Module Specification

Magnetic Resonance Imaging Technology

Version: 2024-25, v2.0, 19 Dec 2024

Contents

Part 1: Information

Module title: Magnetic Resonance Imaging Technology

Module code: UZYY4Q-15-M

Level: Level 7

For implementation from: 2024-25

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Health, Science & Society

School: CHSS School of Health and Social Wellbeing

Partner institutions: None

Field: Allied Health Professions

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This distance learning module - MRI Technology is intended to serve as an introduction to the physical principles of MRI and is suitable for study by those new to MRI, or those with more experience who wish to further their knowledge. The aim is to produce healthcare practitioners with sound academic knowledge who are considerate of patient care and safety in the MRI department, whatever their professional background. The physical principles are covered from a basic to

intermediate level. The module may be studied as part of an award pathway, but is equally suited to being taken as a stand-alone module.

Features: Module Entry Requirements: Radiography professional qualification or relevant clinical Magnetic Resonance Imaging (MRI) experience

Educational aims: This distance learning module aims to enhance your practice by increasing your knowledge of the physical principles and safety issues of MRI. This module covers the safety aspects of MR scanning, so producing competent and proficient professionals This will enable you to apply this knowledge clinically in a safe and appropriate manner that offers a quality service to patients.

Outline syllabus: The syllabus will typically include:

Physical principles: resonance and relaxation
Physical principles: Gradient fields
Physical principles: Pulse sequences
Physical principles: Parameter selection
Physical principles: Artefacts recognition and remedy
Physical principles: Instrumentation and advancing technology
MRI safety
Patient Experience

The module will be delivered online via a Virtual Learning Environment (VLE). The teaching and learning strategy will embrace a series of vodcasts and enquiry-based learning activities presented via the VLE.

Part 3: Teaching and learning methods

Teaching and learning methods: Learning and Teaching Strategy
A variety of learning and teaching methods are employed on the module both during the attended online session and in the form of e-learning when you will be expected to engage with activities outside of formal teaching time. To include keynote lectures, presented as recordings or vodcasts facilitation by subject area experts, essential

reading, assessment preparation. Additional student support will be available via, e-mail and Teams.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Demonstrate a critical and systematic understanding of the physics, technology, and safety principles of Magnetic Resonance Imaging, including the application of relevant legislation and clinical protocols.

MO2 Critically evaluate the technical quality of MR images, applying quality assurance principles to ensure clinical safety and effectiveness.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 134 hours

Face-to-face learning = 16 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/uzyy4q-15-m.html

Part 4: Assessment

Assessment strategy: Assessment Task: Maximum of 2300-word Quality Assurance (QA) Report and Critical Evaluation

Rationale:
This assessment is designed to align with the module's learning outcomes, drawing from lecture content, vodcasts, and independent study. The QA Report focuses on practical application, requiring students to document and evaluate MRI Safety and Quality Assurance processes within their clinical practice. The report will include details on QA tests conducted, summarise the results, provide relevant documentation, and critically evaluate the effectiveness and suitability of the QA processes, discussing potential improvements.

Formative Opportunities:

Outline Feedback: Students may submit an outline of their report to the module leader for initial feedback, which will help guide the focus and ensure alignment with the assessment criteria.
Discussion Forums: Participation in discussion forums will provide opportunities to share and receive feedback from peers, allowing students to refine their approach. Students will be given the opportunity for formative feedback, for example, through the review of a proportion of their written submission or a plan.

Assessment tasks:

Written Assignment (First Sit)
Description: MRI Quality Assurance Audit and Critical Evaluation of Image Quality (maximum of 2300 words).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Written Assignment (Resit)
Description: MRI Quality Assurance Audit and Critical Evaluation of Image Quality (maximum of 2300 words).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study: