

# Medical Imaging (Ionising)

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**Title:**

Medical Imaging (Ionising)

**Module/Course Code:**

TBA

**Module/Course Title:**

Medical Imaging (Ionising)

**Details of any courses replaced by this course:**

The existing Medical Physics MScs in 'Radiation Physics' and 'Biomedical Engineering and Medical Imaging' previously contained a course called "Imaging". This course has been split into modules, of which this module is one. The existing course will not run in the September 2007/8 academic year.

**Normal year of study:**

MSc

**Course level:**

Postgraduate

**Course value:**

15 credits

**Programmes in which this course is offered:**

Mandatory for MScs in 'Medical Image Computing', 'Radiation Physics' and 'Biomedical Engineering and Medical Imaging'.

**Prerequisites:**

A Physics degree or attendance on the module 'Physics for Imaging and Therapy'.

**Unsuitable for disabled?:**

No

**Exam Board:**

Medical Physics and Bioengineering

**Department teaching this course:**

Medical Physics and Bioengineering

**Course organiser:**

Name: Dr David Atkinson

Email: D.Atkinson@ucl.ac.uk

Phone: 30201

**Faculty:**

Engineering Sciences

**Can this course be taken as a short course?:**

Not at present - please contact us if interested.

**Is this course open to part-time or affiliate students?:**

The course is open to part-time students of the three MScs; 'Medical Image Computing', 'Radiation Physics' and 'Biomedical Engineering and Medical Imaging'.

**Availability:**

The module is available only to students on the above three MScs.

**Learning time:**

Lectures: 22

Tutorials: 5  
Site visits: 3  
Report and coursework writing: 0  
Independent project work: 0  
Private Study: 64  
Revision: 40  
TOTAL: 134

**Assessment:**

Written exams (closed book): one (two hours); weighting 100%.  
Written exams (open book): None  
Oral exams or vivas: None  
Written coursework: None.  
Practical exams: None

**Teaching load:**

Lectures (incl. preparation): 60  
Tutorials (incl. preparation): 10  
Site visits: 25  
Marking of coursework: 0  
Marking of exam scripts: 60  
Annual revision time (e.g. revision of lecture notes and problem sheets): 20  
Other annual administrative load related to this module: 20

**If this course is taught in programmes with different level of award, give details.:**

Not applicable

**Educational aims:**

This module covers the topic of imaging using ionising radiation and provides the basic theory behind the imaging techniques. It also includes a breakdown of the components of each imaging system, and describes the clinical applications of each method.

**Course syllabus (outline):**

\* Diagnostic Radiology, \* Computer Tomography (CT), \* Nuclear Medicine, \* Positron Emission Tomography (PET), \* Image reconstruction.

**Intended learning outcomes:**

Upon successful completion of this module, students will: \* will have a theoretical and practical background in medical imaging using ionising radiation.

**Reading list:**

A reading list for the complete MSc in Medical Image Computing will be available from the course web site at <http://www.ucl.ac.uk/cmhc/msc>

**Details of any distance learning available:**

None available

**Details of any offsite teaching:**

There will be visits to observe medical imaging and/or therapy in a local clinical setting.

**Starting and review dates:**

Starting date: September 2007  
Date of the last review: Not applicable  
Date of the next review: September 2008

**Other Departments to which access is required:**

Not applicable

**How will the course be monitored?:**

Student questionnaires, peer observation of teaching, staff/student committee, and periodic reviews by the Departmental Teaching Committee

**Student numbers:**

20 from MSc in Medical Image Computing at steady state. 20 from MSc in Biomedical Engineering and Medical Imaging 20 from MSc in Radiation Physics.

**UG/PG overlap:**

None

**Assessment at different levels:**

N/A

**Is this course taught by more than one Department? If so, give details.:**

Not applicable

**Proportion of teaching in other departments:**

None

**Additional costs to students:**

None

**Additional resources:**

None

**Setup costs:**

Set up costs are covered by EPSRC CTA funding.

**Knowledge:**

\* Medical Imaging using ionising radiation.

**Knowledge teaching methods:**

Specialist knowledge is acquired through a combination of lectures, demonstrations, laboratory classes and independent study.

**Knowledge assessment methods:**

Examination.

**Intellectual skills:**

\* The ability to analyse a problem and use appropriate scientific and professional tools to solve it. \* The ability to understand and analyse information and images. \* Creativity and independence of judgement.

**Intellectual skills teaching methods:**

Intellectual skills are taught at the same time as specialist knowledge, using the same teaching methods.

**Intellectual skills assessment methods:**

Intellectual skills are assessed at the same time as specialist knowledge, using the same assessment method.

**Practical skills:**

\* Know-how regarding the operation of PET, CT and Nuclear Medicine scanners.

**Practical skills teaching methods:**

Practical skills are taught through observation of professionals operating the equipment.

**Practical skills assessment methods:**

Practical skills are not formally assessed.

**Transferable skills:**

\* The ability to use information technology effectively.

**Transferable skills teaching methods:**

Transferable skills are taught at the same time as specialist knowledge, using the same teaching methods.

**Transferable skills assessment methods:**

Transferable skills are assessed at the same time as specialist knowledge, using the same assessment method.

**Amendments:**

None.

**Departmental approval:**

Name:

Position:

Date:

**External approval:**

Name:

Position:

Date:

**Faculty approval:**

Name:

Position:

Date:

**College approval:**

Name:

Position:

Date:

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