We aim to create doctors, healthcare professionals and medical scientists who are able to address the health and social care challenges of the 21st century, who are socially accountable and committed to the service of patients and the public. Our students can take advantage of numerous opportunities to gain real world experience to give them unparalleled preparation for their chosen careers, and which complements our research-led teaching. Where appropriate, we offer small group learning so that you can explore topics in depth with peers under the guidance of an expert in that field. Our unique education model is designed to foster an enquiring mind, dedicated to a lifetime of self-directed learning and evidence-informed patient care.

The BSc Medical Imaging programme at the University of Exeter is consistently rated as one of the best in the UK, and we are dedicated to further improving the student experience with significant investment in new facilities for the programme. As part of the University of Exeter Medical School, students on the Medical Imaging programme are taught on a campus with students studying medicine and medical sciences; this closer link is part of our effort to prepare all our students to be able to work with other professionals in the delivery of patient care and scientific advancement.

Medical Imaging is based in South Cloisters, the latest £10.5 million Medical School centre – a creative refurbishment housing our state-of-the-art medical imaging facilities, including an improved x-ray room, laboratory and demonstration room.

The Athena SWAN Charter recognises and celebrates good employment practice for women working in STEMM in higher education and research. The University of Exeter Medical School have been awarded an Athena SWAN Silver department award. Find out more about Athena SWAN in the University of Exeter Medical School at www.exeter.ac.uk/medicine/about/equalitydiversity/athenaswan

Programme requirement

Work experience is no longer a mandatory entry requirement for our programme.

You are encouraged to undertake work experience in a Radiography department to gain an insight into your desired profession. The role of the radiographer will be discussed during the interview, however, you will not be penalised if you are unable to obtain work experience.

Offers for this degree will be conditional upon students completing an Enhanced Disclosure and Barring Service (DBS) check disclosure, which is deemed satisfactory, and satisfying full health assessments.

Values based recruitment

We look for students who are both academically capable and who demonstrate the personal skills and qualities that are required to make a successful radiographer. It is this combination that helps to create successful multidisciplinary healthcare teams who deliver excellent patient care. The qualities and values we look for in students align with those within the NHS Constitution.

Through the recruitment process and our degree programme we aim to produce diagnostic radiographers that demonstrate the following values:

- working together for patients;
- respect and dignity;
- commitment to quality of care;
- compassion;
- improving lives;
- everyone counts.

Selection process

If you fulfil our entry requirements, you will be invited for interview, which will give you the chance to find out more about your programme and department. While this opportunity to visit includes a campus tour and formal introduction to the department, much emphasis is placed on a more informal period for questions and answers. A number of our current students also take part on these days, leading tours and giving you the opportunity to ask them what studying at Exeter is really like! Interview days take place during November to March.

If you are an international student you should consult our general and subject-specific entry requirements information for A levels and the International Baccalaureate, but the University also recognises a wide range of international qualifications. You can find further information about academic and English language entry requirements at www.exeter.ac.uk/ug/international

For information on the application, decision, offer and confirmation process, please visit www.exeter.ac.uk/ug/applications

For further details

Website: www.exeter.ac.uk/ug/medical-imaging
Email: medicine@exeter.ac.uk
Phone: +44 (0)1392 725500
Diagnostic radiographers fulfil an essential role in the modern healthcare setting, using their skills and knowledge to produce detailed, high-quality anatomical and physiological images of what is happening within the human body. These images are used to assist in the diagnosis of injury and disease thereby ensuring that prompt, effective treatment is given.

The world of radiography, and the role of the radiographer, is constantly changing and developing. The equipment used undergoes continual development and so radiographers need to be able to keep up-to-date with the latest technological advances. The role of the radiographer has expanded to include reporting on the images produced, providing a written interpretation of any abnormalities seen, and administering contrast agents by means of an intravenous injection. A new career pathway for radiographers was introduced following a government-led initiative, Agenda for Change. This new pathway introduced Advanced Practitioner and Consultant radiographer roles to reward clinical and research expertise.

Diagnostic radiographers work in many different branches of medical imaging including:

**Projection radiography**
Radiography is the production of a ‘radiograph’ using x-rays. It encompasses an array of techniques used throughout the hospital. A radiographer uses their skills and knowledge to modify standard techniques to accommodate the variety of patients encountered, for example, in the Emergency Department, in theatre and on the wards, as well as the Radiology department.

**Fluoroscopy**
Fluoroscopy is an x-ray technique used to produce a combination of dynamic and static images. It is usually used in combination with a contrast agent that has been introduced into the body in order to clearly delineate certain structures such as the gastrointestinal tract or blood vessels.

**Computed tomography (CT)**
This technique uses x-rays in conjunction with a specialised computer to produce cross-sectional images of the body. Modern computers enable the manipulation of the data recorded by the scanner, to allow the images to be reformatted in other planes or viewed as a three-dimensional image.

**Ultrasound**
Ultrasound uses high frequency sound to look at certain structures within the body. It is most commonly associated with monitoring the development of the embryo throughout pregnancy but it is also used to look at other structures such as the heart, organs within the abdomen and pelvis, and to evaluate blood flow in vessels.

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1 Destination of Leavers from Higher Education Survey (DLHE) of 2014/15 undergraduates
2 98 per cent of Medical Technology students agreed they were satisfied with our teaching
Nuclear medicine (radioisotope imaging)
This technique uses gamma-rays rather than x-rays. Nuclear medicine uses ‘radiopharmaceuticals’, a radioactive isotope which is usually bound to another pharmaceutical agent and then introduced into the body. The type of pharmaceutical agent used determines which organs in the body will take up the radiopharmaceutical. Taking images that demonstrate how the radiopharmaceutical has been taken up means that the function of the organ can be assessed. This technique can be used on many different body systems including the renal system, bone and the heart and can also be used for targeting therapy in oncology.

Magnetic resonance imaging (MRI)
This method requires the patient to lie inside a large tube containing magnets and utilises the magnetic properties of the individual hydrogen atoms within the body. MRI is used to produce detailed images of soft tissue structures within the body including the brain, spine, joints and the abdominal-pelvic organs.

Further information on Diagnostic Radiography can be found at:
www_radiographycareers.co.uk
www.sor.org
www.nhscareers.nhs.uk
BSc Medical Imaging (Diagnostic Radiography)

Our BSc in Medical Imaging (Diagnostic Radiography) ensures that, on graduation, you have the skills required to successfully embark on a career as a diagnostic radiographer and to be eligible to apply for registration with the Health and Care Professions Council (HCPC). We educate radiographers to be caring professionals, able to empathise with patients and offer high levels of patient care, while being confident in their technical ability through a strong academic foundation and able to work effectively in a multi-professional environment.

This full-time three-year programme includes clinical placements as well as academic components and therefore, this programme has a longer academic year than undergraduate programmes in other subjects. This enables us to provide the academic and practical content in sufficient detail to ensure that, at the end of three years, you are competent to start work as a diagnostic radiographer.

**Year 1**
This year provides a foundation in the theoretical knowledge and practical skills required for radiography. Academic study provides theoretical knowledge of patient care, anatomy, imaging techniques, professional practice and the science that underpins medical imaging. This is then complemented with a clinical placement, which provides practical experience in the safe and effective practice of general and fluoroscopic radiography.

**Year 2**
Drawing upon the knowledge and skills learnt in the first year, the second year develops further understanding of anatomical and physiological concepts in contemporary clinical imaging practice. You will develop your knowledge of radiation science and gain an appreciation of safe and optimal use of radiation-based imaging techniques. The second year clinical placement provides further practical experience of the safe and effective practice of general and fluoroscopic imaging and introduces interventional radiography and other imaging modalities.

**Year 3**
In the final year, you will integrate theory with practice by drawing on your prior experience of imaging modalities and re-interpreting your knowledge of imaging within a scientific framework. During the third clinical placement, you will become an integral member of the multi-professional healthcare team. You will have responsibility for organising your working day and liaising with staff in other departments, and will gain experience of managing an inter-professional team.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
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<tr>
<td>Including one reading week</td>
<td>Including one reading week</td>
<td>Including two weeks data collection for project</td>
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- **Clinical placements**
- **Elective placement**
- **Academic radiography (including exams)**
Learning and Teaching

Our teaching encompasses a range of methods, combining traditional lectures and practical work with tutorials both at the University and on placement. The academic blocks provide you with the underpinning theory, linked to practice. We aim to develop you as an independent learner, equipping you with the skills to support yourself in lifelong learning.

Inter-professional learning is delivered as part of the core syllabus and in practice, where you’ll be encouraged to develop the insight and skills needed to work effectively in the multidisciplinary hospital setting upon graduation. Our aim is to provide you with experiences and insights that will promote an ethos of multi-professional team working within the clinical setting.

We’re actively engaged in introducing new methods of learning and teaching, including increasing use of interactive computer-based approaches to learning through our virtual learning environment, where the details of all modules are stored in an easily navigable website. Students can access detailed information about modules and learning outcomes and interact through activities such as the discussion forums.

Clinical placements

The clinical placements are within Radiology departments in one of our 10 placement hospitals: Barnstaple, Bournemouth, Plymouth, Dorchester, Poole, Exeter, Taunton, Torbay, Truro and Yeovil. You will spend time at a different placement site each year in order for you to gain a wide range of clinical experience while exploring all that the South West has to offer. During your first placement, you will be working for four and a half days a week, between the hours of 9am and 5pm. In the second and third years you will undertake some weekend and out-of-hours duties. You will always be supervised by a qualified member of staff. If you are eligible to apply for a NHS bursary you may be able to get financial assistance with travel and accommodation costs during your clinical placements.

Research-inspired teaching

We believe that every student benefits from being part of a culture that is inspired by research and being taught by experts. You will discuss the very latest ideas in seminars and tutorials and become actively involved in research yourself. Research plays an important part in developing patient care and radiography as a whole for the future. You will be taught by staff who are at the cutting edge of their research areas, which ensures you receive the most up-to-date knowledge. During your third year, you will undertake a research project in which you will investigate a particular aspect of radiography in detail and may have the opportunity to work alongside research staff on current clinical projects.

Facilities

In September 2015 the Medical Imaging programme moved into a brand new, purpose-built facility at the St Luke’s Campus which has undergone a £10.5 million redevelopment to create new state-of-the-art teaching and research space.

This space has new x-ray equipment with digital radiography (DR), new ultrasound scanner, interactive white boards for demonstrating anatomy and projecting images, shaderware computer programme for students to practice positioning and outcomes of adjusting positions, table top x-ray experiments demonstrating Computed Tomography, access to the MRI scanner, phantoms such as an anthropomorphic whole body x-ray phantom and Doppler ultrasound string phantom, quality assurance tests, barracuda dosemeter, bones and anatomical models. You will have access to a purpose-built x-ray room, laboratory space and demonstration room which will enable practical activities to take place to support the theoretical course content.

Assessment

Assessment is carried out via a combination of continuous assessment (both academic and clinical) and exams. The programme is studied over three years. Your first year does not count towards your final degree classification, but you do have to pass it in order to progress. Assessments in the final two years both count towards your classification. In your final year, you will undertake a research project which will count for 25 per cent of the year’s marks. Projects provide an opportunity for you to link your clinical experience with the world of research and enable you to demonstrate to employers your depth of knowledge underpinning your practical skills.

Academic support

We are strongly committed to offering high levels of personal and academic student support. You will have a personal tutor at the University and, during your clinical placements; a clinical tutor will visit you fortnightly.
A medical imaging degree is a passport to an interesting job and a fulfilling career. Starting salaries are more than £20,000 per year and there is a grading structure that sees an individual’s salary increase as they move up the profession. There are also opportunities to develop into management, advanced practice, consultant, research and academic posts.

Radiographers trained in the UK are recognised as being among the best in the world and the health providers of many foreign countries recruit in the UK. On graduation you will be eligible to apply for registration as a diagnostic radiographer with the Health and Care Professions Council (HCPC) and for membership of the Society and College of Radiographers.

Preparing students for employment is an essential part of the programme. In addition to the assessed academic and personal skills integrated within the programme, there is a schedule of additional activities designed to enhance the employability of our graduates. Employability Labs, run with support from Radiography Department Heads in local NHS hospitals are specifically tailored to the needs of students applying for careers in medical imaging. These include sessions on writing personal statements, completing online application forms, and mock interviews.

The best part of the course is the opportunity that the work placement brings – getting to move all around the South West is exciting and helps prepare you for the eventuality of getting a job at the end. For one of my placements, I was at the Royal Cornwall Hospital in Truro. I learned so much, really enjoyed the work atmosphere, all the staff were friendly and willing to help and teach. My favourite part was the use of the C-arm fluoroscopy in theatre. Exeter is a top 10 university which gives you good prospects and is in a lovely part of the country.

Melissa Roberts, BSc Medical Imaging (Diagnostic Radiography)
# MODULES

For up-to-date details of the programme and all the modules, please check [www.exeter.ac.uk/ug/medical-imaging](http://www.exeter.ac.uk/ug/medical-imaging)

## Year 1

<table>
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<tr>
<th>Module</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Foundations of Patient Care</strong></td>
<td>The role of a professional radiographer is high-quality patient care. Radiographers must not just know what professional conduct is, they must behave in this way both instinctively and at all times. This requires appropriately developed interpersonal skills, and an understanding of aspects of sociology and psychology as they apply to the inter-professional clinical context.</td>
</tr>
<tr>
<td><strong>Anatomy and Physiology</strong></td>
<td>This module develops knowledge, understanding and application of human anatomy and physiology. It draws on established knowledge from the scientific disciplines of anatomy and physiology that underpin sound practice in healthcare.</td>
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<tr>
<td><strong>Research and Evidence-Based Professional Practice</strong></td>
<td>This module introduces the principles of evidence-based practice and research methodologies that underpin patient/client care. You will be introduced to the principles of professional practice within health and social care. In the context of evidence-based professional practice, you will develop basic problem-solving and reasoning skills. Alongside this you will develop an understanding of professional practice.</td>
</tr>
<tr>
<td><strong>Clinical Imaging 1</strong></td>
<td>This module aims to develop knowledge of the technology which supports general and fluoroscopic radiography and its conduct. It also provides knowledge of patient positioning for various parts of the anatomy.</td>
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<tr>
<td><strong>Introduction to Radiation Physics</strong></td>
<td>Through this module you will develop essential mathematical skills and gain knowledge of the essential science underpinning the various radiation imaging modalities. The module also provides introductory knowledge of radiation biology and physics, sufficient to appreciate the legislative framework of justification, optimisation and limitation in control of ionising radiations.</td>
</tr>
<tr>
<td><strong>Radiographic Anatomy</strong></td>
<td>This module develops knowledge, understanding and application of biological concepts in the context of contemporary healthcare practice. It draws on established knowledge from the scientific discipline of anatomy that underpins sound practice in healthcare. The discussion of anatomy emphasises how it is demonstrated in diagnostic images.</td>
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<tr>
<td><strong>Practice Placement 1</strong></td>
<td>Professional radiographers must be able to apply their theoretical knowledge and practical skills within an inter-professional clinical context. This placement provides practical experience of the safe and effective practice of general and fluoroscopic radiography. You will develop your patient care skills, and learn to identify professional and management issues and understand how these are inter-related.</td>
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## Year 2

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<th>Module</th>
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<tr>
<td><strong>Clinical Imaging 2</strong></td>
<td>This module develops knowledge of the science and technology underpinning the x-ray sources, image receptors and supporting facilities used in clinical radiology. The module also provides understanding of the details of a number of advanced 2D x-ray imaging applications now becoming widely available in imaging departments. Encompassed within this module are the example situations of angiography and neurology, utilisation of x-ray interventional procedures and use of x-ray facilities in wards and A&amp;E departments.</td>
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<tr>
<td><strong>Clinical Imaging 3</strong></td>
<td>This module develops knowledge of the science and technology underpinning 2D and 3D radionuclide imaging, ultrasound and MRI, and of the principles of safe practice in using these various modalities. The module also provides practical training in interpretation of the images that arise from these modalities.</td>
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<tr>
<td><strong>Project Studies 1</strong></td>
<td>This module develops a sound understanding of research terminology, methods and principles. It is designed to enable you to understand different research designs, to evaluate the research literature and to prepare you to undertake research at undergraduate level.</td>
</tr>
<tr>
<td><strong>Science for Medical Imaging</strong></td>
<td>This module develops a range of basic mathematical skills and knowledge of the essential science which underpins the various imaging modalities. The module also aims to provide sufficient knowledge of introductory radiation biology and physics to allow an appreciation of safe and optimal use of radiation imaging techniques.</td>
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<tr>
<td><strong>Pathology for Radiographers</strong></td>
<td>This module develops knowledge, understanding and application of anatomical and physiological concepts in the context of contemporary clinical imaging practice. It introduces biological and sociological themes related to health, including their relationship to healthcare practice.</td>
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<tr>
<td><strong>Practice Placement 2</strong></td>
<td>This placement provides further practical experience of the safe and effective practice of general and fluoroscopic imaging. It introduces interventional radiography and other imaging modalities. You will develop your patient care skills and learn to handle more complex situations.</td>
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</table>
Digital Image Processing for Radiographers

In this module, you will develop a level of mathematical skill sufficient to analyse complex waveforms and appreciate the statistical consequences of the information stored in an image. You will develop knowledge of the underlying algorithms used by image manipulation tools and the extent to which the use of these affect the qualities of the image. Finally, you will learn how each and every component of the imaging chain, from presentation of patient through to the interpretive skills of the radiographer/radiologist can affect the predictive diagnostic capabilities of a method.

Professional Skills for Radiographers

You will develop your knowledge of the legislative and professional framework that governs radiographers together with associated managerial, professional and inter-professional issues encountered in clinical practice. The resulting framework of knowledge and skills supports safe and equitable practice. You will learn about the skills needed to use contrast-enhancing agents safely, about the complications associated with contrast media, the mitigating measures available against anaphylaxis and the various means that are available for dealing with adverse reactions.

Year 3

Practice Placement 3

During this third, and final, placement you will become an integral member of the multi-professional healthcare team; competent to deal with a full range of patients using a wide range of modalities. You will have responsibility for organising your working day and liaising with staff in other departments, and will gain experience of managing an inter-professional team.

Project Studies 2

This module will develop your skills in self-directed and group study. You will plan, undertake and evaluate a research project and write it up in a format suitable for publication.

Skeletal Image Interpretation

Advanced radiography requires an understanding of image interpretation and its applications. This module draws on established knowledge from the scientific disciplines of anatomy, radiographic anatomy and pathophysiology that underpin image interpretation. You will develop the fundamental skills that underpin the writing of image comments.

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I graduated from the University of Exeter in 2007 and started work as a Diagnostic Radiographer at the Royal Devon and Exeter Hospital. Since then I have furthered my career; I currently work as a Senior Radiographer in the General X-ray department, specialising in paediatric radiography.

I have maintained a close relationship with the University as a Link Radiographer and Student Assessor. I enjoy working with current undergraduate students, passing on my knowledge and helping to shape the next generation of radiographers.

I am pleased that I chose to study Medical Imaging at Exeter; the degree course teaches you much more than just the practical aspects of radiography, with varied lectures to advance your knowledge and clinical placements to develop your skills and put the theory into practice.

Diagnostic radiography is a rewarding and fulfilling career; developments in technology mean that it is constantly changing and advancing – there is always something new to learn. Each day brings a new challenge, ensuring you are always kept on your toes!

Katie Swann, BSc Medical Imaging (Diagnostic Radiography), graduate
ABOUT THE UNIVERSITY OF EXETER

Top 1% of universities worldwide (Times Higher Education)

9th in The Times and The Sunday Times Good University Guide 2017

Six months after graduation, 94% of our first degree graduates were in employment or further study (HESA 2014/15)

Our teaching is inspired by our research, 98% of which is of international quality (2014 Research Excellence Framework)

We have 21,000 students from 181 countries, and they are the most satisfied in the Russell Group (NSS)

VISIT US TO FIND OUT MORE

Open Days
You can register your interest now for our Open Days and receive priority access to book your place*; visit www.exeter.ac.uk/opendays

* Pre-registration only guarantees priority access to the booking system and is not an absolute guarantee of a place at any of our Open Days. Booking is essential and is on a first-come, first-served basis.

Exeter campuses:
Friday 2 June 2017
Saturday 3 June 2017
Saturday 2 September 2017

Campus Tours
We run campus tours at the Streatham Campus each weekday, and at St Luke’s Campus on Tuesdays and Fridays during term time. You’ll be shown round by a current student, who’ll give you a first-hand account of what it’s like to live and study at the University.

Phone: +44 (0)1392 724043
Email: visitus@exeter.ac.uk

www.exeter.ac.uk/ug/medical-imaging

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