

## Programme Specification

**Programme title: MSc Medical Imaging**

Academic Year:	2018/19
Degree Awarding Body:	University of Bradford
Partner(s), delivery organisation or support provider (if appropriate):	
Final and interim award(s):	Postgraduate Certificate/Postgraduate Diploma/ Masters Degree in Medical Imaging.  Postgraduate Certificate Medical Imaging - Computed Tomography (CT),  Postgraduate Certificate Medical Imaging Magnetic Resonance Imaging (MRI)  Postgraduate Certificate Medical Imaging Medical Image Reporting (MIR)  [Framework for Higher Education Qualifications level 7]
Programme accredited by (if appropriate):	College of Radiographers
Programme duration:	Part Time: 3 years
QAA Subject benchmark statement(s):	
Date of Senate Approval:	
Date last confirmed and/or minor modification approved by Faculty Board	May 2018

### Introduction

The MSc / PGD / PGC in Medical Imaging is delivered by the Radiography academic team within the School of Allied Health professions, in partnership with clinical and scientific experts working within specialised areas of medical imaging to ensure that the curriculum remains appropriately diverse and clinically relevant. The MSc Medical Imaging programme provides healthcare practitioners engaged in a diverse range of imaging specialities with a vocational pathway of study that is flexible and clinically relevant. It is designed to support healthcare practitioners develop the knowledge, understanding and skills in medical imaging that are required of a professional who aspires to work at an advanced level of practice. Applications are sought from registered health professionals working in the medical imaging who feel that the programme may be of benefit.

The pathways in Computed Tomography, Magnetic Resonance Imaging and Medical Image Reporting are long established and highly regarded by local NHS managers and are seen as essential qualifications by professional bodies (RCR SCoR 2012) and some managers for advanced practitioner posts, and have been supplemented by the recently developed full time Postgraduate Diploma in Cross-sectional Imaging which combines the skill sets of CT and MRI.

### **Faculty of Health's Framework for Flexible Learning in Health and Social Care; Specialist Skills and Post registration Development (SSPRD)**

The MSc Medical Imaging is part of the multidisciplinary Specialist Skills and Post Registration Development Framework for Flexible Learning (to be referred to from this point as the SSPRD Framework) within the Faculty of Health Studies. The SSPRD Framework enables students to create a programme of study that will meet either students individual needs and/or their employers' needs for a changing, flexible and diverse workforce within a modern organisation.

The SSPRD framework offers a structure within which the majority of the named award pathways are provided across the Faculty of Health Studies along with a large number of modules being available to all students. The modules are presented in themed areas representing employment, practice or work based disciplines. Whilst some students can build their own awards by choosing their own menu of module options, the majority of named award pathways, including the MSc Medical Imaging, offers students the option of studying at least one module from across the Faculty's portfolio. This creates an award with a combination of clearly defined core medical imaging modules and optional multi-professional or research focused modules.

The course of study and the collection of modules students chose to study will contextualise their learning by addressing the Aims and Learning Outcomes for the programme which are outlined in the next section of this document. This is particularly so if students choose one of the modules from the Faculty of Health Studies SSPRD Framework. Modules such as the research or work based modules enable students to shape their own focus of study within the modules aims and learning outcomes by learning the principles being taught and applying them to their own clinical employment area.

The flexibility offered by the Faculty of Health Studies' SSPRD framework will enable students to take forward their current experience whatever the area of work in collaboration with the University of Bradford. Students will be able to obtain credits for short episodes of study, transfer credits from prior certificated or experiential learning, undertake a single module or combine studying a choice of modules over time. A Personal Academic Tutor (PAT) will discuss and support individual student choices.

The MSc Medical Imaging and the Faculty of Health Studies' SSPRD Framework share similar programme aims. There are several aims for the programme and these are contextualised within the aims of the modules and the route of study that students choose to take. If students choose to study a Faculty SSPRD Framework module, they will be taught with other students from a range of different professions/employment areas, it is the application of the Aims and Learning Outcomes to the students individual subject that maintains the focus on their area of interest within the MSc Medical Imaging.

## Programme Aims

The programme is intended to:

<b>Post Graduate Certificate: Aims 1-8 are essential</b>
1. Provide a flexible educational framework that is vocationally relevant, which meets the professional development needs of the student, as well as the organisational needs of employers.
2. Stimulate students to become autonomous self-directed learners who are motivated to sustain and advance their own continuous professional learning with a confidence to support the professional development of colleagues and the work of their organisations.
3. Develop the skills, knowledge, critical understanding and awareness of the depth and breadth of knowledge applicable to their own field of medical imaging practice
4. Further develop the students cognitive and practical skills to undertake data synthesis, complex problem solving, the articulation of competing perspectives and competence in their field of medical imaging practice
5. Provide opportunities for multiprofessional teaching and learning to share the knowledge, skills and experience common to a range of different health and social care disciplines.
6. Develop critically reflective, competent practitioners, managers and leaders who will inform and shape or change inclusive, fair and ethically sensitive medical imaging service provision.
7. Provide a framework within which the curriculum, where required, meets the regulatory needs of professional bodies such as the HCPC.
8. Develop the skills required for life-long learning and professional development
<b>Post Graduate Diploma : Aims 1-9 are essential</b>
9. Develop critical perspectives on research and knowledge development in medical imaging practice and management
<b>Masters Degree : Aims 1-10 are essential</b>
10. Develop an understanding of the theoretical constructs underpinning research or project management which will inform the undertaking an ethical piece of research or a management project and the ability to demonstration how the findings can influence imaging practice and policy.

## Programme Learning Outcomes

To be eligible for the award of Postgraduate Certificate at FHEQ level 7, students will be able to:

- LO1 Develop a detailed knowledge and understanding of the literature that relates to their specialist field of imaging practice.

- LO2 Critically analyse research and synthesise the research evidence that informs the development of policy and service delivery in their specialist field of imaging practice or area of employment.
- LO3 Evaluate and critically apply theoretical concepts, and where appropriate, master practical skills for the management of complex issues within their field of medical imaging practice.
- LO4 Reflect upon and demonstrate knowledge of values, ethical thinking, equality awareness, inclusive practice and demonstrate mastery within their specialist field or practice in medical imaging.
- LO5 Develop and demonstrate the ability to articulate sound arguments using a variety of formats including written and oral communication.
- LO6 Demonstrate management and leadership through effective communication, complex problem solving, and decision making.
- LO7 Demonstrate the ability to become an autonomous learner through independent study and critical reflection on their own continuing development needs.
- LO8 Demonstrate the ability to use IT skills to gather, synthesise and appropriately apply information.

Additionally, to be eligible for the award of Postgraduate Diploma at FHEQ level 7, students will be able to:

- LO9 Demonstrate a critical awareness and understanding of different theoretical constructs underpinning research and/or change and project management methodologies.

Additionally, to be eligible for the award of Degree of Master at FHEQ level 7, students will be able to:

- LO10 Design, undertake and report on either a systematic review, a piece of empirical research, work based or management project that contributes to or extends the body of knowledge for their specialist field of practice in medical imaging.

## Curriculum

The MSc Medical Imaging curriculum provides a range of modules from the Faculty of Health Studies that are combined to provide an individualised award that suits each student's particular learning or employment needs.

Alternatively, the curriculum allows students to choose to study a defined combination of modules to create a named award, for example the PG Cert in Medical Imaging (Computed Tomography) or a Post Graduate Diploma in Medical Imaging (Cross sectional imaging): each named award specifies the modules they must undertake, below. Some modules have a pre-requisite module.

### Postgraduate Certificate Medical Imaging

A choice of modules providing 60 credits from the Radiography optional modules, or where appropriate up to 30 credits (equivalent to a minimum of 50% of the total credit) modules from the SSPRD Framework.

FHEQ Level	Module Title	Type (Core/ Option/ Elective)	Credits	Semester (s)	Module Code
7	Computed Tomography	Optional	30	1	RAD7007-C
7	Clinical Computed Tomography	Optional #	30	2	RAD7010-C
7	Magnetic Resonance Imaging	Optional	30	1	RAD7008-C
7	Clinical Magnetic Resonance Imaging	Optional #	30	2	RAD7011-C
7	Principles of Reporting	Optional	30	1	RAD7001-C
7	Medical Image Reporting MSK	Optional #	30	1&2(linked)	RAD7013-C
7	Medical Image Reporting Chest and Abdomen	Optional #	30	2	RAD7012-C
7	Developing Practice	Optional	30	2	RAD7002-C
7	Current Topics in Medical Imaging	Optional	30	2	RAD7003-C
7	Preparing For A Systematic Review	Optional *	30	1 or 2	RES7006-C
7	Preparing for Primary Research	Optional *	30	1 or 2	RES7009-C
7	Any suitable module from the SSPRD Framework portfolio	Optional *	30		

\*Only one of these modules may be studied.

# This module has a pre-requisite module.

Alternatively, for named awards, the following modules must be studied.

Postgraduate Certificate Medical Imaging (Computed Tomography)

FHEQ Level	Module Title	Type (Core/Option/Elective)	Credits	Semester (s)	Module Code
7	Computed Tomography	Core	30	1	RAD7007-C
7	Clinical Computed Tomography	Core	30	2	RAD7010-C

Postgraduate Certificate Medical Imaging (Magnetic Resonance Imaging)

FHEQ Level	Module Title	Type (Core/Option/Elective)	Credits	Semester (s)	Module Code
7	Magnetic Resonance Imaging	Core	30	1	RAD7008-C
7	Clinical Magnetic Resonance Imaging	Core	30	2	RAD7011-C

Postgraduate Certificate Medical Imaging (Medical Image Reporting)

FHEQ Level	Module Title	Type (Core/Option/Elective)	Credits	Semester (s)	Module Code
7	Principles of Reporting	Core	30	1	RAD7001-C
7	Medical Image Reporting musculoskeletal	option	30	1&2linked	RAD7013-C
7	Medical Image Reporting Chest and Abdomen	option	30	2	RAD7012-C

Students will be eligible to exit with the award of Postgraduate Certificate if they have successfully completed 60 credits and achieved the award learning outcomes. This award does not confer eligibility to register with the Health and Care Professions Council (HCPC), or any other Professional Statutory Regulatory Body.

### Postgraduate Diploma Medical Imaging

Any choice of modules providing 120 credits from the Radiography optional modules, or where appropriate up to 60 credits (equivalent to a minimum of 50% of the total credit) modules from the SSPRD Framework.

FHEQ Level	Module Title	Type (Core/Option/Elective)	Credits	Semester (s)	Module Code
7	Computed Tomography	Optional	30	1	RAD7007-C
7	Clinical Computed Tomography	Optional #	30	2	RAD7010-C
7	Magnetic Resonance Imaging	Optional	30	1	RAD7008-C
7	Clinical Magnetic Resonance Imaging	Optional #	30	2	RAD7011-C
7	Developing Practice	Optional	30	2	RAD7002-C
7	Current Topics in Medical Imaging	Optional	30	1 or 2	RAD7003-C
7	Preparing For A Systematic Review	Optional *	30	1 or 2	RES7006-C
7	Preparing for Primary Research	Optional *	30	1 or 2	RES7009-C
7	Any suitable module from the SSPRD Framework portfolio	Optional *	30		

\* Only one of these modules may be studied.

# This module has a pre-requisite module

Alternatively, for named awards, the following modules must be studied.

### Degree of Master Medical Imaging

In addition to the 120 credits from the PG Diploma, a 60 credit final stage module must be undertaken from the SSPRD Framework.

FHEQ Level	Module Title	Type (Core/Option/Elective)	Credits	Semester (s)	Module Code
7	Computed Tomography	Optional	30	1	RAD7007-C
7	Clinical Computed Tomography	Optional	30	2	RAD7010-C

		#			
7	Magnetic Resonance Imaging	Optional	30	1	RAD7008-C
7	Clinical Magnetic Resonance Imaging	Optional #	30	2	RAD7011-C
7	Developing Practice	Optional	30	2	RAD7002-C
7	Current Topics in Medical Imaging	Optional	30	2	RAD7003-C
7	Preparing For A Systematic Review	Optional *	30	1 or 2	RES7006-C
7	Preparing for Primary Research	Optional *	30	1 or 2	RES7009-C
7	Any suitable module from the SSPRD Framework portfolio	Optional *	30	1 or 2	
7	Pursuing Primary Research (To undertake this module students must have undertaken Pursuing Primary Research as a pre-requisite)	Core ∞#	60	1 or 2	RES7008-E
7	Pursing A Systematic Review (To undertake this module students must have undertaken Preparing For A Systematic Review as a pre-requisite)	Core ∞#	60	1 or 2	RES7007-E
7	Pursuing a Work Based Dissertation ( <i>No pre-requisite</i> )	Core ∞	60	1 or 2	RES7010-E
7	Management Project (No pre-requisite)	Core ∞	60	1 or 2	LEM7006-E

\* Only one of these modules may be studied.

∞ Only one of these modules may be studied.

# This module has a pre-requisite module

Students will be eligible for the award of Degree of Master if they have successfully completed at least 180 credits and achieved the award learning outcomes. This award does not confer eligibility to register with the Health and Care Professions Council (HCPC), or any other Professional Statutory Regulatory Body.

### **Learning and Teaching Strategy**

The modules and courses nested within the programme offer students the capacity to acknowledge and build upon the knowledge and skills they may have acquired through previous learning experiences including those in the work place. As students undertake their chosen pathway or undertake the modules of their choice, students will be given the opportunity to develop theoretical understanding, advance their knowledge and critical thinking and to develop a range of skills appropriate and competencies appropriate to their professional/employment field, which will enable students to function more effectively in their workplace.

The programme is not designed as a distance learning programme and most modules do require attendance at the University. The delivery approach varies from module to module and includes block attendance, a regular day each week, distance learning and blended learning. Students may wish to consider the delivery approach for each module when choosing the modules that they wish to study.

Whilst following this programme of study, students will engage with learning through a range of teaching methods. To a degree these methods will be dependent on modules studied, however student-centred approaches to learning are a feature of many of the modules. Students will be expected to take responsibility for their own learning as they develop their academic skills. There is an expectation that students will use throughout their course of study the University VLE. This will be particularly important for student who chose distance or blended learning modules for a range of learning activities such as discussion groups, Wikis, online tutorials and accessing learning materials. When devising the individual, tailored study plan with the personal tutor allocated, students will be informed regarding delivery methods and which semester the chosen modules are being delivered. Students will also be informed about dates and times of attendance at the university.

Following enrolment, students will be allocated a personal academic tutor appointed and they will provide holistic guidance encompassing academic and personal support throughout their course of study. For those students registering for the full MSc award this will include personal and professional development (PDP) planning.

The course of study will expose students to a range of different teaching, learning and assessment strategies required to achieve the learning outcomes. The teaching

approaches that are used across the Faculty of Health Studies are informed by the University core values which are for teaching and learning to be: Reflective, Adaptable, Inclusive, Supportive, Ethical and Sustainable. Students may experience these across their choice of modules in order to meet both the aims of the programme and learning outcomes. Technology is used to enrich learning and simulate the working environment with tutorials and examinations undertaken in the Picture Archive Communication System (PACS) suite, and the VLE, wiki's and blogs used to facilitate peer and blended learning. Student-centred approaches to learning are a feature of many of the modules. Students will be expected to take responsibility for their own learning as they develop their academic skills through:

- Lectures: to a group of students where information will be presented and discussed whilst informed by the core values.
- Facilitated seminars and group discussion: where learning will be through the interpretation and critical application of information and group learning
- Tutorial where small group number of students reflect and discuss issues related to their learning
- Work-based learning: where learning is directed within the work environment and is reflected upon and then reported on.
- Work-based learning: where skills are taught in relation to theory and best practice enabling students to advance their competent in their field of practice
- Use of Web based virtual learning environments, such as Canvas, to access information and to interact with other students undertaking group work or developing wikis.
- Distance learning packages where clearly defined directed study and tasks are available for the student to undertake.
- Directed reading: where set reading may be recommended
- Self Directed learning: Where student are expected to develop their own learning by identifying areas of interest and areas in which knowledge needs to be developed.
- Undertaking a work based project or a research module which is shaped by their own self-directed learning needs and the learning outcomes at MSc level.

Some of the modules will be delivered alongside the full time MSc Medical Imaging: International programme with students from outside the UK; and research modules within the CPD framework alongside other healthcare professionals. This allows for multi-disciplinary learning with perspectives beyond UK practice.

Students will be expected to develop an autonomous learning style and become self directed as a learner.

### **Assessment Strategy**

Student learning will be assessed against the learning outcomes and programme aims through the use of a range of different assessment techniques which may include one or more of the following approaches:

- Written essay
- A Reflective Case study
- The development of a reflective portfolio
- Completion of practice audit
- Practical examination (OSCE)
- Computer based examination
- Seminar Presentation
- Written project report
- Completion of a Dissertation
- Journal article

Some of these teaching and assessment strategies may change over time and through the ongoing development of the courses.

### **Assessment Regulations**

This Programme conforms to the standard University Assessment Regulations which are available at the link below

<http://www.bradford.ac.uk/aqpo/ordinances-and-regulations/>

However, there are two exceptions to these regulations as listed below:

#### Waiver from the postgraduate progression regulations 10.1

Students must achieve 40% in each module which make up an award of which all components and elements of assessment are achieved at 40%.

#### waiver from the Administrative Regulations Relating to Assessment regulation 8.2 & 8.5

Students are offered reassessment (supplementary assessment as a second attempt) as due course without having to process this through Board of Examiners.

### **Admission Requirements**

The University welcomes applications from all potential students and most important in the decision to offer a place is our assessment of a candidate's potential to benefit from their studies and of their ability to succeed on this particular programme. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

The standard entry requirements for the programme are as follows:

- be in possession of a first degree or an appropriate professional qualification in radiography or related subject (for the PG Diploma in cross-sectional imaging a classification of 2:1).
- have appropriate clinical experience in the area of development.

In addition, for work-based modules students must:

- possess a registered qualification with a UK professional regulatory organisation that enables the student to practice in the UK. Eg. Registration with the HCPC or NMC or other health care regulator
- have managerial support for their studies, including a commitment that appropriate facilities, relevant clinical experience and time will be made available to support their studies (15 hours a week).

Applications are welcome from students with non-standard qualifications or mature students (those over 21 years of age on entry) with significant relevant experience.

The University of Bradford has computers with internet and word processing facilities available to students across a number of locations. However for postgraduate students it is advisable that they have access to a computer that has a broadband connection and that can browse the internet and has word processing on it, and have computing skills commensurate with the demands of course.

The University of Bradford Academic Skills unit can support students in developing skills needed to support their studies. The Disability Office can provide support to students who have a disability. Dyslexia screening is also available.

### Recognition of Prior Learning

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University has procedures to evaluate and recognise this learning in order to provide applicants with exemptions from specified modules or parts of the programme.

### Minor Modification Schedule

Version Number	Brief description of Modification	Date of Approval (Faculty Board)
4	Modifications further to the MSc Advanced Clinical Practitioner (Radiographic Reporting)	June 2018