PROGRAMME SPECIFICATION

1	**Awarding Institution**	Newcastle University
2	**Teaching Institutions**	Newcastle University
3	**Final Award**	MSc in Clinical Science (Medical Physics: Radiotherapy Physics); MSc in Clinical Science (Medical Physics: Radiation Safety Physics); MSc in Clinical Science (Medical Physics: Imaging with Ionising Radiation); MSc in Clinical Science (Medical Physics: Imaging with Non-Ionising Radiation)
4	**Programme Title**	Modernising Scientific Careers: MSc in Clinical Science (Medical Physics)
5.	**UCAS/Programme Code**	5193P MSc in Clinical Science (Medical Physics: Radiotherapy Physics); 5194P MSc in Clinical Science (Medical Physics: Radiation Safety Physics); 5195P MSc in Clinical Science (Medical Physics: Imaging with Ionising Radiation); 5196P MSc in Clinical Science (Medical Physics: Imaging with Non-Ionising Radiation)
6	**Programme Accreditation**	Department of Health/Medical Education England Healthcare Science Programme Board
7	**QAA Subject Benchmark(s)**	
8	**FHEQ Level**	7
9	**Date written/revised**	21st September 2011

10 Programme Aims

To provide a career framework for healthcare science professionals by providing an education and training programme that is clear and coherent. This will enable the individual to enter a defined healthcare science career. The programme has been developed to meet workforce needs and will ensure flexibility, sustainability and modern career pathways for healthcare scientists, fit to address the needs of future NHS.

Modernising Scientific Careers: MSc in Clinical Science (Medical Physics) programme will offer an MSc in four specialisms namely:

i. Radiotherapy Physics
ii. Radiation Safety Physics
iii. Imaging with Ionising Radiation
iv. Imaging with Non-Ionising Radiation

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

Knowledge and Understanding

On completing the programme students should have:
A1 a systematic understanding of Medical Physics and a critical awareness of current problems and/or new insights at the forefront of their specialist area of professional practice;
A2 an in-depth understanding of the knowledge required to support each work-place specialism, specifically 'Radiotherapy Physics, Radiation Safety Physics, Imaging with Ionising Radiation & Imaging with Non-Ionising Radiation'.
A3 a systematic understanding of a substantial body of knowledge which is at the forefront of their specialist area of professional practice;
A4 a detailed understanding of applicable techniques for research and advanced academic enquiry.

Teaching and Learning Methods

A1–A4 are achieved by lectures, seminars and laboratory classes. **A2** will be supported initially by a intensive teaching programme of lectures, seminars and group based discussion at Newcastle. Subsequent to this, students will then undertake a series of work-based modules during their clinical rotations which will be supported later by further intensive teaching days, and through online learning / discussion boards, therefore enabling students to develop state of the art clinical knowledge and practical skills (see also **B1-B5** below). In the cases of **A1** and **A3**, lectures and seminars are also accompanied by practical sessions and visits to the clinical facilities in the local area (North East region). The teaching strategy for **A4** includes lectures to set out baseline knowledge, principles and standards, and small group discussions, group exercises and seminars where current knowledge and R&D outputs are presented and examined from a range of perspectives.

Students will acquire knowledge through team work, case studies, presentations, and independent study and research. Some modules include short problem solving exercises.

Assessment Strategy

Intended learning outcomes regarding knowledge and understanding are assessed based on coursework involving both written and oral communications at the individual or team level. This will include a variety of continuous forms of assessment including essays, problem-solving exercises, laboratory reports and case studies and both formative and summative assessments. The virtual learning environment, Blackboard, will be used for both formative and summative assessments. The examinations will be held in the traditional format with students attending the University.

Closed book examinations will be used as a complementary means of assessing factual knowledge.

Intellectual Skills

On completing the programme students should be able to:
B1 synthesise key findings and knowledge from across the Clinical Science spectrum, in particular those relating to Medical Physics, to enhance patient outcomes and welfare
B2 make informed judgements on complex issues in their specialist field, often in the absence of complete data, and communicate their ideas and conclusions directly clearly and effectively to specialist and non-specialist audiences including patients
B3 undertake applied research and development at an advanced level, contributing substantially to the development of new techniques, ideas, or approaches in their specialist area.
B4 critically evaluate the quality of data and information offered from different sources
B5 demonstrate the general ability to conceptualise, design and implement a project for the generation of new knowledge, applications or understanding at the forefront of their specialist discipline and to adjust the project design in the light of unforeseen problems;

Teaching and Learning Methods

Intellectual skills (**B1-B5**) are developed progressively throughout the programme in modules containing seminars, case studies and as part of their work-based learning.

Throughout the programme, students will develop intellectual skills by participating in group discussions, case studies and in their workplace to enhance their **(a)** analytical and interpretative faculties and **(b)** ability to formulate objective and coherent arguments.

Work based Clinical Rotations and associated team problem solving exercises are the main method used to enhance intellectual skills related to applying best practice in research and in making judgements to enhance patient welfare and outcomes.

Design, execution, statistical analysis and reporting of the final dissertation project enhance the learning of these skills in a focused manner.

Assessment Strategy

B1 is assessed through individual and/or group preparation exercises and particularly through the case led problem based learning (C/PBL) write up.
B1 & B2 are assessed via oral presentations and assessed essays.
B1 & B2 are also assessed in certain optional modules by closed book examinations.
The interactive learning environment, Blackboard, will be used for both formative and summative assessments.
B3 & B4 are assessed using a range of conventional scientific formats including: preparation of an abstract, a poster, a presentation and a dissertation. The project with all of these assessments tests a range of transferable skills.
B5 is assessed by the production of a project proposal, literature review and project dissertation.

Practical Skills

On completing the programme students should be able to:
C1 identify a wide range of analytical and clinical science methods across the Medical Physics discipline but specifically in their own elective specialisation.
C2 prepare and present information, in both written and verbal formats, to stakeholders (e.g. patients, clinical colleagues, other Healthcare Professionals and the public) with contrasting levels of knowledge and understanding
C3 assemble a body of data, analyse and critically evaluate the data and its source using appropriate statistical and qualitative techniques.
C4 work across an interdisciplinary team to maximise patient care and outcomes.

Teaching and Learning Methods

Practical Skills (**C1-C4**) are primarily obtained through coursework, clinical rotations, assignments and the research project.

C2 & C3 will be developed through specific components (data handling, statistical and research) which are included in all compulsory modules.

Assessment Strategy

The assessment of practical skills (**C1-C4**) will be based on **(a)** written assessment (including bibliographies) produced as part of essays, seminar presentations and the final project dissertation, **(b)** data handling and analyses carried out as part of problem solving exercises and the project dissertation and **(c)** presentations to their peer cohort, work place and University supervisors and other stakeholder groups.

Transferable/Key Skills

On completing the programme students should be able to:

D1 exercise initiative and personal responsibility
D2 make decisions in complex and unpredictable situations
D3 take responsibility for their own learning as is required for continuing professional development
D4 work effectively as a member of teams both subject specific and multi-disciplinary
D5 use effective time and resource management practices

Teaching and Learning Methods

Transferable/Key skills **D1-D5** are developed throughout the programme through course-work, student led sessions, clinical visits, clinical rotations, final dissertation and workshops.

Assessment Strategy

Key skills **D1-D5** are indirectly assessed through formative coursework, team and individual presentations, research papers and the dissertation, including a supervisor's mark for the conduct of the project. Additional formative assessment comes through the workplace supervisor who is asked to comment on the student's progress during the clinical rotations related to modules MPY8001 and MPY 8005-12, as relevant to their specific study pathways, against key skills **D1-D5**.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

A group of **"common" compulsory modules** will be delivered across all specialisms thus providing a common "backbone" to the curriculum.

Broad Framework of national *Modernising Scientific Careers* MSc in Clinical Science (Medical Physics) training:

<table>
<tr><td>Year 3
Specialist
Practice</td><td colspan="2">Healthcare Science
Specialist Learning with Integrated Professional Practice

[30]</td><td>Research Project
Trainees would usually begin a work-based research project in Year 2 and complete the project in Year 3

[30]</td></tr>
<tr><td colspan="4">Specialism</td></tr>
<tr><td>Year 2
Specialist
Practice</td><td>Research Methods

[10]</td><td>Healthcare Science Specialist Learning with Integrated Professional Practice
[20]</td><td>Research Project
Trainees would usually begin a work-based research project in Year 2 and complete the project in Year 3

[30]</td></tr>
<tr><td></td><td>Generic</td><td colspan="2">Specialism</td></tr>
<tr><td>Year 1
Core
Modules</td><td colspan="2">Healthcare Science
with Integrated Professional Practice
[20]</td><td>Healthcare Science
Integrating underpinning knowledge required for each rotational element with Professional Practice
[40]</td></tr>
<tr><td></td><td colspan="2">Generic</td><td>Divisional/Theme</td></tr>
</table>

	General Modules: Common to all divisions of Healthcare Science
	Division/Theme Specific Modules: Common to a division or theme
	Specialist Modules: Specific to a specialism

Route Map for progression pathways through the MSc in Clinical Science (Medical Physics)

Year 1	Year 2	Year 3
Integrating Science & Professional Practice [20]	Research Skills for Health Care Professionals [10]	
Introduction to Medical Physics - underpinning knowledge for rotational elements [40]		
	EITHER	
	Radiotherapy Physics	
	Radiotherapy Physics 1 [20]	Radiotherapy Physics 2 [30]
	Research project 1 [30]	Research Project 2 [30]
	OR	
	Radiation Safety Physics	
	Radiation Safety Physics 1 [20]	Radiation Safety Physics 2 [30]
	Research Project 1 [30]	Research Project 2 [30]
	OR	
	Imaging with Ionising Radiation	
	Imaging with Ionising Radiation 1 [20]	Imaging with Ionising Radiation 2 [30]
	Research Project 1 [30]	Research Project 2 [30]
	OR	
	Imaging with Non-ionising Radiation	
	Imaging with Non-ionising Radiation 1 [20]	Imaging with Non-ionising Radiation 2 [30]
	Research Project 1 [30]	Research Project 2 [30]

Generic	20	10	0
Division/Theme	40	0	0
Specialism	0	50	60
Total	60	60	60

The programme delivery will follow the model outlined in respective Module Outline Forms (MOFS).

The programme consists of:

"Common" core modules (taught across all specialist pathways):

Year one

MPY 8001 Introduction to Medical Physics (40 credits):

- **Radiotherapy Physics**
  This unit will provide the trainee with knowledge and understanding of Radiotherapy Physics needed to support their workplace rotation.

- **Radiation Safety Physics**
  This unit will provide the trainee with knowledge and understanding of Radiation Safety Physics needed to support their workplace rotation.

- **Imaging with Non-Ionising Radiation**
  This unit will provide the trainee with knowledge and understanding of Imaging with Non-Ionising Radiation needed to support their workplace rotation.

- **Imaging with Ionising Radiation**
  This unit will provide the trainee with knowledge and understanding of Imaging with Ionising Radiation needed to support their workplace rotation.

- **Clinical Engineering**
  This unit will provide the trainee with knowledge and understanding of Clinical Engineering needed to support the four workplace rotations.

In these units students will receive the specialist knowledge and fundamental training in laboratory methodology and clinical practices necessary for them to perform competently across the four associated clinical rotations that they undertake in their workplace over the course of year one (Clinical Engineering underpins the other four themes).

Teaching will be delivered during the students' initial intensive four week face to face study period as well as during the subsequent short face to face teaching periods throughout the year. Further learning and supporting materials will be delivered through Newcastle University's VLE Blackboard.

MSC 8001 – Integrating Science and Professional Practice (20 Credits)

The overall aim of this introductory module is to provide students with knowledge and understanding of the basic science and scientific knowledge that will underpin study in any and all of the three divisions of healthcare science namely Physical Sciences & Biomedical Engineering, Life Sciences and Physiological Sciences within the Scientist Training Programme. This module will also introduce the framework for underpinning professional practice across the divisions providing the building blocks for future development of professional practice in the work-place.

The module will be delivered through a blended learning approach i.e. face to face teaching in the initial intensive four week teaching period and further teaching days throughout the year and through Newcastle University's virtual learning environment (VLE) Blackboard.

Year two

MCR 8201 Research Skills for Health Care Professionals (10 Credits)

This module will be delivered in year two as an e-learning module through Newcastle University's VLE (Blackboard).

The overall aim of this module is to ensure that the student has a foundation in research, development and innovation across the NHS and in healthcare science in particular and to provide the knowledge base to complete a successful research project.

MSC 8003 Research Project 1 Identifying and Planning a Project (30 Credits)

This module is taken in year two following the **'Research Skills for Health Care Professionals (MCR8201)'** module above. Materials to support the module are delivered through a face to face teaching day and then through the VLE Blackboard. Supervision for the module is from both the students' workplace (professional / clinical mentor) and from the academic partner(s) in the form of an academic tutor.

The aim of this module is to allow students to develop the necessary skills to undertake all the appropriate work needed for them to be able to start a research project and write it up in the third year module **'Research Project 2'**. This module includes elements such as project design, securing ethical and all other related permissions, completing a full project proposal, recruiting patients and ensuring appropriate resources are in place.

Year three

MSC 8004 Research Project 2 (30 Credits)

This module is taken in year three following the students' successful completion of the **'Research Project 1'** module. Materials to support the module are again delivered through the VLE Blackboard and supervision for the module is from both the students' workplace (professional / clinical mentor) and from the academic partner(s) in the form of an academic tutor.

At the end of this project module, the students will have completed a work based research project which has been independently considered and researched which is relevant to their workplace and will add meaningfully to the stock of knowledge and / or improve the policies and procedures of their clinical discipline.

Specialism Specific Modules:

These modules are specific to the student's specialism Pathway.

Radiotherapy Physics

Year 2

MPY 8005 Radiotherapy Physics 1 (20 Credits)

This module provides the trainee with the knowledge that underpins the Radiotherapy Physics specialism in the second year of the MSc and gives the trainee the tools to undertake project based learning in the workplace and meet the STP curriculum as approved by the Medical Education England Healthcare Science Programme Board.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 2 and then subsequently across the periodic short teaching blocks. Additional support will be available through Newcastle University's VLE Blackboard.

Year 3

MPY 8006 Radiotherapy Physics 2 (30 Credits)

This module provides the trainee with the knowledge that underpins the Radiotherapy Physics specialism in the third year of the MSc and gives the trainee the tools to undertake learning in the workplace.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 3 and then subsequently across the periodic short teaching block in Additional support will be available through Newcastle University's VLE Blackboard.

Radiation Safety

Year 2

MPY 8007 Radiation Safety Physics 1 (20 Credits)

This module provides the trainee with the knowledge that underpins the Radiation Safety Physics specialism in the second year of MSc and gives the trainee the tools to undertake project based learning in the workplace and meet the STP curriculum as approved by the Medical Education England Healthcare Science Programme Board.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 2 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Year 3

MPY 8008 Radiation Safety Physics 2 (30 Credits)

This module provides the trainee with the knowledge that underpins the Radiation Safety Physics specialism in the third year of the MSc and gives the trainee the tools to undertake learning in the workplace.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 3 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Imaging with Ionising Radiation

Year 2

MPY 8009 Imaging with Ionising Radiation 1 (20 Credits)

This module provides the trainee with the knowledge that underpins the Imaging with Ionising Radiation specialism in the second year of MSc and gives the trainee the tools to undertake project based learning in the workplace and meet the STP curriculum as approved by the Medical Education England Healthcare Science Programme Board.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 2 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Year 3

MPY 8010 Imaging with Ionising Radiation 2 (30 Credits)

This module provides the trainee with the knowledge that underpins the Imaging with Ionising Radiation specialism in the third year of the MSc and gives the trainee the tools to undertake learning in the workplace.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 3 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Imaging with Non-Ionising Radiation

Year 2

MPY 8011 Imaging with Non-Ionising Radiation 1 (20 Credits)

This module provides the trainee with the knowledge that underpins the Imaging with Non-Ionising Radiation specialism in the second year of MSc and gives the trainee the tools to undertake project based learning in the workplace and meet the STP curriculum as approved by the Medical Education England Healthcare Science Programme Board.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 2 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Year 3

MPY 8012 Imaging with Non-Ionising Radiation 2 (30 Credits)

This module provides the trainee with the knowledge that underpins the Imaging with Non-Ionising Radiation specialism in the third year of the MSc and gives the trainee the tools to undertake learning in the workplace.

The module will be delivered through blended learning. Initial material will be delivered in the intensive teaching week at the beginning of year 3 and then subsequently across the periodic short teaching block. Additional support will be available through Newcastle University's VLE Blackboard.

Key features of the programme (including what makes the programme distinctive)

The national healthcare scientist training programme is part of the wider changes that are taking place within healthcare science education and is designed to train the healthcare scientists of the future (*Modernising Scientific Careers*). Students will join this three-year part-time MSc in Clinical Science (Medical Physics) course as part of their full-time integrated training programme of work-based and academic learning. Trainees will be employed by an NHS Trust where they will be required to undertake a range of clinical rotations, working in different departments (and possibly different Trusts), before specialising in the last two years of training. After this period of training, successful trainees will be in a position to apply for NHS posts as healthcare scientists and to the appropriate professional register if applicable.

The academic programme is designed to provide an all round education in a number of selected areas of Medical Physics in a Healthcare Science setting. Teaching will involve a mixture of face-to-face learning and e-learning via Newcastle University's VLE Blackboard. Through this medium, students will be able to interact with other students from across the different themes covered in this programme. This will be continued throughout the programme stages; in year 2 the 'Research Methods' module (10 credits) discussion boards may also include students from a number of different disciplines including students taking the module as standalone CPD (e.g. Medical Registrars, Clinical Trial Managers, Research Nurses), creating an ethos of an inter-professional learning.

The programme has been designed so that in each year the students' specialism specific taught material is front loaded into the intensive teaching weeks (four weeks in year 1, one week in years 2 and 3). This will enable the student to absorb the knowledge required to prepare them for their clinical rotations and then latterly for their specialism specific role and enable them to work effectively through their work-based clinical rotations. This method of "knowledge loading" also supports the problem based learning approach and prepares them for their clinical rotations.

The students will have the benefit of accessing the expertise, learning and clinical facilities of Newcastle University as well as of clinical facilities at Newcastle upon Tyne Hospitals NHS Foundation Trust and other facilities in the North East region, and from experts in their field throughout the North East region.

The link between the theoretical underpinning provided by the academic input and the direct application of theory to practice in the workplace makes these programmes distinctive

Programme regulations (link to on-line version)

http://www.ncl.ac.uk/regulations/

13 Criteria for admission

Entry qualifications

A candidate may be entered at the discretion of the Degree Programme Director and provided that such a candidate:

(a) has a minimum lower-second-class Honours degree, in an appropriate subject *or* equivalent professional qualification in a profession allied to medicine with at least two years post-qualification experience; and

(b) has secured a training place under the national *Modernising Scientific Careers* to ensure parallel clinical rotations to support the course outcomes.

Admissions policy/selection tools

Applicants will apply online for consideration of a place.

Non-standard Entry Requirements: None

Additional Requirements: None

Level of English Language capability: overall IELTS score of 7.0, minimum 6.5 in each component.

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: www.ncl.ac.uk/students/

Induction
At the start of the first semester students attend an induction programme providing a general introduction to University and their principle support services and general information about the MSc in Clinical Science (Medical Physics) course, as described in the Degree Programme Handbook. They will be given detailed programme information and the timetable of lectures/practicals/labs/tutorials/etc.

Study skills support
Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management, is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support and help with academic writing are available at Newcastle University.

Academic support
The initial point of contact for a student is with a lecturer or module leader, or their tutor (see below) for more generic issues. Thereafter the Degree Programme Director may be consulted. Each student additionally has a workplace mentor/supervisor in their place of employment who may also be consulted and may also raise issues with the University contacts. Issues relating to the programme may be raised at the Staff-Student Committee, and/or at the Curriculum Committee and Board of Studies.

Pastoral support
All students are assigned a workplace supervisor (sometimes referred to as employer or mentor) and a University personal tutor. The University personal tutor has responsibility to monitor the academic performance and overall well-being of their tutees. In addition the Medical Sciences Graduate School at Newcastle University has appointed a Postgraduate Senior Tutor for all PG taught programmes who these students may approach should they require further support or where support is not forthcoming. The Degree Programme Director and Module Leaders will also monitor student progress and deal with academic issues as and when they arise. The project modules will involve specific academic and pastoral support from the Module Leader. Further pastoral support is available via Newcastle University Student Wellbeing Service who offer a range of support services, including one-to-one counselling and guidance or group sessions/ workshops on a range of topics, such as emotional issues e.g. stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues, and support for all students on a range of topics including housing, debt, legal issues etc. www.unionsociety.co.uk/sac

Support for students with disabilities
Newcastle University's Disability Support Service provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements.

Learning resources
The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources) and Information Systems and Services, which supports campus-wide computing facilities. On-line access to an extensive range of electronic data bases, journals and books will be provided by Newcastle University for all students on the course. The course will utilise Newcastle University's Blackboard VLE with dedicated areas for the course. This will be the vehicle through which supported learning at a distance will be provided, including moderated (supported) discussion boards.

15 Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews
All modules are subject to review by questionnaires which are considered by the Curriculum Committee (CC) and Board of Studies. Changes to, or the introduction of new, modules are considered by the CC, Board of Studies and the Faculty Teaching, Learning and Student Experience Committee (FTLSEC) for approval. All modules and the degree programme are subject to review by student questionnaires. Student opinion is additionally sought at the Staff-Student Committee and the Curriculum Committees and Board of Studies. Major changes to existing modules and the programme of study are also subject to approval by the Faculty Teaching, Learning and Student Experience Committee (FTLSEC).

Programme reviews
The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to FTLSEC.

External Examiner reports
External Examiner reports are considered by the Board of Studies. The Board responds to these reports through FTLSEC. External Examiner reports are shared with student representatives, through the Staff-Student Committee.

Faculty and University Review Mechanisms
The programme is subject to the University's Internal Subject Review process. Every five years degree programmes in each subject area are subject to periodic review. This involves both the detailed consideration of a range of documentation, and a visit by a review team which includes an external subject specialist in addition to University and Faculty representatives. Following the review a report is produced, which forms the basis for a decision by University Teaching Learning and Student Experience Committee (UTLSEC) on whether the programmes reviewed should be re-approved for a further five year period.

Additional mechanisms
Employer input will be established formally through a Programme/Employer Liaison Committee, allowing formal input by the employers (the host Trusts where the students are employed and through which their clinical rotations are organised). Additionally, employers will be encouraged to provide informal feedback, e.g. on the course to module leaders, or on issues relating to inter-relations between the academic course and the clinical rotations.
Patient input will be sought on all aspects of the programme, including through patient representatives on all programme committees.

16 Regulation of assessment

Pass mark
The pass mark is 50

Course requirements
Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research and Examination Conventions for Taught Masters Degrees. All modules are core modules. Compensation between modules is NOT allowed. There are reassessment opportunities, in accordance with University regulations.

Common Marking Scheme
The University employs a common marking scheme, which is specified in the Taught Postgraduate Examination Conventions, namely:

Summary description applicable to postgraduate Masters programmes		**Summary description applicable to postgraduate Certificate and Diploma programmes**	
<50	Fail	<50	Fail
50-59	Pass	50 or above	Pass
60-69	Pass with Merit		
70 or above	Pass with Distinction		

Role of the External Examiner
An External Examiner, a distinguished member of the subject community, is appointed by FTLSEC after recommendation from the Board of Studies. The External Examiner is expected to:

- See and approve examination papers
- Moderate examination and coursework marking
- Attend the Board of Examiners
- Report to the University on the standards of the programme

In addition, information relating to the programme is provided in:

The University Prospectus (see http://www.ncl.ac.uk/postgraduate/

The School Brochure (contact enquiries@ncl.ac.uk)

The University Regulations (see http://www.ncl.ac.uk/calendar/university.regs/)

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Please note, a version of the Learning Outcomes, indicative Content and Trainee Workplace Learning Guides are available on the Modernising Scientific Careers website: http://www.networks.nhs.uk/nhs-networks/msc-framework-curricula/stp.

Mapping of Intended Learning Outcomes onto Curriculum/Modules

		Intended Learning Outcomes			
Module	**Type**	**A**	**B**	**C**	**D**
Compulsory modules					
MSC 8001: Integrating Science and Professional practice (20 Credits)	Compulsory	1,3	1,4	2,4	1,2,3,4,5
MPY8001:Radiotherapy Physics	Compulsory	1,2,3	1,4	2,4	1,2,4,5
MPY 8001: Radiation Safety Physics	Compulsory	1,2,3	1,4	2,4	1,2,4,5
MPY8001: Imaging with Ionising Radiation	Compulsory	1,2,3	1,4	2,4	1,2,4,5
MPY8001: Imaging with Non-Ionising Radiation	Compulsory	1,2,3	1,4	2,4	1,2,4,5
MPY8001: Clinical Engineering	Compulsory	1,2,3	1,4	2,4	1,2,4,5
MCR8201: Research Skills for Health Care Professionals (10 Credits)	Compulsory	3,4	5	2,4	1,3,4,5
MSC8003: Research Project 1 (30 Credits)	Compulsory	1,3,4	3,4,5	2,3,4	1,3,4,5
MSC8004: Research Project 2 (30 Credits)	Compulsory	1,3,4	3,4,5	2,3,4	1,3,4,5
Specialism specific modules: Radiotherapy Physics					
MPY8005 Radiotherapy Physics 1 (20 credits)	Optional	1,2,3,4,	1,2,4	1,2,4	1,2,3,4,5
MPY8006 Radiotherapy Physics 2 (30 credits)	Optional	1,3,4	1,2,3,4,5	1,2,3,4	1,2,3,4,5
Specialism specific modules: Radiation Safety					
MPY8007 Radiation Safety Physics 1(20 credits)	Optional	1,2,3,4	1,2,4	1,2,4	1,2,3,4,5
MPY8008 Radiation Safety Physics 2 (30 credits)	Optional	1,3,4	1,2,3,4,5	1,2,3,4	1,2,3,4,5
Specialism specific modules: Imaging with Ionising Radiation					
MPY8009 Imaging with Ionising Radiation 1 (20 credits)	Optional	1,2,3,4	1,2,4	1,2,4	1,2,3,4,5
MPY8010 Imaging with Ionising Radiation 2 (30 Credits)	Optional	1,3,4	1,2,3,4,5	1,2,3,4	1,2,3,4,5
Specialism specific modules: Imaging with Non-Ionising Radiation					
MPY8011 Imaging with Non-Ionising Radiation 1 (20 credits)	Optional	1,2,3,4	1,2,4	1,2,4	1,2,3,4,5
MPY8012 Imaging with Non-Ionising Radiation 2 (30 Credits)	Optional	1,3,4	1,2,3,4,5	1,2,3,4	1,2,3,4,5