Module Specification

Fundamental Applications of Computed Tomography

Version: 2023-24, v2.0, 19 Jul 2023

Contents

Part 1: Information

Module title: Fundamental Applications of Computed Tomography

Module code: UZYRMU-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: Module Entry requirements: Radiography professional qualification or relevant clinical Computed Tomography (CT) experience

Educational aims: See Learning Outcomes

Outline syllabus: Clinical Protocols:

Rationale for the use, adaptation and development of CT acquisition protocols in

diagnostic and radiotherapy CT units. Consideration for patient preparation including:

Head, neck, neurology and ear, nose and throat (ENT)

Cancer staging (neck. chest, abdomen and pelvis)

Angiography

Trauma (Head)

Trauma / Orthopaedics

Respiratory (pulmonary embolism / lung cancer/ 4DCT)

Radiotherapy planning (including stereotactic frames)

Cardiac imaging (fundamental knowledge)

CT Colonography (screening and symptomatic)

Management and Organization:

Consideration for organization and management of CT service provision

Ethical and legal issues relating to CT practice, to include Ionising Radiation (Medical Exposures) Regulations (2000) (IR(ME)R) and Ionising Radiation Regulations (IRR) (1999).

Patient Care:

Evaluate patient care, preparation and quality enhancement to service delivery

Contrast the scanning requirements of specialist patient groups including anaesthetized, sedated and paediatric patients

Appraise the use of contrast agents within CT relating to risk/ benefit issues and dealing with adverse reactions

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled Learning. Teaching and learning methods will include, but not be limited to, asynchronous delivery of lecture material through narrated presentations, notes and other guided reading, VLE discussion board fora 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.

Independent Learning. Includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level.

Placement Learning. Students on this module will be working in the field of Computed Tomography. There will be competency based tasks to complete locally as per the clinical portfolio component. This will be assessed with on-site Mentors.

Contact Hours: Contact hours will be achieved via blended learning education. This will be equivalent to 72 hours.

Some material will be videoed lectures made available on Black-Board for all learners. Learners will have the option to attend these recordings but this will not be compulsory.

Subject specific vodcasts with associated self-directed leaning tasks.

Work based appraisal completion.

Contact with the module leader for discussion of module related issues will be facilitated by e-mail, telephone conversations and discussion boards.

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

MO1 Critically evaluate CT protocols for various anatomical regions

MO2 Demonstrate a critical knowledge of the legal, ethical and organisational aspects of current practice in Computerised Tomography

MO3 Critically evaluate contemporary research concerning CT technology in order to inform practice, and implement new approaches where appropriate

MO4 Critically evaluate the contribution that CT makes to diagnostic tests/procedures or radiotherapy practice, in the context of differential diagnosis

MO5 Perform a comprehensive range of CT procedures skillfully, safely, and to a high standard, demonstrating an ability to adapt effectively to new or unusual situations

MO6 Justify the contribution and the role of CT to the overall management of patients

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 180 hours

Placement = 48 hours

Face-to-face learning = 72 hours

Total = 300

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/uzyrmu-30-m.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 must contain the following:

Record of clinical experience
Clinical assessments of actual patient examinations

Further details are available in the module handbook.

Rationale: An opportunity for the student to demonstrate clinical competence.

The portfolio is assessed in practice and marked as pass / fail as students need to meet a minimum requirement to practice safely at this level. The academic team will oversee and moderate the marking of the portfolio. There is opportunity for students to demonstrate progression of competencies (where appropriate) and receive formative feedback throughout practice.

Assessment Task 2 – Written Assignment: 2500 word case study

Rationale: an opportunity for the student to demonstrate an appreciation of the role of a CT Advanced practitioner and operator as defined by IR(ME)R regulations 2000.

Assessment tasks:

Portfolio (First Sit)
Description: Clinical portfolio of evidence (Pass/Fail)
Weighting:
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO3, MO5

Case Study (First Sit)
Description: 2500 word case study evaluation
Weighting: 100 %
Final assessment: No
Group work: No
Learning outcomes tested: MO2, MO4, MO6

Portfolio (Resit)
Description: Clinical portfolio of evidence (Pass/Fail)
Weighting:
Final assessment: Yes
Group work: No

Learning outcomes tested: MO1, MO3, MO5

Case Study (Resit)

Description: 2500 word case study evaluation

Weighting: 100 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO4, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study: