

Laboratory safety

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Laboratory safety

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IMPORTANT NOTES TO STUDENTS

Postgraduate Students engaged in laboratory works need to comprehend a broad range of safety related concepts. It is absolutely important for them to be familiar with safe working and basic emergency procedures while conducting laboratory activities that carry safety risks.

The courses offered are to ensure as much as reasonably practicable that students have, and contribute to a safe working environment. Further aim of the courses is to encourage students to be safety conscious so that the opportunity of accident and the severity should one happen can be minimized. The University and students have legal and moral duties to abide by safety rules, and offenders have to face grave consequences, including suspension of research activities, body injuries or even prosecutions by the authority.

Safety Courses and Examinations

Students who have been advised by their supervisors or departments to take safety courses (excluding the Animal Experimentation at CUHK) are required to **attend the course(s) and pass the corresponding examination(s) in their first year of study, starting from 2022-23 intake onwards.** Courses are offering via face-to-face or online in different dates for selection. Each examination is 45-minute in length, and students can select courses and examination dates that best suit their schedules.

The course and examination schedule is listed [here](#).

Applying for Exemptions

Students may apply for exemptions from certain safety courses and examinations by writing to the Director of University Safety. For example, it is not normally required for a chemist to attend and pass the biological safety or a robotics student to attend and pass in chemical safety. A reasonable approach will be taken in considering all exemption applications.

Summer safety training courses for undergraduate students are simplified versions of the proper safety courses to prepare students for their final year projects. These summer trainings are not eligible qualifications to apply for exemption from safety examination for postgraduate student.

Further Information

The CUHK safety policy, lab safety manual and training material are available in USO website : <https://useo.cuhk.edu.hk>.

Students are advised to consult their supervisors or departments (or the University Safety Office) to check if they need to take certain safety course.

General Safety

Designed for

ALL research students doing laboratory, studio, workshop work.

It is **COMPULSORY** for the students who have been advised by their supervisors or departments to take General Safety, **to attend both Part A & B and pass the examination in their FIRST YEAR of STUDY¹**.

Objectives

- to assist students in understanding the CUHK laboratory safety policies, guidelines and emergency procedures
- to promote laboratory safety concepts to students and to encourage them to incorporate safety considerations in their laboratory works

Structure

Part A: 1.5-hour illustrated presentation

Part B: 1.5-hour illustrated presentation

Medium of Instruction: English

Brief Description

Part A: Foundations of Laboratory Safety

- Overview of Safety Legislation & Institutional Policies: Introduction to Hong Kong's occupational safety regulations and The Chinese University of Hong Kong (CUHK)'s safety policies.
- Emergency Preparedness & Fire Safety: Key principles of fire safety, laboratory security protocols, and emergency response procedures.
- Risk Management: Systematic approaches to hazard identification, risk assessment, and implementation of control measures.
- Safety Information & Resources: Accessing and interpreting Safety Data Sheets (SDS) and other critical safety references.

Part B: Laboratory Safety Practices

- Core Laboratory Safety Principles: Essential guidelines for maintaining a safe laboratory environment.
- Personal Protective Equipment (PPE): Proper selection, use, and maintenance of PPE to mitigate workplace hazards.
- Pressure Hazard Management: Safe handling and control measures for pressurized systems and equipment.
- Equipment & Material Safety: Best practices for electrical safety, proper use of laboratory apparatus, and safe glassware handling.

Remark:

- 1) Read notes on p.2

Ionizing Radiation

Designed for

ALL ionizing radiation users.

It is **COMPULSORY** for the students who have been advised by their supervisors or departments to take Ionizing Radiation, **to attend corresponding session and pass the examination in their FIRST YEAR of STUDY**¹.

Students who use **unsealed radioactive sources**, e.g., Uranyl compounds for electronic microscope, H3, C14, S35, P32, P33, Fe55, I125, should take **Part A-I and Part B**; students who use **sealed radioactive sources and x-ray machines** should take **Part A-II and Part B**.

Objectives

At the end of the session, the participant should be able to:

- know the safety procedures on using ionizing radiation (radioactive substances)
- understand the legal requirements in working with ionizing radiation
- know the safety procedures on using X-ray machines (*Part A-II only*)

Structure	Part A (I or II)	1.5-hour illustrated presentation
	Part B	1.5-hour illustrated presentation

Medium of Instruction	English
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Brief Description

Part A-I Unsealed Sources

- What is ionizing radiation and its hazards
- Units in radiation
- Principle and methods of protection
- Safety rules and University rules
- Techniques in handling unsealed sources (video)
- Rules on purchasing, using and transportation of radioactive sources
- Decontamination methods
- Waste disposal rules

Part A-II Sealed Sources & X-Ray

- What is ionizing radiation and its hazards
- Units in radiation
- Principle and methods of protection
- Safety rules and University rules
- Rules on purchasing, using and transportation of radioactive sources

Part B

- Introduction to radiation monitoring
- Using portable radiation monitors
 - Monitors for radiation level and contamination
 - Interpretation of readings
 - Calibration
- Personal radiation monitoring device (TLD)
 - Introduction
 - Interpretation of readings
- Wipe test

Remark:

- 1) Read notes on p.2

LASER Safety

Designed for

Experimentalists using of lasers and equipment with lasers.

It is **COMPULSORY** for the students who have been advised by their supervisors or departments to take LASER Safety, **to attend corresponding session and pass the examination in their FIRST YEAR of STUDY**¹.

Objective

- to introduce the hazards of lasers and the means of controlling the hazards.

Structure 1.5-hour lecture

Medium of Instruction English

Brief Description

- The classification of lasers
- The potential hazards associated with lasers
- Means for controlling the hazards
- Administrative aspects of the campus laser safety program

Remark:

- 1) Read notes on p.2

