



Health and Safety information for Undergraduate and Post-Graduate students

Index

Subject	Page
<i>Introduction</i>	4
<i>Principal Investigators (supervisors) and how they help you</i>	4
<i>Knowledge</i>	4
<i>Working hours</i>	4
<i>Health and Disabilities</i>	4
<i>Vaccinations and Health Clearance</i>	5
<i>Student Responsibilities</i>	7
<i>Local Rules</i>	9
<i>Risk Assessments</i>	9
<i>Some information on Specific Hazards</i>	10
<i>Computers</i>	10
<i>Laboratory Hazards</i>	10
Biological agents or human tissues – Health and Safety	10
Genetically Modified Organisms (GMOs)	11
Chemical agents	11
Radionuclides	11
<i>Some information on Specific Laboratory Equipment</i>	12
Laminar flow hoods	12
Fume hoods	12
Microbiological Safety Cabinets (MSCs)	12
Centrifuges	12
Autoclaves	13
<i>Waste Disposal Methods</i>	13
Biological Waste	13
Chemical Waste	14
Domestic Waste	14
<i>Working Environment</i>	14
<i>Emergency Situations</i>	15
<i>Actions on detecting a fire</i>	

<i>First Aid</i>	15
<i>Security</i>	15
<i>Unattended items</i>	15
<i>Personal threat</i>	15
Emergency Messages	15
Accident / Incident / Near Miss reporting	16
Student behaviour and Misconduct	17
Where to find help and further information	18

Introduction

St. George's University of London places a strong emphasis on keeping all the individuals who are on its premises safe and healthy. In order to do so, the university has produced a [health and safety policy](#) which states the university's commitment.

The following information has been produced to enable you to work and study safely while onsite at SGUL. If you are working off-site, you must follow the host organisation's local rules. If you are undertaking work in the community, you must follow the project rules / procedures set down by your supervisor.

The university has a comprehensive [website](#) where information on safety, health, environment and wellbeing can be found.

Principal Investigators (supervisors) and how they help you

You will need to see your Principal Investigator (PI this is the person in charge of the research being undertaken in the lab) or your supervisor, to undertake the local inductions and to discuss the project risk assessment and the project methods / standard operating procedures prior to starting work. It is their responsibility to take care of your health and safety. In the case of undergraduate students the person who will be teaching and helping you will be your tutor. Your tutor will very often be a lecturer / Principal Investigator.

Knowledge

You are not expected to know everything on your first day in the laboratory or while working on a non-lab project. It is important to be aware of what you know and equally what you don't know. If you are unclear about any of the work you are undertaking speak to your principal investigator / supervisor. They will help you 😊.

Working Hours

Students must only work in laboratories between 09.00 – 17.00 and when another member of the laboratory is present.

Postgraduate students can work unsupervised in a laboratory outside the normal working hours only after they have been deemed fully competent by their supervisors, who will then approve the changes to their access times.

If a particular experiment requires that post-graduate students work out of hours they must seek the prior approval from their Principal Investigator and read the guidance [on Lone and out of hours working](#).

Health and Disabilities

SGUL has a duty to make reasonable adjustments for individuals who are at SGUL either as students or as staff. In order for such adjustments to be made, individuals need to disclose the type of disability they have.

Disability can take various forms and can be both visible and hidden. These disabilities can vary

and include but are not limited to visual impairments, restricted mobility, diabetes, epilepsy, sickle cell anaemia, depression, dyslexia or dyspraxia. The Equality Act 2010 states that a disability is defined as:-

‘A physical or mental impairment that has a ‘substantial’ and ‘long-term’ negative effect on your ability to do normal daily activities’

‘Substantial’ is more than minor or trivial, e.g. it takes much longer than it usually would to complete a daily task like getting dressed

‘long-term’ means 12 months or more, e.g. a breathing condition that develops as a result of a lung infection

A Reasonable Adjustment can be made to ensure that someone with a disability is not disadvantaged in fulfilling their job. This can include:

- changing the recruitment process so a candidate can be considered for a job
- doing things another way, such as allowing someone with social anxiety disorder to have their own desk instead of hot-desking
- A reasonable adjustment can be made to ensure that someone with a disability is not disadvantaged within their learning environment. This can include:
 - Supplying teaching materials in an accessible format.
 - Giving more time on tests to students that have learning disabilities and giving students with Specific Learning Difficulties access to specialist learning support

In all cases where an individual feels that their work or studies could be affected by their disability it is advisable for the condition to be declared as early as possible in confidence to your line manager or a member of the registry, the Disability Advisor, the SHE office or Occupational Health.

Vaccinations and Health Clearance

Certain projects e.g. handling of blood or working with certain biological agents may require that individuals are either vaccinated or obtain medical clearance from the Occupational Health Unit of St. George’s University Hospital NHS Foundation Trust. Course Directors and programme administrators can refer students to Occupational Health for clearance checks and immunisations.

For some projects it may be necessary for an individual to declare their health status in confidence to their Line Manager / Principal Investigator. This is to enable suitable control measures to be put in place to enable an individual to work safely.

A pregnancy risk assessment is available for use as part of the Student Pregnancy and Maternity Procedure. Students who are planning to start a family or find they are pregnant should consult with the Safety Health and Environment office who may then consult

Occupational Health on their behalf if they propose to work with teratogenic agents, e.g. rubella, cytomegalovirus, *Toxoplasma gondii* or with teratogenic or other hazardous chemicals.

Student Responsibilities

Each student has the following responsibilities



1. Taking care of your own health and safety
To take care of your own health and safety, to read and sign the relevant general and laboratory risk assessment or field work assessment. You must take care of other people who could be affected by your actions or in-actions e.g. not using volatile chemicals on an open bench or leaving unsheathed sharps on a bench.
2. Communicating with your supervisor
You must inform your line manager or project leader / Principal Investigator of problems that could affect your or other people's health and safety e.g. equipment failures such as the failure of a fume hood or microbiological safety cabinet.
3. Laboratory behaviour regarding food and drink
You must never take food and drink into any of the laboratories.
- 4a. Co-operation with teaching staff
You must co-operate with all the teaching staff so that you and others can work in safety. You must follow their instructions.
- 4b . Co-operation with research staff
You must co-operate with your Supervisor / Principal Investigator and other laboratory staff so that you and others can work in safety. This includes reading and abiding by the project risk assessment e.g. if the assessment requires you to wear eye protection you must do so.

5. Understanding the project

You must read and understand the project risk assessment prior to starting any work. Your supervisor must discuss the risk assessment with you. Please ensure that you sign it to confirm you have read and understood it.

When working on a project, it is important that you follow all the procedures that you have been directed to use. This is important not only for your own safety, but for the safety of others e.g.

- Failing to remove gloves prior to opening doors
- Failure to wipe up spills and causing trips
- Failing to label bottles and beakers
- Failure to dispose of chemicals in the correct bottles
- Leaving items in fume hoods
- Leaving items in Microbiological Safety Cabinets
- Failure to prepare samples for a clinical study as described in the project protocol.

6. Using personal protective equipment

You must use items provided for your health and safety in line with your training and the risk assessments associated with a particular method.

7. Dress Appropriately

You must wear the required personal protective equipment as specified by the project risk assessment / standard operating procedures at all times

If you have long hair, this must be tied back to avoid it dipping / falling into laboratory chemicals, bacterial broth or other liquids or powders

You must wear closed toe shoes / boots at all times. Open sandals, flip flops, etc are not suitable footwear.

8. Gloves

Laboratory Gloves must only be worn in laboratories not in the corridors, as specified by the project risk assessment / standard operating procedures and Local Rules.

9. Using Laboratory Equipment

Follow the instructions and your training for any equipment that you need to use e.g. centrifuges, balances, microtomes, local exhaust ventilation systems such as fume hoods and microbiological safety cabinets.

10. Personal Electronic items

Personal electronic items must not be used in laboratories unless this has been discussed with the line manager. Headphones and mobile phones must not be used.

11. Waste

Waste must be disposed of as specified by the project risk assessment standard operating procedures. Information can be obtained via your project supervisor, the Waste Disposal course and from the [waste disposal guidance](#).

Local Rules

Local rules or Codes of Practice will have been produced by the Principal Investigator that is responsible for the laboratory in which you are working. These will detail the equipment available, the activities that can take place, and the correct routes for waste disposal.

Risk Assessments

All laboratory based activities must have a written risk assessment. The risk assessments may be for Control of Substances Hazardous to Health (COSHH) which covers chemicals, microbes, asphyxiant gases, nanotechnology, etc.

Risk Assessments may also have been produced for equipment that you are working with, the use of radionuclides and some other activities such travel abroad or undertaking interviews in people's dwellings.

The project risk assessments are there to help protect you while working. You must follow the information on how to protect yourself that is given in the risk assessment e.g. if safety goggles are required you must wear them or if chemicals need to be used in a fume cabinet this must be done.

Individuals who are undertaking field studies or working aboard must read the appropriate project or travel risk assessment and make suitable arrangements with their supervisor and / or host institution.

You must read and discuss the project risk assessment with your supervisor / Principal investigator prior to starting work and sign to say that this has been done and you have understood it

Some Information on Specific Hazards

This is a very brief introduction to some of the hazards you may face.

Computers



It is important that you take a break when using computers for data processing or when typing up your thesis. It is very tempting to use computers, laptops, smart phones, etc. without having a break and in the worst case this can lead to Repetitive Strain Injury (RSI) which can affect the hands and forearms. For more information on using your computer visit the Health and Safety link on [computer](#) usage

Laboratory Hazards

Biological agents or human tissues – Health and Safety

The biological agents used within SGUL range from blood obtained from healthy human controls to Mycobacterium tuberculosis. You must discuss the standard operating procedures / methods with your Principal Investigator or supervisor before starting work.

The precautions discussed must be followed.

Biological agents must be disposed of as described in the project procedure. Infectious agents must be killed before they leave the lab. This can be done either by heating to 134 °C (autoclaving) or treating the agent with a suitable concentration of disinfectant such as bleach or Virkon.

Further information is available in the SHE [Working with Biohazard Group 2 organisms](#)

guidance note.

Genetically Modified Organisms (GMOs)

These range from *E. coli* used to express plasmids to lentiviruses or adenoviruses that have been used in projects.

You must discuss the project risk assessment with your supervisor / PI. All waste from a project involving GMOs should be placed in a yellow bag for incineration. Alternatively the waste may be autoclaved at 134 °C or treated with bleach / Virkon to ensure that the organism is killed.

Chemical agents

Chemical agents used vary from ethanol to Virkon (which is used as a disinfectant) to DiMethylFormamide (DMF). The chemicals that are used in a particular project will be listed in the project risk assessment along with the actions needed to keep you safe.

Lab coats must be worn at all times as should the appropriate gloves. The gloves may be standard nitrile or, for strong mineral acids or other chemicals, special chemically resistant gloves. It is important to choose gloves that are suitable for the procedure as gloves vary in their resistance to chemicals; some gloves are tested for splash resistance while others enable hands to be immersed in chemicals.

If eye protection is necessary either safety specs or goggles must be worn.

Radionuclides

All new users of radioactive materials must:

1. Register with the campus Radiation Protection Officer (RPO), new forms are available from your Radiation Protection Supervisor.
2. Undertake a training course in how to use radionuclides safely. This can be arranged via the RPS or the SHE Office.
3. Read the project risk assessment and the project method before starting work and ensure that you understand what experimental procedures are involved.

Further information can be obtained from the SGUL [RPO](#) and is available on the SHE [Radiation](#) webpage.

Some information on Specific Laboratory Equipment

This is a very brief introduction to some of the equipment you may use. You should talk to your supervisor before attempting to use any of the equipment.

Laminar flow hoods

These are designed to protect the sample not the operator and must never be used with pathogenic micro-organisms. Further information is available in the guidance on [Microbiological Safety Cabinets and Laminar flow hoods](#).

Fume Hoods

Fume hoods are designed to remove volatile chemicals from the working atmosphere. It is always good practice to keep the fume hood as empty as possible to allow yourself maximum working space.

Microbiological Safety Cabinets

There are three types of [Microbiological Safety cabinets](#), Class 1, Class 2 and Class 3. The cabinets are designed to protect you from microbiological agents. It is always good practice to keep the safety cabinet as empty as possible to allow yourself maximum working space and to prevent the airflow being disturbed. This is particularly important when using class 2 microbiological safety cabinets where some of the airflow is recycled via a HEPA (High Efficiency Particulate Air) filter.



The individual in the above photo is using a class 2 microbiological safety cabinet. Further information is available in the guidance on [Microbiological Safety Cabinet and Laminar flow hoods](#)

Centrifuges

The university has centrifuges of several sizes ranging from small bench top microfuges to large ultra-centrifuges that are capable of subjecting samples to tens of thousands of gravities normally referred to as "g". You must get either your PI, a member of lab staff such as a lab manager or a member of the core facilities team to show you how to use the centrifuge. Further information is available on the SHE [Centrifugation](#) webpage.

Autoclaves

These are designed to either sterilise samples at 121 °C or destroy microbiological agents or genetically modified agents at 134 °C. Autoclaves range in size from bench-top models to large floor-standing machines. You must ask your supervisor or a senior member of the laboratory staff to show you how to use the machine.

Waste Disposal Methods

This is a very brief introduction to some of the [waste](#) you may deal with. If you are uncertain what type of waste you have (or what it will become after treatment) then please discuss this further when discussing your risk assessment and before starting work. If in doubt ask your supervisor, a member of the core facilities staff or a member of the SHE office.

Biological Waste

Clinical Waste containing chemicals

Yellow bags or Yellow sharps boxes

Yellow bags are used to dispose of infectious materials that require incineration for total destruction. Some waste such as gel electrophoresis involving Sybr Safe or other DNA / RNA intercalating agents must be disposed of in yellow bags or Yellow sharps boxes.

Clinical Waste not containing chemicals

Orange bags

Orange bags are used to dispose of infectious materials that have not come into contact with chemicals.

Cytotoxic and Cytostatic Waste

Purple and yellow striped bags or Purple lidded sharps boxes

[Cytotoxic / cytostatic chemicals or drugs](#) are primarily used to kill tumour cells and have a particular designation and are different from toxic chemicals.

NB. Some toxic chemicals can be regarded as cytotoxic (Arsenic) but would not be given to people as part of a treatment plan so they would not be included in this waste stream and

would be disposed of as chemical waste.

If you are uncertain what type of waste you have (or what it will become after treatment) then please discuss this further when discussing your risk assessment and before starting work.

Offensive waste

Black and yellow (Tiger striped) bags

This is non-infectious waste such as plasters, nappies and certain types of swabs. Waste that has been autoclaved can also be disposed of as offensive waste.

Chemical waste

Chemicals that are not cytotoxic / cytostatic and are not part of ELISA reactions, tissue culture media or electrophoresis gels should be disposed via the SHE office. You will need to complete a chemical waste disposal spreadsheet available at this [link](#). If you have any doubt about the type of chemical, contact the SHE office for help.

Domestic Waste

Clear bags

This is the same as the waste generated at home. If possible such waste should be separated into recycling and general waste.

Further information can be obtained via the [Waste](#) webpage. The SHE office runs monthly courses on waste disposal.

Working Environment

Whether you are based in an office or in a laboratory, it is important to maintain a tidy working environment. This will help you to access the information or equipment you need to use.

It is important that you maintain a good posture as you could also be using computer equipment outside of the university environment and prolonged poor posture could lead to repetitive strain injury.

If you are working at a lab bench, it is important to position your chair so that you can sit comfortably for a reasonable length of time. If you are working at a Microbiological safety cabinet, it is important that you are positioned high enough to look into the cabinet and that your head is not in the path of the incoming air.

Emergency Situations

Fire Alarm

If the fire alarm sounds you must immediately evacuate using the nearest exit. If possible turn off heat generating equipment on the way out of the laboratory but do not delay. Go to your assembly point.

Actions on detecting a fire

If you detect a fire you must leave the area immediately, telling others in the vicinity that a fire has occurred. You should activate the nearest red fire call point while evacuating the building via the nearest fire exit and go to your assembly point. Security can be called on extn 0909.

Do not re-enter the building until informed by a fire marshal that it is safe to do so.

First Aid

A first aider can be called to attend an accident by contacting Security on extn 0909 giving the location of the accident or event. The Accident and Emergency unit is located in St. James Wing of St. George's University Hospitals NHS Foundation Trust.

Security

Security staff can be contacted on extension 0909. The security control office is next to the Hunter Wing reception desk. It is advisable that students wear their security badge at all times.

Unattended Items

If you see unattended items and cannot find out who they belong to, contact Security on extn 0909 and report the item stating its location. Do not inspect the item.

Personal Threat

The university requires that individuals use their swipe cards to access certain corridors and rooms within Hunter and Jenner Wing. Please follow this requirement and do not let people tailgate you. If you feel threatened at any time, do not confront the individual and try to retreat to a place where there are other people. If possible contact security on extn 0909.

Information on staying safe in the event of an attack can viewed at this link

<https://www.gov.uk/government/publications/stay-safe-film>

Emergency Messages

The emergency message line is 0800 917 4415. Messages may be displayed via computers depending on the situation

Accident / Incident / Near Miss reporting

Accidents or near-misses should be reported as soon as possible using the [online](#) reporting system.

Accidents or near-misses can be reported to the SHE office by calling extension 5166, 5365 or 0637.

Student Behaviour and Misconduct

Misconduct is defined as improper interference, in the broadest sense, with the proper functioning or activities of St George's, associated hospitals, or any other place to which a student is attached, or with those who work or study in them, or participating in any action which damages St George's.

Misconduct will include the following where related to laboratory behaviour:

1. disruption of, or improper interference with, the academic or administrative activities of St George's, whether on St George's premises or elsewhere;
2. obstruction of, or improper interference with, the functions, duties or activities of any student, member of staff or other employee of St George's, or of any hospital or other place to which a student is attached, or any authorised visitor or patient
3. action likely to cause injury or impair safety on St George's or hospital premises
4. breach of the provisions of St George's IT Conditions of Use Policy or of any other Code or St George's rule or regulation
5. behaviour which brings or is likely to bring St George's into disrepute
6. failure to disclose name and other relevant details to an officer or employee of St George's or an associated hospital or other place to which a student is attached in circumstances when it is reasonable to require that such information be given
7. behaviour that could otherwise affect the health and safety of students and staff within St. George's or hospital premises.

Penalties that will be applied to Undergraduate students

Should undergraduate students engage in behaviour that is viewed as misconduct during teaching laboratory sessions or while working in the research laboratories, they will be barred from attending the next laboratory session. The reason for the student being barred from attending the session will be noted on their record. Serious misconduct may be dealt with under the SGUL student misconduct procedures.

Penalties that will be applied to Post-graduate students

Should post-graduate students engage in behaviour that is viewed as misconduct during laboratory sessions, they will be barred from working in the laboratory for a period deemed appropriate by their tutor. The reason for the student being barred from working in the laboratory will be noted on their record. Serious misconduct may be dealt with under the SGUL student misconduct procedures.

Where to find help and further information

Safety, Health, Environment and Wellbeing [webpages](#)

Safety, Health, Environment and Wellbeing [A – Z webpages](#)

Laboratory Managers

Senior Lab Manager	Penny Lympny	1603
Lab Manager	Ian Connoley	5400
Lab Manager IMBE	Lynn Plowright	2701

Safety Health and Environment (SHE) Office contacts

SHE Manager	Anne Harris	5166
SHE Advisor	Colin Sandiford	0637

Student Centre

Disability Advisor	Emma Catlow	0143
Assistant Registrar Student Services	Gavin Taylor	6355

Laboratory Specialists

Acting Radiation Protection Officer	Colin Sandiford	0637
Biological Safety Officer (GM)	Ariel Poliandri	5791
Biological Safety Officer (non-GM)	Colin Sandiford	0637

