



Training Programmes

Introduction

The University, as a “radiation employer”, is required under the provisions of IRR99 to provide all employees and students who are engaged in work with ionising radiation with such information, instruction and training as is necessary to enable them to conduct their work in accordance with the Regulations and in a safe and competent manner. Such individuals must not embark on unsupervised work involving the use of ionising radiation until their Project Supervisor and RPS are satisfied that they have acquired a sufficient level of theoretical knowledge and practical competence.

In addition to the requirements of IRR99, the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999 also place duties on employers and others to ensure the health and safety of employees in the workplace. These duties include a specific requirement for the provision of instruction and training to an appropriate level.

Information, Instruction and Training

Information: All University employees who work with sources of ionising radiation are required to attend a Radiation Safety Awareness course, as soon as practicable after commencing employment. Individuals are not permitted to work in an unsupervised capacity until they have attended this course and fulfilled certain additional requirements, as described below. In certain circumstances, recent, documented attendance at an equivalent course held elsewhere may be acceptable, at the discretion of the Head of Radiation Safety.

The Radiation Safety Awareness course is organised by the Head of Radiation Safety and staff of the Radiation Safety Unit. The course provides participants with necessary information on the properties of radioactive materials, the methods of detection of ionising radiation, the associated hazards, and how they may be safely overcome. Details and dates of this course are given on the Radiation Safety Unit homepage.

The course in Radiation Safety Awareness is an essential part of the provision of information to intending radiation workers, and serves as a prelude to the laboratory instruction and training stages relating to the acquisition, handling and disposal of radioactive materials. After attending the Radiation Safety Awareness course, participants must complete an Assessment Exercise. On satisfactory completion of the exercise, a Certificate is awarded.

Instruction and Training: After participation in the above course, intending radiation workers are required to undergo a short period of laboratory instruction and training under the supervision of an individual who is already proficient in the techniques that they will be using. The RPS and the Project Supervisor (or Principal Investigator) will arrange instruction and training in specific handling and manipulation procedures, as appropriate to the intended work and the needs of individual radiation workers. Project Supervisors must therefore liaise with the RPS to ensure that sufficient and appropriate training has been received by each new radiation worker before their (unsupervised) work with ionising radiation commences.

The level and duration of instruction and training required for an intending radiation worker will be dependent on the amount of relevant previous experience, and the nature of the work to be undertaken. It is a role of the RPS to ensure that all staff and students in their area are adequately trained to carry out radiation work safely. At the RPS's discretion, this may involve periodic "refresher" training by means of, for example, a short update session (see below). A written record of all such formal training should be kept within the School, in respect of each individual, and the Radiation Safety Unit will maintain a central record of the training received by and registration status of all radiation workers.

Registration of Radiation Workers: After receiving adequate and appropriate instruction and training, intending radiation workers should be in a position to complete the [Worker Registration \(RW1\) Form](#), have it countersigned by their Project Supervisor and RPS, and submit it to the University Radiation Safety Unit.

Submission of a completed RW1 form confirms that an individual is (i) deemed to be competent to work safely with the specified sources and techniques, and (ii) familiar with the requirements of the Local Rules pertinent to their work areas. Written records of informal, ongoing training, associated with particular procedures or items of equipment, should also be kept within the School.

Any person who is an employee of another establishment and who intends to work with ionising radiation on the premises of the University must also be registered with the Radiation Safety Unit prior to the commencement of such work. A register of currently registered Radiation Workers is maintained by the Radiation Safety Unit.

Form RW1 also requires intending Radiation Workers to **sign a declaration** confirming that they: have read the appropriate set of Local Rules, and agree to act in accordance with them.

Form RW2 must be completed by the RPS when a registered Radiation Worker leaves the School.

The required instruction and training for new Radiation Workers may be summarised as follows:

- The **University Head of Radiation Safety** will provide formal training in Radiation Safety, which will cover: (i) the nature, properties and biological actions of ionising radiation and (ii) the legislation covering the use of radioactive materials. New Radiation Workers must attend the first available course unless they have been specifically exempted by the University Head of Radiation Safety.
- **Radiation Workers** must familiarise themselves with all Local Rules, Systems of Work and Risk Assessments which apply to work that they will be involved with and any other work that may be conducted in their immediate vicinity.
- **University Schools** must provide training and supervision as appropriate to the needs of individual Radiation Workers, to ensure that the worker is able to work safely with radioactivity. The RPS and Project Supervisor(s) must be involved in such provision.

Refresher Training sessions: Principal Investigators and others undertaking daily supervision of radiation workers must have attended a Refresher Training session within the previous 5 years. The University Head of Radiation Safety provides RPSs with a generic presentation on the legislative aspects of radiation safety, together with current University procedures and perceived “best practice” in the handling of specific radionuclides. Presentations are delivered within individual Schools and Faculties by the relevant RPS, with implicit support from both Heads of School and the Radiation Safety Unit. The RPS will maintain a record of all individuals in their area who have undertaken a refresher training session, as such information may be required by both the University Health and Safety Committee and The Health and Safety Executive.

Classified and non-classified Radiation Workers: The University is required to designate as a “Classified Radiation Worker” any employee who is likely to receive a dose of ionising radiation which exceeds three-tenths of the relevant dose limit. No employee under the age of 18 may be designated as a Classified Radiation Worker.

In the event that any University Radiation Worker needs to be “classified”, their RPS should ensure that the RPO, and the HSE-appointed medical practitioner are informed of the reasons.

Medical Surveillance of Classified Radiation Workers: Any employee of the University who needs to be designated as a Classified Radiation Worker must, in compliance with IRR99, undergo a medical examination, and be certified as fit, both before commencing work and annually thereafter. Medical surveillance will be provided by the Appointed Doctor, who will maintain a confidential health record for each Classified individual. This record will be kept for monitoring effects of radiation only. Confidential clinical information is not appropriate to the health record required by IRR99. Any medical problems suspected to arise from the use of ionising radiations should be referred to the University Occupational Health Service. A further medical will be required on ceasing work with ionising radiations or on leaving the University.

When a Classified Worker changes employment, the pre-employment medical examination need not be carried out if the person has been previously certified as fit within the last 12 months and their previous certification is made available for their new health record. The University is required to retain the health record of each Classified Worker for fifty years from the date of the last entry.

Non-Classified Workers: Employees who, as a result of their work activities, are not likely to receive a dose of ionising radiation which exceeds three-tenths of the relevant dose limit, but may receive a dose exceeding one-tenth, will be registered by the University as Non-Classified Radiation Workers. Most Radiation workers registered in the University, including all those under the age of 18, will be in this category.

Female Employees: Dose limits for the abdomen of women of reproductive capacity are more restrictive than those for other Radiation Workers, and are intended to protect the foetus which, at certain stages of development, is particularly sensitive to ionising radiations. Radiation Workers who become pregnant must inform their employer in writing as soon as possible so that advice may be given and, where necessary, steps taken to ensure that working conditions are such that it is possible to comply with the special dose limits recommended for the duration of the pregnancy. In most cases there should be no need to restrict work with radioactive materials as the doses received are unlikely to approach the permitted limit, but occasionally it may be considered prudent for a pregnant worker to curtail a particular aspect of her work e.g. peptide iodination.

Training for Ancillary Staff

Heads of Schools must ensure that ancillary staff, such as cleaners, porters, secretarial and maintenance staff, who are likely to work in the proximity of areas in which sources of ionising radiation are stored or handled, are instructed to recognise radiation warning signs and are made aware of any precautions that may be necessary. Most packages of radioactive substances delivered to the University which are likely to be encountered by ancillary staff are either “excepted” or “Type A” packages which contain a limited level of activity and have been designed to ensure that a radiation hazard should not arise in the event of an accident situation. It is the responsibility of School managers and the area RPS to monitor the work with radiation in their Schools to ensure that the information, instruction and training received by all individuals are reinforced by safe practice.

RPS Workshop

An informal workshop for RPSs is generally held on an annual basis, usually in July or August. The primary aim of this course will be to advise RPSs of any new or forthcoming changes in legislation which may affect their activities, and also to stimulate discussion and debate of matters affecting the management of radiation safety within the University. RPSs must attend this workshop at least once every three years, and newly-appointed RPSs must attend the first available workshop following their appointment.



RSU use only

Radiation Safety Unit

Registration of Radiation Worker

This form **MUST** be completed, signed and returned to the Radiation Safety Unit, 7th floor, Williamson Building, **BEFORE** unsupervised work with radioactive substances commences.

1. Details of Radiation Worker

Surname:	Forename:	Title:
School:	Telephone:	E-mail:

University Position:

Academic Staff	<input type="checkbox"/>	Research Student	<input type="checkbox"/>	Technical Staff	<input type="checkbox"/>
Research Associate	<input type="checkbox"/>	Other (please specify)	<input type="checkbox"/>	<input type="text"/>	

Work involves the use of:

Unsealed sources	<input type="checkbox"/>	Sealed sources	<input type="checkbox"/>	X-ray equipment	<input type="checkbox"/>
please specify	<input type="text"/>	please specify	<input type="text"/>		

2. Declaration by Radiation Worker: I have read and undertake to work in accordance with LOCAL RULES and any relevant SYSTEMS OF WORK governing the use of Ionising Radiations and Radioactive Substances

Signature:

continued over....

3. Declaration by Project Supervisor/Principal Investigator: I confirm that the individual named above has received (* *please complete as appropriate to the form of sources in use*):

*** (i) sufficient and appropriate training and supervision in the safe handling of unsealed radioactive materials to commence work with ionising radiation.**

Please tick to confirm that the applicant is competent in each of the following:

- Opening and dispensing of radiochemicals ☐
- Storage of radiochemicals ☐
- Contamination monitoring, decontamination procedures, and completion of records ☐
- Selection and use of appropriate Personal Protective Equipment ☐
- Selection and use of appropriate shielding and engineering controls ☐
- Completion of isotope stock records ☐
- Disposal of aqueous radioactive waste and completion of records ☐
- Disposal of low level solid radioactive waste and completion of records ☐
- Participation in a Risk Assessment exercise ☐

or *** (ii) sufficient and appropriate training and supervision in the hazards associated with handling sealed source and/or X-ray equipment to commence work with ionising radiation.**

Please tick to confirm that the applicant is competent in each of the following:

- Storage of sources and completion of storage records ☐
- Selection and use of appropriate shielding and engineering controls ☐
- Completion of source movement records ☐
- Participation in a Risk Assessment exercise ☐

In addition to satisfying the above requirements, individuals wishing to register as University radiation workers should be deemed to be competent in any additional procedures in isotope manipulation and handling that are specific to their individual work practices. Assessment of such competence may be undertaken by their Project Supervisor or other member of Academic Staff, but *only* if that individual is him/herself a Registered Radiation Worker. In any event, the RPS must countersign this Form prior to sending it to the University RPO.

I confirm that has demonstrated competence in additional procedures in isotope manipulation and handling that are specific to their individual project.

Signature of Project Supervisor:

Name (PRINT)

Signature of the area RPS:

Name (PRINT)

Date

RPA Declaration: I certify that that the person named above as a Radiation Worker has attended a course on Radiation Safety Awareness organised by the University of Manchester Radiation Safety Unit (or has provided evidence of attending a similar course elsewhere).

Signature of University RPO

Date of Course

Form RW2

Radiation Safety Unit

Radiation Workers: Cessation of Radiation Work

This form MUST be returned to the Radiation Safety Unit when a Radiation Worker leaves a School.

note: the RPS must inform the Radiation Safety Unit of the deletion of any ***Classified Radiation Worker*** from the register ***before the leaving date*** so that arrangements may be made for a final medical examination and/or the forwarding of dosimetry records to their new employer.

School:

The following Radiation Worker(s) will be ceasing radiation work (or leaving the University) on the date shown, and should be removed from the Register of Radiation Workers held by the Radiation Safety Unit.

Name	Date

Signature of RPS:

Name (PRINT):

Date