
Module Descriptor- Basic Safety in Magnetic Resonance Imaging

(10 ECTS)

Radiographers are the gate keepers to Magnetic Resonance Imaging (MRI) and protect the public and other healthcare professionals from the risks associated with MRI. The aim of this module is to provide students with the basic concepts of the safe use of MRI. This module gives students the theoretical background to MRI hardware, magnetism and MRI suite design. It delves into the risks associated with electromagnetic fields used in MRI and the safety issues related to the safe use of gadolinium-based contrast agents. The theory behind screening of staff and patients will also be addressed.

Previous Knowledge

The general admission requirements are described in the education and examination regulations of each university.

Learning Outcomes

On completion of this module, the student will

- understand of the equipment used in MRI and the basic safety aspects associated with the hardware.
- understand the basic physics underlying magnetism and magnetic properties of matter.
- understand the characteristics to the electromagnetic fields: the static magnetic field, radiofrequency magnetic field and gradient magnetic field
- state the risks and bioeffects associated with each electromagnetic field
- identify the adverse reactions associated with gadolinium-based contrast agents and be aware of European and international guidelines.
- understand the necessity and reasoning for screening of staff and patients in the MRI environment.

How will I learn?

Type of Learning	Hours
Pre recorded Online Lectures	60
Online live assignment focussed discussion groups	12
Online live 'Question and Answer' sessions	8
Autonomous Student Learning	100
Formative assessment tasks	20
Specified Learning Activities (preparing for assignments and assessments)	50
Total Workload	250

Two-hour online sessions will be offered every week. These are optional but students are strongly advised to attend these sessions to ensure successful completion of the course.

Course Materials

Online lectures and other learning resources will be made available to the students via the online learning platform of each institute. A recommended reading list will be added to the learning environment.

Language

Online lectures will be prerecorded in English and translated into other languages, where possible, of the student cohort registered on the course, .

How will I be assessed?

Assessment Type	Weighting
Assignments throughout the course	Formative (no weighting)
Self-assessment tasks after each lecture	Formative (no weighting)
Multiple choice type exam on university campus	60 % Must Pass component
Scenario based oral exam on university campus	40% Must Pass component

What happens if I fail?

Students will be given an opportunity to resit the assessment of the failed component.