Welcome from the Dean of Science

The Faculty of Science at the University of Bath is delighted to offer a wide range of high calibre taught and research-based postgraduate programmes, from Masters courses to PhD and EngD programmes. We host a diverse and enthusiastic cohort of postgraduate students, representing all the branches of science within the Faculty. Deciding on the right postgraduate path can be challenging, but the Graduate School team at Bath is here to help you, with information about courses and living in Bath, and help and advice about the application process. Being a postgraduate student at Bath can be enormously rewarding, combining an opportunity to learn in a world class academic environment with living in one of the most beautiful cities in England.

We hope to give you the opportunity to study with us and look forward to welcoming you to the diverse and stimulating top class study here in a World Heritage City of Bath.

Professor David Bird
Professor David Bird, Dean of Science

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The information in this publication is correct at the time of going to press, but all matters contained in this brochure are subject to change from time to time both before and after a candidates admission. The University may at its discretion, and for any reason, alter or not offer courses or parts of courses.
Welcome to the Faculty of Science

“At the University of Bath we take the development of our postgraduates very seriously. Developing your skills is key to becoming an effective scientist and to making a successful transition into your future career.”

Professor Jane Millar (Pro-Vice-Chancellor Research)

We are the largest Faculty in the University, and currently have over 3,000 undergraduate students and over 500 postgraduate students. In total there are approximately 600 staff, of whom more than 400 are academic and research staff.

The Faculty comprises six departments:

- Biology & Biochemistry
- Chemistry
- Computer Science
- Mathematical Sciences
- Pharmacy & Pharmacology
- Physics

The Faculty prides itself on its excellence in research that provides the foundation from which our unique style of teaching and learning has developed. Our research spans the spectrum from fundamental studies of the mathematical, physical and biological worlds through to cutting-edge applications. We have excellent facilities for research and we are continually investing in our research infrastructure. Our research is supported by a wide variety of funding agencies, including the UK Research Councils, the European Union, Industry and Charities. Our total research portfolio as at November 2014 is in excess of £64 million.

Our close association with industry and commerce means that Bath graduates enjoy some of the highest rates of employment and the best starting salaries in the UK.

Our Programmes

We offer a range of one-year taught Masters programmes as well as traditional PhD programmes.

**Master of Science (MSc):** Our MSc programmes aim to provide professional-level training with strong theoretical, research and transferrable skills all of which will be highly sought after by companies and higher education institutions worldwide.

**Master of Research (MRes):** The MRes programmes will provide experience of high-level research in state-of-the-art facilities, and provide training in a wide range of research techniques. Students who complete an MRes degree will be well placed to proceed to a PhD programme. There are also specific opportunities for inter-disciplinary research.

**Doctor of Philosophy (PhD):** PhD projects are offered in all disciplines, with various funded and unfunded places. There are also opportunities in the Doctoral Training Centres for Digital Entertainment and for Sustainable Chemical Technologies, which both offer 4-year integrated PhD programmes. There are opportunities to study for an MPhil degree on a shorter timescale than a PhD. Information on PhD funding, projects and entry requirements are available each year on the Science Faculty web pages. Informal queries can be directed to fscl-pgadmissions@bath.ac.uk

**Doctor of Engineering (EngD):** There is a specialist EngD in Digital Media available in the Department of Computer Science.

Graduate School

The Graduate School is central to the experience of postgraduate students engaged in research or taking taught courses within the faculty. The Graduate School provides a point of contact for postgraduate students and is responsible for supporting them throughout their time at the University; from admission, through progression stages to submission and completion. Generic skills training courses are provided by the Graduate Centre via the Graduate School.

Funding

Each year a range of scholarship opportunities are available for excellent students undertaking postgraduate study within the Faculty of Science. Full details of funding and eligibility requirements are included each year on the University and Faculty web-pages:

www.bath.ac.uk/science/graduate-school

www.bath.ac.uk/study/pg/funding/index.html

“Research is Bath’s greatest strength: 60 per cent of the work submitted for the 2008 Research Assessment Exercise was judged to be ‘world-leading’ or internationally excellent.”

The Times Good University Guide

www.bath.ac.uk/science
Welcome to the Department of Biology and Biochemistry
This thriving department has 51 academic staff, over 600 undergraduates, 33 Masters students and 96 research students. Our current research funding portfolio stands at £14 million, which supports internationally excellent research in the biosciences. This research is published in the highest impact international journals, with typically 125 papers being accepted per year. Our students work in a stimulating and exciting academic environment.

Research
A leading research-intensive bioscience department in the UK, we are renowned for our breadth of world-leading and internationally excellent research on animals, plants and microorganisms. Research focuses on developmental biology and regenerative medicine, infection and immunity, molecular structure and function, sustainable biotechnology and evolutionary genomics and biodiversity.

Centres for Extremophile Research, Mathematical Biology, Networks and Collective Behaviour and Regenerative Medicine enhance the interdisciplinary nature of our research.

Our postgraduate students are central to the research culture of the Department. By choosing to study at Bath postgraduates benefit from a vibrant and supportive interdisciplinary environment. They have access to first class molecular life science research facilities and are part of an intellectually stimulating research community.

For details of research see www.bath.ac.uk/bio-sci/research

MRes Programmes
- BioSciences
- Developmental Biology
- Evolutionary Biology
- Molecular Microbiology
- Molecular Plant Sciences
- Protein Structure & Function
- Regenerative Medicine

MSc Programmes
- BioSciences
- Developmental Biology
- Evolutionary & Population Biology
- Medical BioSciences
- Molecular Microbiology
- Molecular Plant Sciences
- Protein Structure & Function

Research Programmes
PhD and Integrated PhD

Facilities
- X-ray crystallography & 600MHz NMR facility
- robotics platform for protein crystallization
- phosphorimaging service
- transgenic mouse, Xenopus and Drosophila facilities
- Xenopus, zebrafish and Manduka aquaria
- GM glasshouse
- controlled environment rooms for GM plants and insects
- microscopy and analysis suite
- FACS and advanced microscopy centre
- stopped-flow kinetics
- CD spectroscopy
- dedicated molecular biology server
- micro-array reader
- tissue culture for plant and mammalian cells

Research Themes
- Biodiversity
- Cell Biology
- Developmental Biology
- Evolution
- Infection and Immunity
- Molecular Structure and Function
- Neuroscience
- Plant sciences

After Graduation
Since graduating, our students have gone on to further research at institutions in the US, Europe, Australia, Asia and Africa.

Recent employers include:
- Morvus Technology Ltd.
- Janssen-Cilag
- Royal United Hospital, Bath
- Ministry of Defence
- State Intellectual Property Office, Beijing
- Wellcome Trust Centre for Human Genetics, Oxford University
- AbCam
- Salisbury Foundation Trust Hospital
- BBSRC
- Lonza
The Department of Biology and Biochemistry offer a wide range of taught Masters programmes leading to the award of an MSc or MRes degree in a number of specialist areas, including:

- Biosciences
- Developmental Biology
- Regenerative Medicine
- Molecular Microbiology
- Molecular Plant Sciences
- Protein Structure and Function
- Medical BiSciences
- Evolutionary or Evolutionary and Population Biology

**MSc programmes**

The aim of each MSc programme is to provide professional-level training that will develop highly skilled bioscientists with strong theoretical, research and transferable skills all of which are necessary to work at the forefront of modern biosciences. An MSc from the University of Bath will be recognised as a graduate award that will be valued by companies and higher education institutions worldwide. Graduates will have a competitive edge in relation to undergraduate students applying for similar positions; they will be able to find posts in industry and government where a working knowledge of the nature and demands of academic research is needed.

**MRes programmes**

Each of our MRes programmes will broaden knowledge of the conduct, management, implications and exploitation of research, enhance the specialist knowledge at Masters level, provide experience of high-level research in state-of-the-art topics, and provide training in a wide range of research techniques.

Students who complete an MRes degree could proceed directly to a three-year PhD programme having spent 60% of their time in a research lab undertaking two research projects. They will be qualified for jobs in industry and government where a working knowledge of the nature and demands of academic research is needed.

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**Postgraduate Taught Programmes Key Facts**

**Duration:** 1 year full time

**Entry Requirements:** At least an upper second class honours degree or equivalent in a relevant subject. IELTS 6.5 (with not less than 6.0 in each of the four components).

**Applying:** Overseas applicants must complete the online application form by the end of June.

www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply

**Fees and Funding:**

www.bath.ac.uk/study/pg/fees/taughtfees/science

www.bath.ac.uk/science/graduate-school/taught-programmes/funding

**Contact:**

MSc: Dr Susan Crennell
MRes: Dr Momna Hejmadi

Email: fsci-pgadmissions@bath.ac.uk
Tel: +44 (0) 1225 383410

Further information:

www.bath.ac.uk/bio-sci/masters
MSc/MRes Biosciences
The MSc in Biosciences enables students to customise the course according to their needs and future career ambitions by selecting diverse topics and projects under guidance of the Director of Studies who advises on suitable taught units and laboratory projects.

Commonly chosen 6-credit units include:
- Molecular mechanisms of disease
- Enzymes in biotechnology and medicine
- Cellular biochemistry
- Current topics in gene regulation and cell differentiation
- Bioinformatics
- Molecular and medical neurobiology
- The evolution of genetic systems
- Molecular biology of microbial adaptation
- Plant reproductive biology
- Structural biology in biotechnology and medicine
- Molecular immunology
- Human developmental disorders
- Practical molecular biology
- Plant response to abiotic stress
- Microbial genetics
- Modern methods of researching neurodegeneration

The MRes programme can be customised to fit the career aspirations of an individual student and be designed from a choice of over 50 taught units and 70 lab projects, to cater for research interests as varied as structural biology through to animal behaviour.

MSc/MRes Developmental Biology
The MSc programme focuses on the science of the processes governing the growth and development of organisms. The MRes programme focuses on the fundamentals of developmental biology in a range of vertebrates. Both include studies of the genes and molecules that control cell growth, differentiation and morphogenesis that give rise to tissues, organs and individuals. The department has outstanding facilities for experimental work using a range of model vertebrate organisms.

Commonly chosen 6-credit units include:
- Molecular genetics of vertebrate development
- Advanced developmental genetics
- Systems and developmental neurobiology
- Molecular mechanisms of disease
- Current topics in gene regulation and cell differentiation
- Human developmental disorders
- Vertebrate developmental biology
- Cell biology of metastasis

MSc Evolutionary and Population Biology
This programme covers the origins and appearance of organisms and their genes as well as their interactions within the environment. It includes not only theoretical and experimental studies of evolutionary biology within the laboratory studying genes, genomes and phylogeny but also field work and applications to real problems, biodiversity and conservation science.

Available 6-credit units include:
- Concepts in evolution
- Field course
- Behaviour and ecology
- Evolution in deep time
- Sexual conflict
- Conservation biology
- The evolution of genetic systems
- Molecular phylogenetics and evolution
MRes Evolutionary Biology

Evolutionary biology is the branch of biology dealing with the origin and descent of species, their genes and genomes. This MRes programme allows the student to study practical evolutionary problems with model organisms, such as the fruit fly, as well as theoretical explorations of evolution using modelling and bioinformatics.

Available units include:
- Evolution in deep time
- Sexual conflict
- Bioinformatics
- Microbial evolution - from the laboratory to nature
- The evolution of genetic systems
- Molecular phylogenetics and evolution

MSC/MRes Molecular Microbiology

The MSc and MRes programmes concentrate on understanding the molecular principles underlying the biology of microorganisms such as bacteria, viruses, fungi and yeasts. In particular we study gene expression and regulation, gene transfer, genome structure, epidemiology, cell communication, and pathogenicity and virulence factors.

Commonly chosen 6-credit units include:
- Structural biology in biotechnology and medicine
- Molecular phylogenetics and evolution
- Microbial evolution - from the laboratory to nature
- Microbial pathogenicity
- Pathogenesis and immune evasion by microbes
- Infection and immunity
- Molecular biology of microbial adaptation
- Bacteriology
- Plant-microorganism interactions
- Virology
- Topics in environmental plant virology
- Microbial genetics

MSc/MRes Molecular Plant Sciences

Molecular Plant Scientists attempt to understand the biology of plants at the molecular level, which is the focus of the MSc programme. The MRes programme provides opportunities to study molecular problems from epigenetics through to food crops. We study, in particular, mechanisms of microbial pathogenicity and host plant defence in temperate and tropical species, cell and molecular biology of pollen-stigma recognition and signalling in flowering plants, plant hormone and G protein signalling pathways, genomics and gene networks, and molecular biology of stress responses in the important tropical crop cassava.

Available 6-credit units include:
- Plant physiology and biochemistry
- Plant biotechnology
- Topics in environmental plant virology
- Plant symbiosis and pathology
- Sensory and signalling networks in plants
- Plant reproductive biology
- Plant-microorganism interactions
- Plant responses to abiotic stress
- Plant biotechnology and the environment
MSc/MRes Protein Structure and Function

This programme focuses on the integration of structural biology and bioinformatics approaches in order to understand the activity of proteins, including enzymes, antibodies and receptors, at a molecular level. This understanding provides a platform for techniques such as structure-based drug design, biocatalysis and protein engineering, which are the basis for many recent advances in biotechnology.

Available 6-credit units include:
- Enzymology
- Protein synthesis, folding and turnover
- Molecular Immunology
- Enzymes in biotechnology and medicine
- Medical biochemistry
- Structural biology in biotechnology and medicine
- Cellular biochemistry
- Enzymes: mechanisms, evolution and control in integrated biological systems

MSc Medical Biosciences

The MSc Medical Biosciences programme focuses on the study of the molecular and genetic basis of human health and disease, using biotechnological methods to advance our current research. The wealth of genomic and proteomic data from the Human Genome Project has broadened our understanding of the biochemical and genetic basis of several diseases. In particular, this programme will cover the rapid developments in the field of cancer and metastasis, neurodegenerative conditions, microbial pathogenesis and immune evasion science.
Commonly chosen 6-credit units include:

- Cancer biology
- DNA (making, breaking and disease)
- Frontiers of neuroscience
- Human developmental disorders
- Medical biochemistry
- Microbial pathogenicity
- Molecular mechanisms of disease
- Modern methods of researching neurodegeneration
- Practical molecular biology
- Pathogenesis and immune evasion by microbes

MRes Regenerative Medicine

The MRes Regenerative Medicine programme focuses in particular on modern research in developmental biology, stem cell biology and tissue engineering with its potential applications to medicine and is a collaborative programme within the Centre for Regenerative Medicine (www.bath.ac.uk/crm)

Available units include:

- Advanced developmental genetics
- Current topics in gene regulation and cell differentiation
- Molecular mechanisms of disease
- Molecular genetics of vertebrate development
- Human development disorders
- Biochemical ethics
- Drug targets in the immune system
- Trends in molecular signalling
- Vertebrate developmental biology
- Stem cell biology
- Communicative skills in pharmacology
- Biomedical engineering
Department of Chemistry

An excellent reputation and superb facilities

Welcome to the Department of Chemistry
We are a highly successful and expanding department which carries out internationally recognised research in many areas of chemical sciences. A new research building built in 2000 and a teaching building built in 2003 plus state of the art laboratories and equipment make Bath a first choice for many people looking to pursue graduate studies in Chemistry in the UK. We are a young department – the average age of academic staff is just 40. The number of postgraduate students is set to expand in the coming years.

Research areas
Research in the Department of Chemistry spans all sub-disciplines, from theoretical physical chemistry to biological chemistry and antibody engineering. Outstanding publications, substantial grant income (giving a 2014 portfolio of £23 million) from research councils and numerous industrial partners has resulted in a strong demand for our postgraduates and postdoctoral workers, which testifies to the thriving research program that exists at Bath.

There are a number of successful research programs in organic chemistry at Bath in the areas of synthetic methodology, catalysis, natural product synthesis, materials and chemical sensors. This research activity provides a world-class environment for postgraduate and postdoctoral teaching as well as outstanding training in many aspects of modern organic chemistry. A major research area in many research groups is the development of novel transition metal catalysts, organocatalysts and biocatalysts; a long tradition of the development of chemical sensors; and many projects focused on the development of ‘green’ synthetic protocols in collaboration with the Centre for Sustainable Chemical Technology.

The research groups in the inorganic chemistry section undertake internationally recognised research across a broad range of inorganic molecular and materials chemistry and have access to state-of-the-art equipment, both within the department and through well-established external links (e.g. Diamond and Isis, Rutherford Appleton Lab).

The research groups in the physical chemistry section have a range of interests in manufacturing, healthcare technologies and the environment. The development of innovative electrochemical techniques is one of the key themes along with the use of diffraction techniques. Exciting research is also being carried out in the areas of polymer chemistry and the environment.

The computational research groups in Bath undertake theoretical studies on materials that are key to the development of modern society, and areas of research include developing a better understanding of battery materials, ceramics, metal oxides and how both organic and inorganic reactions occur on surfaces and substrates.

For details, see www.bath.ac.uk/chemistry/research

Research Centres
Centre for Sustainable Chemical Technologies - CSCT with the Department of Chemical Engineering
See www.bath.ac.uk/csct/

Research Programmes
- Chemistry PhD
- Chemistry Integrated PhD
- Sustainable Chemical Technologies Integrated PhD

Taught Programmes
- MRes Chemistry
- MSc Chemistry for Drug Discovery

Facilities
- X-ray powder diffraction
- Single crystal X-ray diffraction
- Mass spectrometry
- NMR (250/300/400/500 MHz, multinuclear facility)

After Graduation
Recent Bath graduates have gone on to postdoctoral research in the UK, USA including Princeton, Harvard and Yale, the Netherlands, France, Luxembourg, Norway, Brunei and New Zealand.

Employers include the NIST Center for Neutron Research, Tocris, EPSRC and the Royal Society of Chemistry.
MRes Chemistry

The aim of the Chemistry MRes programme is to provide experience in a wide range of laboratory techniques and enhance specialist knowledge in chemistry. It is a self-contained qualification, and graduates will be well-suited for posts in all sectors of the chemical industry, including the pharmaceutical industry and government institutions. It may also form the first year of a four year integrated PhD programme.

Course Structure
Course components include an advanced chemistry practical unit, two research projects, taught units in advanced chemistry, modules in transferable skills.

Research projects may be chosen from any area of computational, physical, inorganic or organic chemistry.

“If you are a postgraduate student you are going to be involved in some really exciting, cutting edge research.”

Dr Gan Shermer, Teaching Fellow, Chemistry

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>Compulsory Taught Units (12 credits)</td>
<td>Compulsory Taught Units (6 credits)</td>
</tr>
<tr>
<td>Postgraduate training module (6 Credits )</td>
<td>The recent chemical literature (6 Credits)</td>
</tr>
<tr>
<td>Advanced group work in practical chemistry (6 Credits)</td>
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<tr>
<td>Optional Taught Units (12 credits)</td>
<td>Optional Taught Units (12 credits)</td>
</tr>
<tr>
<td>Select two 6 credit units from Topics in inorganic, organic or physical chemistry, or Advanced structural and theoretical methods</td>
<td>Select 12 credits from a choice of 3 and 6 credit units</td>
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</table>

Academic Year: Project/Dissertation Unit (48 Credits)

Advanced research projects (48 Credits)

Details of all units can be found at www.bath.ac.uk/catalogues/2014-2015/ch/ch-proglist-pg.html
**MSc Chemistry for Drug Discovery**

The aim of the MSc Chemistry for Drug Discovery programme is to provide experience and training in the chemical aspects of the drug discovery process, and involves a combination of lecture-based units, research training and a research project.

The course is ideal for someone considering a career in the pharmaceutical industry, or as a stepping stone to a PhD in a related area. Including both core and optional units, topics studied include chemistry of the cell, drug properties and the synthesis of medicinal compounds.

The research training allows students to gain experience in practical chemistry and in manipulating spectroscopic data. Research projects are possible in a wide range of areas including organic synthesis, biomaterials, development of sensors and computational simulations.

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### Course Structure

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<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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<tbody>
<tr>
<td><strong>Compulsory Taught Units (18 credits)</strong></td>
<td><strong>Compulsory Taught Units (30 credits)</strong></td>
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<tr>
<td>Postgraduate training module (6 Credits)</td>
<td>The chemistry of physiology and drug properties (6 Credits)</td>
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<tr>
<td>Advanced group work in practical chemistry (6 Credits)</td>
<td>Major therapeutic areas (6 credits)</td>
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<tr>
<td>Chemistry of the cell (6 Credits)</td>
<td>Blockbuster drugs (3 credits)</td>
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<tr>
<td></td>
<td>Organic and inorganic aspects of homogeneous catalysis (3 credits)</td>
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<tr>
<td></td>
<td>Preparation for research project (12 Credits)</td>
<td></td>
</tr>
<tr>
<td><strong>Optional Taught Units (6 credits)</strong></td>
<td><strong>Optional Taught Units (12 credits)</strong></td>
<td>Research project (30 credits)</td>
</tr>
<tr>
<td>Select 6-9 Credits from the following:</td>
<td>Select 3-6 Credits from the following list:</td>
<td></td>
</tr>
<tr>
<td>Techniques in drug discovery (3 Credits)</td>
<td>Chemistry beyond the molecule (3 Credits)</td>
<td></td>
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<tr>
<td>Topics in organic chemistry (6 Credits)</td>
<td>Synthesis of medicinal compounds (3 Credits)</td>
<td></td>
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<tr>
<td>Future of drug discovery (3 Credits)</td>
<td>Supramolecular chemistry (3 Credits)</td>
<td></td>
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<td></td>
<td>Physical organic chemistry (3 Credits)</td>
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<tr>
<td></td>
<td>Inorganic chemistry in biological systems (3 Credits)</td>
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<tr>
<td></td>
<td>Research topics in natural products (6 Credits)</td>
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</tbody>
</table>

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/ch/ch-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/ch/ch-proglist-pg.html)

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**Postgraduate Taught Key Facts**

- **Duration:** 1 year full-time
- **Academic Entry requirements:**
  - **MRes Chemistry:** 2:1 or higher first degree (or equivalent) in the physical sciences.
  - **MSc Chemistry for Drug Discovery:** 2:1 or higher first degree (or equivalent) in chemistry, or a chemistry-related subject. Prior study of the drug discovery process or specialisation in medicinal chemistry is not required.
  - **Both programmes:** Students may also enter the programme of study with a taught Masters degree in an appropriate subject. The minimum non-graduate qualifications acceptable for admission to the University of Bath are:
    1. Membership of recognised professional institutions of at least graduate status or a relevant professional qualification acceptable to the Board of Studies.
    2. Extended and responsible experience at an appropriate standard in a relevant field acceptable to the Board of Studies.

- **English requirements:** IELTS 6.5 (with not less than 6.0 in each of the four components)
- **References:** Two references are required.
- **Applying:** Overseas applicants must complete the online application form by the end of June.
  
  [www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply](http://www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply)

- **Contact:** Dr Toby Jenkins
  
  Email: [fsci-pgadmissions@bath.ac.uk](mailto:fsci-pgadmissions@bath.ac.uk)
  
  Tel: +44 (0) 1225 383410

- **Fees and Funding:**
  
  [www.bath.ac.uk/study/pg/fees/taughtfees/science](http://www.bath.ac.uk/study/pg/fees/taughtfees/science)

  [www.bath.ac.uk/science/graduate-school/taught-programmes/funding](http://www.bath.ac.uk/science/graduate-school/taught-programmes/funding)

- **Further information:**
  
  [www.bath.ac.uk/chemistry/masters](http://www.bath.ac.uk/chemistry/masters)
Welcome to the Department of Computer Science

The department comprises 25 members of academic staff and several visiting researchers and research staff, 94 research students and 28 current Masters students. The Department began life in August 2001, emerging from the Computing Group of the Department of Mathematical Sciences. Priding itself on being research-led with strong interdisciplinary research and postgraduate teaching, the Department continues to recruit new academic staff of an extremely high calibre. The Department also attracts a highly qualified student intake and frequently appears as a top UK Computer Science Department in the published League Tables.

Research

Our research is strongly inter-disciplinary and combines practical application with a strong theoretical understanding. It is concerned with systems-wide issues in computer science ranging from mathematical foundations through visual and cognitive processes to media technology, human-centred design and collaborative systems. We are a department with an outstanding research profile. In the recent national Research Assessment Exercise our Computer Science research output was ranked 4th out of 81 university submissions in the UK.

We have a variety of disciplinary backgrounds and collaborate widely with researchers in other disciplines including Engineering, Mathematics and Psychology both here and elsewhere. Although our research crosses boundaries, our main research themes are:

- **Human-Computer Interaction**
  Undertakes research applicable to work and leisure activities of both individuals and groups, and the implications of this for the design of future interactive systems. It has strong links to psychology and social sciences and with the Faculties of Engineering and Humanities at Bath.

- **Mathematical Foundations**
  Researches the mathematical concepts that form the basis of computer science, and applications in topics such as computational complexity, cryptography and security, robotics, and interfaces with computer algebra and complex numeric computations.

- **Media Technology**
  The Media Technology Research Centre is made up of academic researchers whose interests include media technologies including computer graphics, vision, and sound. The centre was formed to support collaboration between researchers from various departments within the university, but who share related interests.

- **Artificial Intelligence**
  Researches the inter-disciplinary boundaries between the engineering of smart machines and the understanding of natural intelligence.

We have strong links with local, national and international industry, either directly or through our Engineering Doctorate programmes. The Centre for Digital Entertainment supports doctoral researchers (EngD) from the UK (plus a limited number of EU nationals) with a collaborative training programme in the digital media industry, funded by the Engineering and Physical Sciences Research Centre.

75% of our research was rated world-leading (4*) or excellent (3*) in the UK-wide RAE 2008.

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**Department of Computer Science**

6th in *The Sunday Times University Guide 2012*

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**Research Programmes**
- PhD Computer Science
- EngD in Digital Media

**Taught Programmes**
- MSc Software Systems
- MSc Digital Entertainment
- MSc Human Computer Interaction

www.bath.ac.uk/science
After Graduation
Major employers in the past few years have included: computing and communications companies, software houses, accountancy, banking and finance institutions, management and computing consultancies, government departments, research laboratories, and the media industry.

Prestigious employers of Bath graduates include:
- Disney Research
- Aardman Animations
- Electronic Arts
- Double Negative Visual Effects
- Microsoft, Seattle
- Google, San Francisco
- Samsung, South Korea
- Thai Chamber of Commerce
- The Foreign Ministry of Qatar
- Ents24
- Broadcom
- Altran Praxis

Our Courses
Computing is increasingly about constructing large and complex software systems. Our Masters programmes are designed to give you a wide range of knowledge so that you can build a career in this fast-moving industry. The programmes are taught by recognised experts in each field, offering you, the student, a cutting-edge experience and a qualification which is both academic and commercially relevant. You will be exposed to the latest science and technology in your chosen specialist area, to complement previously-gained knowledge and skills from your undergraduate degree.

You can specialise in one of 3 areas: Software Systems, Human Computer Interaction or Digital Entertainment.

The Programmes
The MSc programmes are full-time courses that last either 12 months (intensive route) or 24 months (placement route). The placement route is designed to give 12 months’ work experience as well as the academic experience. All programmes are made up of an 8 month class-based component and then a research-type project component.

On successfully completing the class-based component of your chosen programme, you will devote your time to the project component on a topic relevant to your specialist area. The project component is based on either (1) intensive study from June to September at the University or (2) paid work outside the University in a 12 month placement, subject to the availability of a suitable partner organisation and approval by the Director of Studies.

Teaching and Learning Methods
You will encounter a variety of teaching and learning methods, including lectures, tutorials, seminars, problem classes, computing laboratory and project work. Our MSc courses are advanced programmes of study in Computer Science. It is expected that you will build on the basic technical and analytical skills acquired in your first degree by complementing class-based activities with a significant amount of time dedicated to self-directed learning and to evaluating contemporary Computer Science literature, in order to develop critical thinking. This work will help to prepare you with the critical skills that are necessary for your Masters dissertation, to be developed through the research project component of your studies with us. You will be assessed by a variety of methods in the class-based component, including by coursework and written examination, and by preparation of your Masters Dissertation for the project component.

Research Project
The research project component of your programme provides you with an exciting opportunity to work with an internationally leading academic on a topic in your specialist area. It will be conducted after you have successfully demonstrated your competence in the taught classes of your particular specialist programme. The project is your chance to show what you as an individual can achieve and is an exciting way to bring your study to its conclusion.

- Intensive projects are based on researching state-of-the-art approaches to a problem in your specialist area, coupled with innovative computer science research at the University, normally including the creation and examination of a novel prototype software system as an expression of the key aspects of the problem area.

- Placement projects in association with industry will relate state-of-the-art approaches to a problem in a specialist area to contemporary practice in a particular setting, through a combination of literature-based research and case-study reporting. Such projects are subject to the availability of a suitable partner organisation.

Your Future
The majority of our Masters graduates move directly into Computer Science careers, whether in specialist roles on software development or user experience projects, or in consultancy for wider IT project work. Employment opportunities are very wide, and our Masters graduates have moved into computing careers in the leading computer companies, major international banks, communication companies, government agencies and educational establishments.

Our Facilities
MSc students occupy a dedicated, purpose-built computing lab in the new East Building. It has its own network which can be detached from the University’s network, allowing for experimentation with operating systems and networking as well as ordinary programming.
MSc Software Systems

Engineering a large and complex piece of software is difficult. This advanced degree helps you to understand why. You will learn how the issues can be managed by a software team and how a complete system can be designed and developed to meet a specification. Relevant modern software applications and digital media are also covered in this programme. There are career opportunities in all the major software providers. Companies providing web or mobile phone technology, finance and management support, satellite and digital television, and many other modern industries all make extensive use of software systems.

Course Structure
You can select option A, B or C after you arrive (see examples below), taking Optional Units of 12 credits total in Semester 1 and 6 credits in Semester 2.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>June to Sept</th>
<th>June to Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory Taught Units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal Methods and Programming (12 credits)</td>
<td>Research Project Preparation (30 credits)</td>
<td>OR</td>
<td>Placement (30 credits)</td>
</tr>
<tr>
<td>Internet Technology (6 credits)</td>
<td>Digital Media (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking (6 credits)</td>
<td>Entrepreneurship (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit option A</td>
<td>Collaborative Systems (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligent Agents (6 credits)</td>
<td>Intelligent Control and Cognitive Systems (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit option B</td>
<td>Security and Integrity (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Critical Systems (6 credits)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Unit option C</td>
<td></td>
<td></td>
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</tbody>
</table>

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html)

Digital Entertainment

This programme builds on the huge success of our EPSRC-funded Centre for Digital Entertainment (CDE) which continues to create innovative funded research and development projects for the games, animation, VFX, simulation and cultural industries.

Digital entertainment encompasses computer graphics, vision and image understanding applied to the production of computer games, animation and special effects.

The MSc in Digital Entertainment is a practical, project-led degree, incorporating specialist Master Classes given by our company experts. Most lecturing is concentrated in the first two weeks of each semester, giving you the freedom to study in your own way while working on practical projects. The academic staff will work closely with you to support you throughout your degree.

You will study alongside the 50 doctoral students associated with the Centre and there will be opportunities for joint activities and non-assessed training sessions.

Course Structure

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>June to Sept</th>
<th>June to Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory Taught Units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Animation and Games 1 (6 credits)</td>
<td>Computer Animation and Games 2 (15 credits)</td>
<td>Research project (30 credits)</td>
<td>OR</td>
</tr>
<tr>
<td>Visual Understanding 1 (6 credits)</td>
<td>Visual Understanding 2 (15 credits)</td>
<td></td>
<td>Placement (30 credits)</td>
</tr>
<tr>
<td>Machine Learning and AI (6 credits)</td>
<td>Visual Effects (15 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research project preparation (12 credits)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html)
MSc Human Computer Interaction

Computational devices are everywhere: at work, at home and in transit; on our desks, on our laps, in our hands. The challenges of sustainable healthcare, transport, resource delivery and emergency management all depend on development of interactive computing technologies: technologies that will only succeed if they are matched to human, social and economic needs.

In this postgraduate course you will learn how to design, build and evaluate interactive systems that are fit for people; you will learn to appreciate the multi-disciplinary nature of HCI as a vital discipline in which new understandings of human psychology, communication and social relations underpin design innovation.

The degree is taught by one of the UK’s most successful HCI groups whose multi-disciplinary background in research, practice and graduate education will help you understand the subject.

Course Structure
You can select option A, B or C after you arrive (see examples below), taking Optional Units of 12 credits total in Semester 1 and 6 credits in Semester 2.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>June to Sept</th>
<th>June to Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory Taught Units</td>
<td>Semester 2</td>
<td>Compulsory Taught Units</td>
<td>Semester 2</td>
</tr>
<tr>
<td>Formal Methods and Programming (12 credits)</td>
<td>Research Project Preparation (12 credits)</td>
<td>Research project (30 credits)</td>
<td>Placement (30 credits)</td>
</tr>
<tr>
<td>Safety Critical Systems (6 credits)</td>
<td>Entrepreneurship (6 credits)</td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>Unit option A</td>
<td>Advanced Human Computer Interaction (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile and Pervasive Systems (6 credits)</td>
<td>Interactive Communication Design (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking (6 credits)</td>
<td>Security and Integrity (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit option C</td>
<td>Director of Studies approved unit (6 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Digital Media (6 credits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/cm/cm-proglist-pg.html)

Postgraduate Key Facts

Duration: 12 months (intensive route) or 24 months (placement route).

Academic entry requirements: A First Class or 2:1 honours degree or equivalent international qualification in the computer sciences, mathematical sciences, physical sciences, engineering (or for MSc Human Computer Interaction, a relevant social science) is required.

English requirements: Evidence of proficiency in English is a requirement. If English is not your first language, we require IELTS 6.5 (with not less than 6.0 in each of the four components).

References: Two references are required.

Applying: Overseas applicants must complete the online application form by the end of June.

[www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply](http://www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply)

Contact:
Dr Marina De Vos
Email: compsci-acs@bath.ac.uk
Tel: +44(0) 1225 383410

Fees and Funding:
[www.bath.ac.uk/study/pg/fees/taughtfees/science](http://www.bath.ac.uk/study/pg/fees/taughtfees/science)

Further information:
[www.bath.ac.uk/comp-sci/masters](http://www.bath.ac.uk/comp-sci/masters)
Department of Mathematical Sciences

Consistently ranked in the top 10 of Mathematics league tables

Welcome to the Department of Mathematical Sciences
Consistently ranked as one of the top ten Departments in the UK, the Department carries out internationally leading research across Pure Mathematics, Applied Mathematics, and in Probability and Statistics. There are strong links between the research groups within the Department and we have a unified vision of the mathematical sciences, with a belief that interactions between pure and applied mathematics (in the widest sense) are mutually reinforcing. The Department has made a substantial number of new appointments over the last three years, adding breadth to our research profile while also reinforcing synergies between research areas. The Department has appeared consistently within the top rankings for both teaching and research. Our Masters degrees allow students to select courses tailored to their interests, under the guidance of a Director of Studies. Many Masters students go on to successful PhD study at Bath.

Research
Our research interests are spread widely across Pure and Applied Mathematics, Probability and Statistics and there are many intradisciplinary activities reaching across traditional research boundaries. Our research has a strong culture of collaboration and mutual support.

In the 2008 RAE, 60% of our research in Pure Mathematics and Statistics and 70% of our research in Applied Mathematics was rated Internationally Leading or Excellent, placing us well within the top 10 departments in the UK.

Research in the Department is broadly divided into the following areas:
- Algebra and Geometry
- Analysis and Differential Equations
- Continuum Mechanics and Waves
- Industrial Applied Mathematics
- Mathematical Biology
- Mathematical Control Theory
- Numerical Analysis
- Probability
- Statistics

For more information visit www.bath.ac.uk/math-sci/research

Research Programmes
- Mathematical Sciences PhD
- Mathematical Sciences Integrated PhD
- Taught Programmes
  - MSc Mathematical Sciences
  - MSc Modern Applications of Mathematics

Doctoral College graduate level training courses
- Graduate Taught Course Centre in Mathematics using multimedia technology in collaboration with Bristol, Imperial College, Oxford and Warwick
- The Academy for PhD training in Statistics with major UK statistics research groups.

People
- 57 academics and researchers
- 69 Research students
- 13 Masters students
- 650 undergraduates

After Graduation
Our graduates have gone on to further research in Lausanne, Berlin, Brussels, Frankfurt, and academic posts in Malaysia, Sweden, Germany, Canada, United States and in the UK.

Recent employers of Bath graduates include:
- British Aerospace
- Network Rail
- Powergen
- Barclays Capital
- BNP Paribas
- Pfizer
- AstraZeneca
- MBDA UK Ltd
- ATASS
MSc Mathematical Sciences

The MSc in Mathematical Sciences programme is designed as preparation either for further research, for example studying for a higher degree in a university, or for those wishing to enter a career in which a postgraduate training in mathematics/statistics/probability is highly desirable. It makes use of units offered within the Department’s MMath programme. This MSc is particularly suitable for candidates with interests and backgrounds in pure mathematics, applied mathematics, statistics and probability, and students can select from a broad range of units to create pathways covering all areas of the mathematical sciences. Applications from appropriately qualified overseas students are strongly encouraged.

Possible Pathways

The pathways shown below are indicative of possible unit selections, but please note that different choices are possible, including two further pathways in Numerical Analysis and in Probability and Statistics. A final selection will be tailored to the individual student in consultation with the Director of Studies.

### MSc Mathematical Sciences – Pathways (examples based on full-time option)

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analysis</strong></td>
<td><strong>Analysis</strong></td>
<td>Project</td>
</tr>
<tr>
<td>Metric spaces</td>
<td>Analytical &amp; geometrical theory of differential equations</td>
<td></td>
</tr>
<tr>
<td>Differential geometry of curves &amp; surfaces</td>
<td>Complex analysis</td>
<td></td>
</tr>
<tr>
<td>Mathematical methods 1</td>
<td>Functional analysis</td>
<td></td>
</tr>
<tr>
<td>Measure theory &amp; integration</td>
<td>Theory of partial differential equations</td>
<td></td>
</tr>
<tr>
<td>Real &amp; abstract analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metric spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebraic topology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential geometry of curves &amp; surfaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Statistics</strong></td>
<td><strong>Statistics</strong></td>
<td></td>
</tr>
<tr>
<td>Generalised linear models</td>
<td>Applied statistics</td>
<td></td>
</tr>
<tr>
<td>Medical statistics</td>
<td>Topics in Bayesian statistics</td>
<td></td>
</tr>
<tr>
<td>Classical statistical inference</td>
<td>Multivariate data analysis</td>
<td></td>
</tr>
<tr>
<td>Markov processes &amp; applications</td>
<td>Time series</td>
<td></td>
</tr>
<tr>
<td>Optimisation methods of operational research</td>
<td>Stochastic processes &amp; finance</td>
<td></td>
</tr>
<tr>
<td><strong>Probability and analysis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure theory &amp; integration</td>
<td>Probability with martingales</td>
<td></td>
</tr>
<tr>
<td>Markov processes &amp; applications</td>
<td>Discrete probability</td>
<td></td>
</tr>
<tr>
<td>Real &amp; abstract analysis</td>
<td>Stochastic processes &amp; finance</td>
<td></td>
</tr>
<tr>
<td>Metric spaces</td>
<td>Theory of partial differential equations</td>
<td></td>
</tr>
<tr>
<td>Mathematical methods 1</td>
<td>Functional analysis</td>
<td></td>
</tr>
<tr>
<td><strong>Applied Mathematics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metric spaces</td>
<td>Mathematical methods 2</td>
<td></td>
</tr>
<tr>
<td>Mathematical methods 1</td>
<td>Elasticity</td>
<td></td>
</tr>
<tr>
<td>Linear control theory</td>
<td>Analytical &amp; geometrical theory of differential equations</td>
<td></td>
</tr>
<tr>
<td>Methods for differential equations</td>
<td>Ordinary differential equations</td>
<td></td>
</tr>
<tr>
<td>Viscous fluid mechanics</td>
<td>Numerical solution of PDEs I</td>
<td></td>
</tr>
</tbody>
</table>

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/ma/ma-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/ma/ma-proglist-pg.html)
**MSc Modern Applications of Mathematics**

The MSc in Modern Applications of Mathematics aims to provide innovative training in interdisciplinary applied mathematics and modern scientific computing. It links mathematics with engineering and the sciences, and gives students direct contact with industry. It develops an awareness of modern applications of mathematics in an interdisciplinary environment, provides a training in mathematical modelling, scientific computation and other applied techniques, and bridges the gap between theory and applications. The theory elements will be developed in context, with the students doing an applications based project. Many of these projects will come directly from industry. The MSc has an Industrial Advisory Board. These representatives give input into the course and provide projects with a number of representatives from industry.

Course Structure (examples based on full-time option)

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory Taught Units (12 credits)</strong></td>
<td><strong>Compulsory Taught Units (18 to 24 credits)</strong></td>
<td><strong>Project (30 credits)</strong></td>
</tr>
<tr>
<td>Advanced numerical computation (6 Credits)</td>
<td>Applied statistics inference (6 Credits)</td>
<td></td>
</tr>
<tr>
<td>Methods for differential equations (6 Credits)</td>
<td>(Unless studied as an undergraduate, see optional units below)</td>
<td></td>
</tr>
<tr>
<td>Case studies in mathematical modelling and industrial mathematics (6 Credits)</td>
<td>Scientific computing (6 Credits)</td>
<td></td>
</tr>
<tr>
<td>Scientific computing (6 Credits)</td>
<td>Project scoping (6 Credits)</td>
<td></td>
</tr>
</tbody>
</table>

**Optional Taught Units (24 to 30 credits)**

Students who have previously taken Scientific Computing as undergraduates: Select 30 credits from list of optional units

All other students: Select 24 credits from list of optional units

Details of all units can be found at [www.bath.ac.uk/catalogues/2014-2015/ma/ma-proglist-pg.html](http://www.bath.ac.uk/catalogues/2014-2015/ma/ma-proglist-pg.html)

**Postgraduate Taught Key Facts**

**Duration:** 1 year full-time

2 year part-time option available

Applicants for these degrees are considered together, and places will be flexible and offered according to potential or actual student numbers.

**Academic entry requirements:**

**MSc Mathematical Sciences**

First or upper second class honours degree or equivalent in Mathematics or Mathematical Sciences.

**MSc Modern Applications of Mathematics**

First or upper second class honours degree or equivalent in a science or engineering degree with a high mathematical content.

**English requirements:** IELTS 6.5 (with not less than 6.0 in each of the four components).

**References:** Two references are required.

**Applying:** Overseas applicants must complete the online application form by the end of June.

[www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply](http://www.bath.ac.uk/science/graduate-school/taught-programmes/how-to-apply)

**Contact:**

Dr Antal Jarai

Email: fsci-pgadmissions@bath.ac.uk

Tel: 01225 383410

**Fees and Funding:**

[www.bath.ac.uk/study/pg/fees/taughtfees/science](http://www.bath.ac.uk/study/pg/fees/taughtfees/science)

[www.bath.ac.uk/science/graduate-school/taught-programmes/funding](http://www.bath.ac.uk/science/graduate-school/taught-programmes/funding)

**Further information:**

[www.bath.ac.uk/math-sci/masters](http://www.bath.ac.uk/math-sci/masters)
Welcome to the department of Pharmacy and Pharmacology
The Department of Pharmacy & Pharmacology at Bath is one of the UK’s leading research hubs in the pharmaceutical sciences, whose output is consistently ranked among the very best in the field. This strength is based upon a critical mass of internationally renowned scientists, working collaboratively and across disciplines, with access to state-of-the-art equipment and facilities. The stimulating and challenging research environment has attracted, and continues to attract, high-quality graduate students from the UK, Europe and across the globe, and the award of a Bath PhD consistently opens the door to key positions in industry and academia.

Research
The Department has a long-standing and internationally recognised reputation for high-quality research in the pharmaceutical and pharmacological sciences, spanning the drug development process from target identification and drug design, synthesis and structural optimisation, through drug formulation and delivery, to pharmacovigilance, adherence and drug use. Thematic foci within these major areas of interest encompass research in immunology, infection and inflammation; cardiovascular disease; neuropharmacology; medicinal chemistry of anti-cancer, antiviral and opioid drugs; oral, pulmonary and topical/transdermal drug delivery; formulation of biopharmaceuticals (including proteins, nucleic acids and antibodies); stem cell biology and tissue engineering; and pharmacoepidemiology, drug use, and health psychology.

The Department has a large and thriving community of PhD students.

Research Themes
Our research is grouped into seven main themes:

- Biotherapeutics
- Cancer therapeutics and prevention
- Drug delivery and biopharmaceutical technology
- Drug discovery, design and development
- Inflammation, infections and immunity
- Pharmaceutical neuroscience
- Pharmacoepidemiology and pharmacy practice

For more information visit www.bath.ac.uk/pharmacy/research

The Department also plays a major role in several multi-disciplinary Research Centres and Networks that involve multiple departments at Bath as well as other researchers and clinicians from outside the University.

Research Programmes

- Pharmacy & Pharmacology PhD

Facilities

- 6000 m2 of laboratory areas
- Extensive hardware and software
- 600, 500 and 400 MHz NMR including a biophysical NMR centre
- Molecular modelling workstations
- Extensive tissue culture facilities
- Flow cytometry and cell sorting
- Concord fluorescence imaging
- Atomic force microscopy
- Dual laser confocal microscopy
- Intra-cellular/patch clamp electrophysiology
- Real-time PCR analysis

After Graduation
Destinations for some of our recent graduates include management positions in UK Research Councils, academic post-docs in leading UK and overseas research institutes, jobs in the pharmaceutical industry, and positions in scientific publishing. A number of our international students also return directly to research and teaching posts in universities in their home countries.
Department of Physics

Rated a top 5 UK Physics Department, RAE 2008

Welcome to the Department of Physics
The Department offers a distinctive environment for studying physics at all levels with highly-motivated students learning from top physicists through carefully-designed and run study programmes. It combines groundbreaking research, excellent links with industry, one of the best placement schemes in the country and outstanding teaching leading to high student achievement and employment.

Research
There is a thriving research programme, with 28 academic staff and over 80 postdoctoral researchers, PhD students and research visitors, drawn from the UK and overseas. The research has a high international profile, recognised by the 2008 Research Assessment Exercise with an overall rating as joint second of all Physics departments in the UK.

Our research covers a wide spectrum of activities, from fundamental physics to technological applications. Our activities are organised into four Research Groups and University Research Centres:

- Centre for Photonics and Photonic Materials
- Nanoscience Group
- Condensed Matter Theory Group
- Centre for Space, Atmospheric and Oceanic Science

For more information visit www.bath.ac.uk/physics/research

The Department welcomes applications from home, European and International students interested in studying for a PhD degree at Bath.

Research Programmes
- Physics PhD

Facilities
- Optical fibre fabrication cleanroom suite
- David Bullett Nanofabrication Laboratory
- Centre for Graphene Science
- Microscopy and Analysis Suite

After Graduation
Our recent Physics graduates have gone on to further research or teaching in the UK, Europe, China and Japan and research posts in the UK, Germany, Japan and South Africa. Employers include the Met Office and Fianium in the UK.
The City of Bath

Voted the best city in England, Bath is one of the most interesting, cosmopolitan and vibrant cities in the UK (Guardian & Observer Travel Awards)

As well as being a very safe city (Bath was top in the Complete University Guide’s ‘How safe is your city?’ in 2011 and 2012), Bath is spectacularly beautiful. It is the only city in the UK to be included in UNESCO’s World Heritage list. Its striking architecture, the Roman Baths, medieval Abbey, and world-famous Georgian squares and sweeping crescents all combine to make it one of the most remarkable cities in Europe.

Bath is a lively city, offering some of the best shopping and cultural attractions outside London. As well as independent and chain retailers, there is a huge variety of restaurants, cafés, bars, pubs, clubs, 5 theatres, cinemas and a wide range of museums. Bristol is only 15 minutes away, offering further shopping and entertainment choices. Bristol International Airport provides fast access to an ever increasing number of destinations. London is approximately 90 minutes by train, with a frequent service operating every 30 minutes. Away from the cities, Bath is surrounded by beautiful countryside, with the Cotswolds to the north, the Mendips to the south-west and the coast is also within easy reach.

Visit www.visitbath.co.uk to find out more about what makes Bath special.

“The University is bursting at the seams with young people, we have fantastic sports facilities, the town is small and safe, and beautiful. Everybody likes it.”

Dr Geoff Smith, Senior Lecturer, Mathematics
The University of Bath

Voted Best Campus University 2014 by *The Sunday Times* and 4th in *The Guardian University Guide 2015*

Our compact, purpose-built campus is one of the safest in the UK and was one of the first to be recognised with a national police security award. Set in extensive grounds only a mile from the city centre, the Teaching facilities, Library, shops, banks, Post Office, Students’ Union, bars, cafés and restaurants are grouped around a central pedestrian parade, creating a strong sense of social and academic community. There are also dental and medical centres on campus.

As a top UK university, Bath provides world-class support services and modern facilities on Campus.

- New £5.5 million Student Centre
- Library – one of only two in the country that is open 24 hours a day, and seven days a week
- International Office – providing support and assistance to a vibrant international community representing over 100 nationalities
- English Language Centre – offers English language classes before or during study at Bath
- Student Support Services – including financial advice, learning and disability support, and advice on visa issues
- Careers Advisory Service – with links to 5,000 employers in the UK and overseas
- Students’ Union – ranked in the top three by the National Union of Students (NUS)
- Institute of Contemporary Interdisciplinary Arts (ICIA) – encompassing all kinds of music, theatre and dance, creative and visual arts
- Chaplaincy – a centre for worship or for quiet reflection for people of all faiths
- Graduate Centre

In addition, our £35 million Sports Training Village offers some of the best sporting facilities in the country, including:

- Olympic sized swimming pool
- floodlit 8-lane athletics track
- 12-court multi-purpose sports hall
- judo dojo
- fencing and shooting facilities
- 18 tennis courts
- fitness and conditioning suite
- extensive rugby and football pitches
- bobsleigh/skeleton push-start track

Accommodation

The University provides first class accommodation on campus and in purpose built residences in the City of Bath, and has a Residential Services office for other options. Accommodation can be arranged for overseas postgraduates who have accepted firm places at Bath but the deadline for applications to the Accommodation Office must be made by the end of July, as demand is high.

Graduate students have a dedicated social and informal work space at the heart of the campus. The Graduate Centre has been designed with students’ needs in mind. It has wireless connectivity, soft seating, informal work space, seminar and meeting rooms. There are kitchen facilities and a large screen television. The Centre is a place to meet colleagues, attend training and events, or just sit, relax and read.
Useful links:
Graduate School: www.bath.ac.uk/science/graduate-school
Postgraduate study: www.bath.ac.uk/study/pg
Library and Learning Centre: www.bath.ac.uk/library
Careers Advisory Service: www.bath.ac.uk/careers
Accommodation Office: www.bath.ac.uk/study/pg/accommodation and www.BathStudentPad.co.uk
International Office: www.bath.ac.uk/international
Academic Skills Centre: www.bath.ac.uk/asc
Students’ Union: www.bathstudent.com
Computing Services: www.bath.ac.uk/bucs
Counselling: www.bath.ac.uk/counselling
Sports Facilities: www.bath.ac.uk/sports
Student Funding: www.bath.ac.uk/studentservices/money-service
Arts: www.bath.ac.uk/icia/home
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