Undergraduates Working with Ionising Radiation in the Teaching Laboratories

Before you begin to start any work that involves sources of Ionising Radiation (IR), you must have a suitable awareness of the hazards, risks and the methodology that are used to minimise the risk that the IR poses both to your personal health and safety and the health and safety of others. You need to be trained in both the best practice to be adopted when dealing with the sources of IR that you may be using as part of your work and in the estimation of the radiation dose that you might receive during the course of your work.

This check-list identifies the steps that you need to take before you are allowed to work with sources of ionising radiation:

☐ Has an ionising radiation risk assessment been made of the work that you are to do?

Having a risk assessment of your work with IR is essential: **without a risk assessment (RA) you will not be able to start your work.** The person supervising your work should be able to tell you whether or not an IR RA exists. If there is no IR RA then you will need to contact the Department of Physics Radiation Protection Supervisors,

Mr. Michael Armstrong (michael.armstrong@durham.ac.uk)

Mr. David Pattinson (david.pattinson@durham.ac.uk)

who will be able to help in risk assessing your work.

☐ Have you completed the University's online courses relating to ionising radiation?

The University provides two online training courses that relate to working ionising radiation:

HS: Ionising Radiation (A Background) and ***HS: Ionising Radiation (Risk Control)***.

These courses provide you with a basic introduction to working with ionising radiation and, once completed, you will possess the knowledge that you will need to understand the risks to your health posed by IR and the steps that may be taken to minimise those risks. You may find the courses using the University's H&S Service SharePoint link: https://durhamuniversity.sharepoint.com/teams/HealthandSafetyHub/SitePages/Trai.aspx.

Once you have completed the courses you should upload your certificates of completion onto the Microsoft Team associated with your laboratory work.

☐ Have you completed the practical training session related to working with sealed radioactive sources?

The Department of Physics has a number of sealed sources that may be used for teaching purposes. Before using these sources you must first attend a training session that describes:

- How to estimate and minimise radiation dose
- The sources of ionising radiation that are available.
- The protocol of accessing these sources.
- How the sources should be handled.
- Monitoring ionising radiation when a source is within your experiment.

Contact Dr. Ian Terry (ian.terry@durham.ac.uk) to arrange a group training session.

☐ Have you read through, understood, and signed the ionising radiation risk assessment associated with your work?

This is most important aspect of preparing to work with IR. Your training should help you to understand the IR risk assessment, but if there is anything that is unclear to you, please ask for assistance from either your supervisor or from one of the Radiation Protection Supervisors. Note that, once you have completed this task, it is mandatory that you follow the risk minimisation procedures stated in the IR RA.

☐ Have you produced a safe system of work that you will adopt when using ionising radiation sources?

This is the final stage in your preparation for working with sources of IR. The Safe System of Work (SSW) will describe your approach to setting up your experiment to further reduce the impact of IR on your health and safety, beyond the measures stated in the IR RA. Your SSW should include:

- A description of the experimental set-up that you will adopt to house the source of IR whilst making your measurements.
- An estimation of the dose that you may receive whilst sitting at your experiment.
- A statement of the of the procedures to be adopted with the IR source when making adjustments to your experimental set-up.
- A statement of time management to be adopted to minimise your exposure to IR.

Your laboratory supervisor should be able to provide you with advice on completing the SSW.

Please sign and date this checklist and upload it to your Team channel for approval by your supervisor.

Student Name	**Signature**	**Date**
Supervisor Name	**Signature**	**Date**