



## **Module Specification**

# Fundamental Clinical Skills in Nuclear Medicine Practice

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## Part 1: Information

**Module title:** Fundamental Clinical Skills in Nuclear Medicine Practice

**Module code:** UZYSQ3-30-M

**Level:** Level 7

**For implementation from:** 2023-24

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Health & Applied Sciences

**Department:** HAS 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:** Yes

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** Not applicable

**Features:** Not applicable

**Educational aims:** See Learning Outcomes.

**Outline syllabus:** General Contents:

Introduction to anatomy, physiology and pathology processes commonly seen on

routine Nuclear Medicine procedures.

Evaluation of current imaging and non-imaging protocols utilised within Nuclear Medicine.

Linkage to a range of professional guidelines designed to optimise the provision of a Nuclear Medicine service.

The Application of Nuclear Medicine (including SPECT/CT and PET/CT) in the investigation and diagnosis of a range of clinical conditions.

Evaluation as to the optimal characteristics of radiopharmaceuticals commonly used within the Nuclear Medicine environment.

The effect of pathology and disease processes on normal radiopharmaceutical uptake.

Consideration as to the appearance of normal images and how certain pathologies can influence/alter uptake patterns.

The use of supplementary drugs for enhancement of Nuclear Medicine procedures.

An introduction to radiation protection and safe working practices including the administration of radiopharmaceuticals.

An introduction to the role of Nuclear Medicine in the overall management of the patient.

The above points will each be considered in relation to the following body systems/areas:

Skeletal imaging

The respiratory system

The renal tract

The lymphatic system

The endocrine system

The cardiovascular system

The gastrointestinal tract

Legal and Ethical Development:

Consideration as to the legal and professional responsibilities of the Nuclear Medicine workforce with linkage to appropriate guidance/documentation.

Consideration as to the ethical principles of working within the Nuclear Medicine environment with linkage to professional guidance/current political drivers.

Professional Development:

Consideration as to the changing nature of Nuclear Medicine practice especially in relation to current professional/technological/financial drivers.

Consideration as to the importance of the developing inter-professional dimensions of the modality.

Introduction to the future potential of the Nuclear Medicine Practitioner with emphasis on advanced practice opportunities.

Introduction to the importance of effective communication skills.

Consideration as to the importance of patient centred care in the Nuclear Medicine environment.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** The teaching and learning strategy for this module has been developed to allow the student to demonstrate clinical competency

across a range of Nuclear Medicine procedures. Assessment of clinical Nuclear Medicine practice is an integral part of this clinical practice module and students will be expected to be working routinely within the Nuclear Medicine environment in order to demonstrate an integration of 'theory and practice'. Within the workplace this development will be overseen by an appropriately skilled Nuclear Medicine Practitioner who will be responsible for the clinical assessment of the student.

A variety of ways will be used to assess the proficiency of the student. A clinical portfolio consisting of a work journal, clinical assessments and appropriate case studies will chronicle the student's development within the clinical environment and will need to be passed in order to successfully complete the module.

The module will build upon the existing knowledge that the students have developed within the clinical domain by considering a range of routine Nuclear Medicine procedures. Students will be challenged to consider 'best practice' and to evaluate the processes that are currently undertaken within their own departments.

Such professional ideas will be introduced by the module team via narrated presentations and further consolidated by on-line discussion forums where set learning tasks/self-directed reading will be outlined. Such learning events will enable the student to consider current practice guidelines and through peer discussion/peer assisted learning outline strategies for optimal practice. Such learning will help develop key concepts such as the value of evidence based practice, critical evaluation and reflective consideration.

The module will also introduce the notion of advanced practice and again through the use of narrated presentations will encourage the student to consider possible development opportunities and possible threats that have the potential to impact on future Nuclear Medicine services. Students will again be expected to engage in peer assisted learning and knowledge exchange in order to fully appreciate the changing healthcare environment.

A variety of teaching approaches will be utilised within the module.

Scheduled learning will include up to 80 hours engaged with lectures, seminars, tutorials, discussion board entries, portfolio supervision, work based learning.

Independent learning will include upto 220 hours engaged with essential reading, portfolio construction, assignment development, consideration as to best clinical practice and reflection on learning.

#### Contact Hours:

Contact hours will be achieved through a blended learning approach that will include distance based education supplemented by knowledge exchange events. This distance based education will embrace the University's current vision associated with Technology Enhanced Learning. Such learning will include but not be limited to, asynchronous delivery of lecture material through narrated presentations, notes and other guided reading, VLE discussion board forums with specific objectives, workplace tasks, and other study tasks deemed appropriate to the development of student knowledge.

Formative feedback on allocated study tasks will be provided. Contact with the module leader for discussion of module related issues will be facilitated by email, phone conversations and through interaction at the knowledge exchange events.

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

**MO1** Apply relevant theoretical and practical knowledge to the understanding of anatomical structures and physiological systems demonstrated in clinical Nuclear Medicine practice

**MO2** Demonstrate an understanding of routine procedures and imaging protocols utilised in current Nuclear Medicine practice

**MO3** Understand the appearance of a wide range of normal and abnormal clinical conditions with consideration as to the impact of metabolic change and the distribution/clearance of the imaging agent

**MO4** Describe and critically analyse the role of Nuclear Medicine within current diagnostic pathways for a range of clinical conditions

**MO5** Critically evaluate Nuclear Medicine images in relation to data collection, image manipulation and final presentation

**MO6** Critically evaluate contemporary research within the field of Nuclear Medicine in order to inform current and future practice

**MO7** Undertake a comprehensive range of Nuclear Medicine procedures skilfully, safely, and to a high standard, demonstrating an ability to adapt effectively to new or unusual situations

**MO8** Critically reflect upon the multi-disciplinary nature of Nuclear Medicine practice and how this may influence current and future professional development opportunities

**MO9** Justify the contribution of Nuclear Medicine within the modern healthcare environment

**MO10** Make evaluative judgements on the outcomes of Nuclear Medicine procedures and practices and report the findings accordingly

**MO11** Engage in effective communication with patients', their families, and healthcare professionals and make appropriate decisions as required

**MO12** Prepare written statements and engage in professional debate following research into specified areas of Nuclear Medicine practice

**MO13** Demonstrate interprofessional skills and the ability to work in a multidisciplinary environment

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 220 hours

Face-to-face learning = 80 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

## Part 4: Assessment

**Assessment strategy:** A practice based portfolio and a 2500 word written assignment will be used to assess the achievement of the learning outcomes.

### Assessment Task 1 - Practice Based Portfolio:

This practice based assessment requires the production of a clinical portfolio of evidence.

This portfolio will include:

Record of clinical experience; a specified number of cases drawn from 4 different areas of Nuclear Medicine practice, such as, static scans, SPECT scans, paediatric imaging. These cases must also demonstrate a full range of clinical situations in order that the student is able to demonstrate a wide breath of knowledge – further guidance as to the number and presentation of these cases can be found in the module handbook).

4 clinical assessments of actual patient examinations.

3 case study's (1000 words each) which demonstrate the current applications of Nuclear Medicine within the chosen clinical area.

This practice based assessment is marked as a PASS/FAIL. All elements are equally weighted. Further details are available in the module handbook.

### Assessment Task 2– Written Assignment:

2500 word assignment linked to the development of Nuclear Medicine Practice within the modern healthcare environment. This will include a 250 word self-reflective account.



**Assessment tasks:**

**Portfolio (First Sit)**

Description: Practice-based portfolio to include clinical assessments - pass/fail

Weighting:

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO10, MO11, MO12, MO13, MO2, MO3, MO5, MO6, MO7, MO8

**Written Assignment (First Sit)**

Description: 2500 word assignment

Weighting: 100 %

Final assessment: No

Group work: No

Learning outcomes tested: MO12, MO4, MO5, MO6, MO8, MO9

**Portfolio (Resit)**

Description: Practice-based portfolio to include clinical assessments - pass/fail

Weighting:

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO10, MO11, MO12, MO13, MO2, MO3, MO4, MO5, MO6, MO7, MO8, MO9

**Written Assignment (Resit)**

Description: 2500 word assignment

Weighting: 100 %

Final assessment: No

Group work: No

Learning outcomes tested: MO12, MO4, MO5, MO6, MO8, MO9

## **Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Nuclear Medicine [Distance] MSc 2023-24