by the existing risk assessment.

### Creating a new risk assessment

If you do have to create a new risk assessment from scratch, how you approach this may vary considerably depending on how specialised the activity is. Below is a useful basic guide to approaching general laboratory work that requires risk assessment. It assumes that you have already determined that a suitable risk assessment does not currently exist in RiskNet and the work does not require specialised assessment.

- A. The first step in a new risk assessment for a completely new process should be to draft a very basic procedure; write a step-by-step guide in bullet points describing the process, for example for a lab experiment which instruments/apparatus are involved and how they will be used, etc.
- B. Next think about the hazards that may be present, and how likely something might go wrong and lead to harm, and record this for each step. It is useful at this stage to consult any safety documentation available e.g., from equipment manufacturers.
- C. Then consider the environment the work will take place in- not only the location, but also who else may be working in the area. Review your assessment of the hazards for each step based on this information- how does it affect their severity and how likely they are to cause harm, not only to you but also to others nearby?
- D. The next step is to determine your controls. You may find, after consideration, that you can eliminate some hazards just by changing your procedure or moving to a more suitable workspace. A very good rule of thumb is the 'hierarchy of controls':
  1. Elimination
  2. Substitution
  3. Engineering controls (physical barriers, for example)
  4. Administrative controls (rules)
  5. PPE (personal protective equipment, gloves, goggles etc.)

Where 1 is most preferable and 5 is the least- in other words, to control hazards you should always try to remove or reduce them first- by changing your method, or substituting in a different chemical process or a safer piece of equipment- before introducing physical or administrative controls. The least effective control is PPE.

- E. Finally, review your draft process with the assistance of your supervisor/line manager, or the lab manager (as appropriate) before transferring to RiskNet for formal review.

It is much easier to edit and review the information in a risk assessment this way, as your draft document can be more easily shared and edited than a RiskNet form.

## The RiskNet System

UCL requires that all risk assessments be recorded in the RiskNet system. The system can be difficult for new users to follow, so a good idea is to read through the [basic starting guide here](#). Your supervisor, line manager or the laboratory manager will also be able to provide guidance in preparing risk assessments using the RiskNet system.

## Accidents, injuries, and emergencies

The primary contact in **emergencies** is UCL Security Services on extension **222** or telephone **020 7679 2222**.

**Please contact Security in the first instance rather than the emergency services directly.** Security will more effectively direct Emergency Services to your location.

For general safety enquiries please use the following contacts:

- [Departmental Safety Officer](#)
- [Safety Services](#)
- [UCL Health & Wellbeing Students](#)
- UCL Health & Wellbeing Staff

## First Aid & Medical Emergencies

If a staff or student suffers a minor injury during working hours (7am to 7pm), please request assistance from your nearest department First Aider.

Our department **First Aiders** are:

<b>Steve Hudziak</b>	<b>Roberts 9th floor</b>	<b>0207 676 3991</b>
<b>Thomas Hamer</b>	Roberts 6th floor	0207 676 3965
<b>Zhixin Liu</b>	Roberts 6th floor	0207 676 7305
<b>Mingchu Tang</b>	Roberts Ground Floor	0207 676 6551
<b>Andrew Moss</b>	MPEB 6th Floor	0207 676 3043
<b>Joe Hird</b>	Roberts 6th Floor	0207 676 1123

You may also request assistance from First Aiders from other departments. First Aiders for UCL buildings and their contact details are listed on the Emergency Information displays at entry points to each building floor.

Outside working hours, please contact Security for First Aid on extension **222** or phone **020 7679 2222**.

If a **serious medical emergency occurs**, please immediately request assistance from Security Services. As noted above, please do not contact the Emergency Services directly. Please also contact your nearest First Aider to assist you while you await help from Security.

### The nearest A&E Department is:

University College Hospital  
Accident and Emergency Department  
Grafton Way, NW1 2BU

## Accident & Incident Reporting

*Any accident or incident*, including near misses, as a result of work activities - whether or not there are apparent injuries or ill health arising- requires that an Accident Report is completed and submitted to Safety Services using the RiskNet system.



A direct link to the RiskNet report form [may be found here](#). The report form must be completed as soon as possible following an incident (note: anyone may report an incident, not just the injured or concerned party).

A full list of incidents types that should be reported may be found on the [UCL Estates Incidents and Incident Reporting](#) advice pages.

Serious accidents **must be reported immediately, directly** to the [Departmental Safety officer](#) and to Safety Services. As required by law, serious accidents or incidents will be reported by Safety Services to the [Health and Safety Executive](#) (HSE) and/or other relevant regulatory bodies.

### Fire Safety

#### Fire evacuations - Local Guidance for the Roberts Building and MPEB

When fire alarms sound, please leave the building immediately

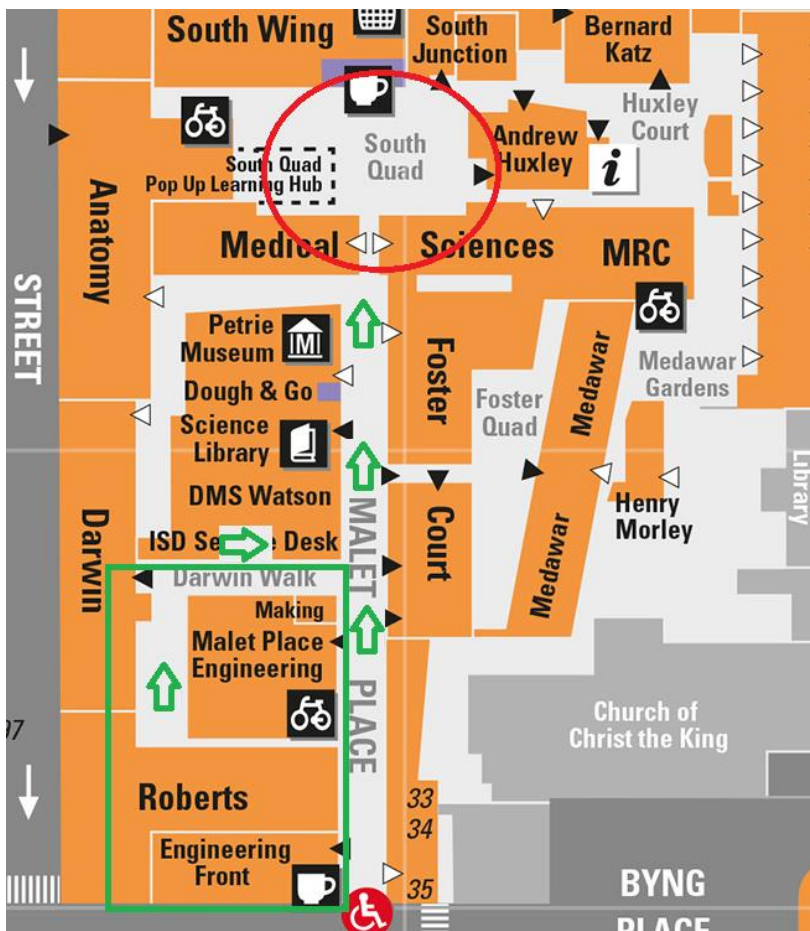
- DO leave the building by means of the **nearest** staircase
- DO follow the fire exit signs to the appropriate designated assembly point for your building (see sign examples below).
- DO Follow the instructions of the Fire Evacuation Marshals who will be wearing bright yellow jackets.
- DO NOT run
- DO NOT use the lifts
- DO NOT stop to gather your belongings.
- DO NOT congregate outside the Engineering Building as this will block access for the emergency services.
- DO NOT re-enter the building unless told to do so by a Fire Evacuation Marshal.



For the assembly walk Medical quadrangle to where situated).

#### Roberts fire

The stairs, one East side of the 6<sup>th</sup> same floor plan



**Roberts building & MPEB** the point is the Anatomy Yard; through the arch in the Sciences Building to the near the South Junction (next the print room café tables are

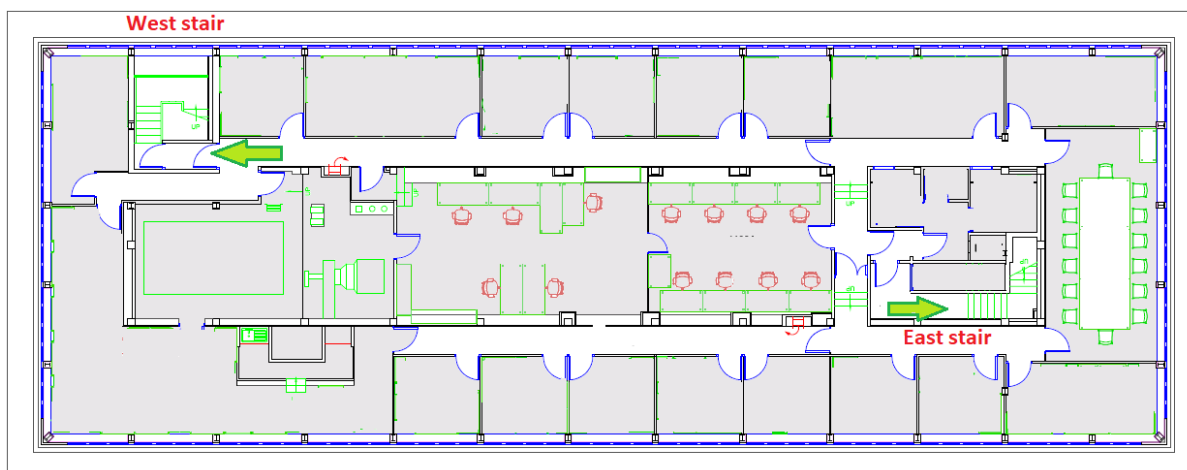
#### escape routes

Roberts building has two on the West and one on the the building. All floors from through to the 10<sup>th</sup> have the corridor arrangement (see 6<sup>th</sup> below).

If the fire alarm sounds, please evacuate using the nearest stair.



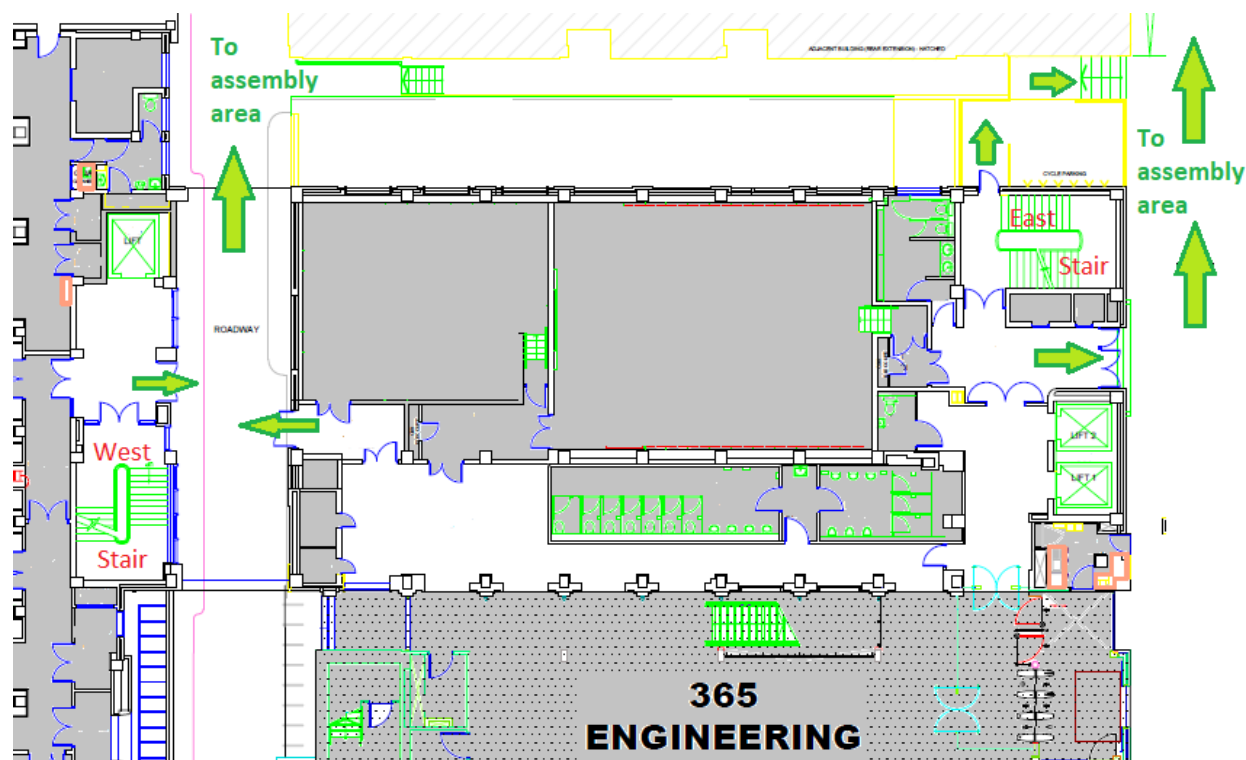
The 11<sup>th</sup> floor has a slightly different layout but also has East and West stair access points. Please be careful evacuating this floor as the stairs between the 11<sup>th</sup> and 10<sup>th</sup> floors are very narrow.



Once you have reached the ground floor, the main fire exit point is next to the Roberts lift lobby. You can also exit the building via doors on the North and West (rear) sides of the building. At the West or Rear side of Roberts, there is an archway and road which runs under the building. The ground floor lobby of the West

stair exits on to this road. To get to the assembly point from the rear of the Roberts building, proceed North behind the MPEB and turn right to re-join Malet Place.

There are bridges linking the Roberts building and MPEB on the 1<sup>st</sup> through 7<sup>th</sup> floors, connecting directly



to the East stairwell of Roberts building.

### MPEB escape routes

The MPEB has stairs at the front and rear of the building- please see plan of the 7<sup>th</sup> floor below. Both of these have exits on the ground floor.



**Personal Emergency Evacuation Plans**

People who have a **personal emergency evacuation plan (PEEP)** will require assistance in getting to the designated refuge point. The Roberts refuge points are located on each East stairwell and the West floor emergency exit. MPEB refuge points are on every floor within each stairwell. Refuge points are indicated by the wheelchair icon. If you think you will require assistance during a fire evacuation, please notify your line manager or supervisor who will show you the nearest refuge point to your work location. [Guidance on PEEPs may be found here](#) on the University Fire Safety website.



**If you discover fire or smoke** operate the nearest fire alarm break glass point. These are situated at the end of each corridor. Dial **222** on any internal telephone in UCL (or 020 7679 2222 on mobile) and give Security the building name and Fire Zone number:

**045** for the Roberts Building

**365** for the Engineering Front Building

**350** for the MPEB

This information is also displayed at each break glass point and in the stairwells on each floor.

Our buildings are fitted with an automatic fire detection system. The system is a series of smoke detectors which are situated in the corridors and a few selected laboratories are also connected centrally.

This *should* automatically call the Fire Service in the event of a fire. It is important however that in the event of a fire to raise the alarm independently of the fire detection system, as described above.



#### Fire exits & fire doors

Fire doors are usually marked with a blue circular sign with one of the following messages: *'Fire Door/ 'Fire Door Keep Shut' / 'Fire Door Keep Locked'*. It is vitally important that these **are never blocked or wedged open**- fire doors not only hold back heat and flames for a period but also prevent the spread of dangerous smoke. If you are moving equipment or materials and need doors to be held open, request assistance for colleagues or technical staff.



Our corridor doors have electronic 'hold open' systems, which are usually in operation during normal hours (7am to 7pm). These are connected to the building fire alarm system and will automatically close the doors if the alarms sound. As of October 2020, these have been temporarily disabled as a security measure.

Any doors that have an electronic lock- for example, doors opened via card access from the exterior- will have a push button release on the interior. In general, they will unlock automatically if the fire alarm is activated. Should this fail, there will always be a break glass or lever override door release available to use. All doors with electronic mechanisms will unlock (or 'fail open') in the event of power loss. Be careful to not confuse the emergency release with the normal door release button- as these are both usually green- or to confuse the emergency release with the fire break glass points (the fire ones are red!).



One-way fire doors are also commonly fitted with mechanical opening devices:

- 1) Push bar and push panel door releases require you to push down on the bar or panels to open the door.
- 2) Simple thumb-turn types are operated as indicated on the accompanying sign, which will show the correct direction to turn.



Other types have a plastic dome or covering to make sure the door release is not used accidentally. These are normally a thumb turn or lever.

You must break open the covering to get to the release mechanism. Some systems will have a break glass hammer provided to make this easier. If a release mechanism of one of these types has been used, the covering needs to be replaced professionally- report this to [defects@ee.ucl.ac.uk](mailto:defects@ee.ucl.ac.uk).

Make sure you are aware of any of these systems in your work area. You should make yourself aware when on your self-led fire walk after your local inductions.

### Firefighting & fire controls

There is no expectation for UCL staff to fight fires directly, and unless you have received specific training you should not use fire extinguishers.

Department buildings are provided with hand-held extinguishers at key points in corridors. These are of either CO<sub>2</sub> or water-mist types. These are suitable for both paper and electrical fires.



Other types of hand-held firefighting gear may be present in certain laboratories and workshops depending on the hazards- you will be informed of these if you will work in these areas.

In the Roberts building you will also see other fire control measures such as fire shutters and fire hoses at the entry to each floor. The fire hoses are for the use of the emergency services only. The fire shutters are historic and are no longer required by the building fire safety plan- please do not be concerned by the 'out of use' notices on these!

### Fire drills

Periodically the College carries out fire drills. The object is to ensure people aware of the fire evacuation procedures and to practice fast evacuation of the building. Not all drills will be notified in advance.

Please respond to drills as in a real emergency. Do not assume any evacuation is just a drill.

### Specific instructions for labs and workshops

If you will be working in an area with specific shut down or exit requirements in the event of an evacuation- in a lab or workshop, for example- instruction on these procedures will be given in your local induction for the area provided by the workshop or lab manager, or your supervisor.

### Fire Safety symbols and instruction signs

You will see a variety of different fire and safety instruction messages around our buildings including variations on the examples above. Rather than provide an exhaustive list of fire safety signs you will see around campus it is more important that you understand what the different colours and categories of symbols mean and follow all instructions on safety signage. These are likely to be very familiar as the colours and symbols are standardised worldwide, but you may notice some differences in style if are joining UCL from overseas.

#### Mandatory – Blue circle

Any signs with a blue colour display mandatory rules- you must instructions on these signs.



follow the

### Safe condition - Green square/rectangle

These signs indicate either a safe location, a route to a safe location, or the location of safety equipment (e.g., first aid or emergency phone).



location, or the

### Fire equipment - Red square or rectangle

Indicates the presence of fire-fighting equipment and also fire alarm points.



break glass

### Warning/Hazard- Yellow triangle

Indicates the presence of a hazard, e.g., dangerous area, dead end, or trip hazard, that may be encountered either in our work area or on your escape route.



## Contingency Plans

### Low Oxygen & Cryogen Emergencies

**Asphyxiation** – If you know or suspect a colleague is suffering from asphyxiation due to a low oxygen emergency then call Security on the emergency hotline (222) from any internal phone and ask them to call for the emergency services.

UNDER NO CIRCUMSTANCES SHOULD YOU ENTER A SUSPECTED LOW OXYGEN ENVIRONMENT.

DO NOT ATTEMPT A RESCUE – YOU WILL BECOME A CASUALTY!

### Oxygen depletion alarms

If a laboratory oxygen depletion alarm sounds while you are working inside, all persons should evacuate the area immediately;

- Prevent others from entering the laboratory.
- Do not re-enter until:
  - the alarm has stopped sounding
  - the displayed oxygen level has returned to normal
- Report the incident to the laboratory manager, Department Safety Officer and the Technical Services Manager. Normal work should not resume until the cause of the alarm has been investigated and you have been told it is ok to reenter by a trained safety member of staff.

If you are in the vicinity and discover that a laboratory oxygen depletion alarm is sounding:

- Notify the laboratory manager, [Department Safety Officer](#) and the [Technical Services Manager](#). If they are not available, inform Security on 222.
- Prevent others from entering the area.



**Spills and/or Vessel failure** – In the event of a large spill of cryogenic liquid, or the failure of a pressure vessel storing cryogenic gas, all persons should evacuate the room immediately.

- Prevent others from entering the laboratory.
- Report the incident to the laboratory manager, [Department Safety Officer](#) and the [Technical Services Manager](#). Work with cryogenics should not resume until the cause of the spillage has been investigated.

**Direct Exposure to cryogenic liquid/gas** – Small exposure can be treated as burns with tepid water:

- Run the affected area under tepid water for 15 minutes.
- Contact a department first aider or Security (222) if they are not available.
- Seek medical assistance for large exposures which cover an area of skin greater than a 50p coin.

## Laser injuries

**For immediate ocular injury accidents** where there is an apparent eye injury:

- The casualty should be sat in an upright position, rather than laying down, to avoid debris settling on the retina.
- If the injuries are severe enough to induce shock in the casualty, then normal First Aid procedures for the treatment of shock override this consideration.

Any equipment and laser systems involved must be isolated pending a full investigation by the [Laser Safety Officer](#).

DO NOT CONTINUE WORKING with the system that caused the accident.

If there is an apparent or suspected injury to the eye, the injured person should see a specialist ophthalmologist as soon as possible, and definitely within 24 hours.

- The injured person should not drive and should be accompanied by a colleague. They should be transported in an ambulance if necessary.
- If an ophthalmologist is not available at the University College Hospital A&E, the injured person should be sent within 24 hours to Moorfields Eye Hospital where the medics are experienced in dealing with laser eye injuries.

Details of the laser beam should accompany the casualty to hospital. These should include type of laser system, classification, wavelength, power/energy per pulse and pulse duration. You should keep a copy of this information readily available in the laboratory in case of emergency.

An accident report must be filed with Safety Services. The Laser Safety Officer must also report any injury to [UCL Health & Wellbeing](#) to ensure follow up for the injured person.

**University College Hospital** Accident and Emergency Department Address: Grafton Way, London, NW1 2BU  
(within a short walking distance of the UCL Bloomsbury Campus)

**Moorfields Eye Hospital [Accident and Emergency Department](#)** (open 24 hours a day). Address: 162 City Road, London, EC1V 2PD

Nearest Underground Station: Old Street, Northern Line.

## Electrical shock

Where a serious electrical shock is suspected, act to break the contact between the casualty and the electrical supply.

- If it is possible to do so safely, you should turn off the source of electricity, by switching off the current at the mains, turning the power off at the circuit board etc.
- Alternatively, move the source of the shock away using an object of low conductivity. Stand on a dry insulating material, such as a book, newspapers or rubber matting and use a long, low-conductivity object to push the power source away from the casualty, or to free the casualty's limbs from contact with the source.

Immediately request assistance from Security (222) to call for the emergency services and the support of a first aider.

## [Purchase, Delivery or Production of Hazardous Equipment and Chemicals](#)

The following covers equipment being purchased in the department. For the purchase of any second hand equipment please fill in the departmental [Purchase of Second Hand Equipment Form](#).

## [Mains-powered electrical goods](#)

Mains powered electrical items brought on site must receive a Portable Appliance Test (PAT) before use. Contact the teaching lab technical team for assistance. New equipment found without valid PAT may be turned off and confiscated without notice.

Exceptions to this rule:

- Equipment brought temporarily on site by contractors or service engineers that will be used only by the contractors or service engineers.
- Equipment designed for outdoor use & regular transport must have an in-date PAT, however it does not need to be retested each time it is brought on-off site.
- Equipment transferred temporarily between departments/units of UCL must have a valid PAT. However, a retest is not required if an in-date PAT has been performed by the donating UCL department/unit.
- Minor mains powered items brought on site for short periods for personal use (e.g., phone chargers) may be used without a PAT, at the user's own risk. However, any items that will remain on site for an extended period (e.g., coffee machines) must have a valid PAT.

**All** mains powered items transferred on site should be checked for obvious damage to cables or plugs before turning on. Should any damage be found, it must be passed for repair and receive a PAT before being used again- this overrules any of the exceptions above.

PAT responsibility for equipment held in common by research collaborations across multiple UK institutions/companies should be agreed in writing. Should any such equipment be received without a

valid PAT, by default the responsibility will fall on EEE staff to arrange testing prior to use. Equipment received/returned from outside the UK must always receive a new PAT on arrival.

**IMPORTANT:** Any constructed mains powered equipment should also be tested and have a valid PAT before regular use. Note the construction and testing of such equipment must take place in laboratories only; any found in offices may be turned off and confiscated without notice.

#### Hazardous chemicals

No hazardous chemicals are to be purchased unless an authorised COSHH assessment (Control of substances hazardous to health) has been prepared for the proposed work involving those chemicals.

When received, chemicals must be kept in a secure laboratory environment, and unpacked and transferred to appropriate storage as soon as possible. They should not be left in their transport packaging. The storage or secondary container they are transferred into must have the appropriate hazard labelling. **They must never be kept in offices at any time.**

Staff and students who are planning new work using hazardous substances should discuss this with the Lab Safety Co-ordinator for the proposed work location before ordering any materials.

Care should be taken to also consider the chemical products of the proposed process, and ensure the hazards and controls associated with these new products have also been assessed. Products that are retained, including any small quantities retained as research samples, must be clearly labelled, and treated just like any other hazardous chemical in all respects. They must be stored appropriately: never in offices. Any hazardous materials found without a supporting COSHH assessment, without a clear owner, or stored inappropriately will be confiscated and immediately disposed of.

Certain chemicals are reportable under the Control of Poisons and Explosives Precursors Regulations 2015. Staff or students wishing to use these chemicals must discuss their use with the Chemical Safety Officer before purchasing or transferring to the department. Lab Safety Coordinators should check against [this list](#) for new work involving chemicals and refer to the Chemical Safety Officer as necessary. A number of chemicals are also monitored as drug precursors (see the table).

In these cases, usage of these materials must be always tracked and accounted for. Department usage of these materials is regularly audited by Safety Services.

Drug Precursor - Category 2 substances Acetic anhydride Drug Precursor - Category 3 substances Acetone\* Phenylacetic acid Ethyl ether Anthranilic acid Methyl ethyl ketone Piperidine Toluene\* Potassium permanganate Sulphuric acid\* Hydrochloric acid\* 2 3)

#### New Class 3 and 4 laser systems

All Class 3R, 3B and 4 lasers must be registered with the University Laser Protection Officer (ULPO) by completing the UCL laser registration form and added to the Department's Artificial Optical Radiation Inventory managed by the Department Laser Safety Officer (LSO).

Equipment on short term loan or brought by visitors needs to be registered at the earliest opportunity. It does not include equipment brought on site and used only by service engineers/contractors. The LSO must be

informed of any purchase or transfer of new class 3R, 3B and 4 lasers before the order has been placed or any equipment has been transferred. Replacing or updating existing laser equipment does not need pre-approval from the LSO unless the class of the laser changes.

An approved laser risk assessment and scheme of work document must be available for the work before any new laser is brought on site, and the proposed location must have a suitable laser management and training system in place prior to the laser being installed.

Remember if new laser work is planned- work either substantially different from existing work in a laser area or proposed in an area that is not currently a laser area- the LSO must be informed at the earliest stage. New Class 3 and 4 laser systems found on site without registration/prior notice will be considered under the disciplinary policy.

[Laser systems constructed on site.](#)

The controls above cover laser systems not laser components. For example, a laser diode component does not count as a laser system until it has been assembled in a set-up and wired to a suitable laser driver. Laser registration in such cases should take place at the planning stage for the assembled set up; it is not necessary to register all laser components at the purchase stage.

Like any other class 3 or 4 laser systems, any found assembled on site without registration will be considered under the disciplinary policy.

Contact the Department Laser Safety Officer (LSO) for further advice.

[Effective Class 1 enclosed laser systems](#)

Some equipment includes what would normally be class 3 and 4 laser systems, but they are incorporated into sealed or interlocked enclosures that are certified by the manufacturer as effective class 1, as the laser beam is never accessible to the user. These items do not need to be registered, however, if you wish to purchase or loan this type of equipment you must seek advice from the LSO at the earliest opportunity, as certain safety control measures and procedures will still be required.

[New X-ray equipment](#)

The purchase of any X-ray generating equipment must be approved by the University Radiation Protection Officer (RPO) before an order is raised. Colleagues planning such work must first discuss the research need with the Department Radiation Protection Supervisor (RPS), who will seek approval on their behalf with the RPO.

A radiation risk assessment and set of local rules must be signed off by the RPS before any purchase is made. Equipment purchased without permission will be refused delivery and returned to the supplier, with all costs falling on the purchasing account.

X-ray equipment found on site without permission will be considered under the disciplinary policy.

Constructing equipment for the express purpose of producing X-rays is strictly prohibited.

Any work that may produce incidental X-rays (very high voltages in vacuum equipment) should be referred to the RPS at the planning stages. 3

**Receiving or purchasing any sealed or unsealed ionising radiation sources is strictly prohibited**