

# Biomedical sciences

## Essentials

### What biomedical sciences degree is there?

Biomedical Science

### See also

Biochemistry (p35), Biology (p37), Medicine (p98), Neuroscience (p102)

### What A levels/IB scores do I need?

(For other qualifications information, refer to pages 125-129)

Typical A level offer range: AAB-ABB

A levels (or equivalent) must include Biology and one other science subject

Typical IB diploma offer range: 34-36 including Biology and another science subject, both at Higher Level

### What else do I need?

GCSE (or equivalent) in Mathematics and English, grade C

### Fees

Refer to pages 137-138 for information on fees

### English language requirements

IELTS 6.5 overall and not less than 6.0 in both the Listening and Writing sections. Internet-based TOEFL with 90 overall, including at least 24 in Speaking and 25 in Writing. For alternative English language requirements, refer to page 130

### Foundation year for UK and EU students

Refer to Biosciences (with a Foundation Year) on page 36

### Foundation year for non-EU students

If your qualifications (including English language) do not yet meet our entry requirements for admission direct to the first year of these degree programmes, we offer an international foundation year entry route. Refer to pages 26 and 131 for details

### How do I find out more?

For more information, contact:

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**T** +44 (0)1273 678057

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University of Sussex, Falmer, Brighton BN1 9QG, UK  
[www.sussex.ac.uk/biochemistry](http://www.sussex.ac.uk/biochemistry)

### When can I visit?

Our Open Day dates for 2011 are 11 June and 8 October. We also run regular campus tours. Please book online at [www.sussex.ac.uk/visitors](http://www.sussex.ac.uk/visitors) or call 01273 876787

### Why biomedical sciences?

Biomedical sciences explores the application of powerful modern bioscience approaches such as molecular cell biology, molecular genetics and genomics, as well as covering anatomy, physiology and neuroscience. The combination of these subjects offers a breadth of knowledge to understand the basis for the aetiology, diagnosis, treatment and prevention of human disease.

### Why biomedical sciences at Sussex?

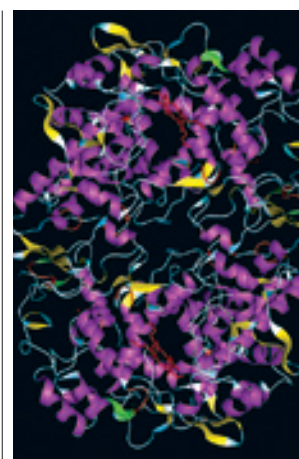
- Biomedical Science is a broad-based degree with a strong grounding in human physiology, microbiology and pharmacology.
- This programme is well suited as a basis for graduate entry to medicine and spans the gap between medicine and biochemistry. It has courses that are jointly taught with the Brighton and Sussex Medical School.
- Biochemistry at Sussex scored 96 per cent in the teaching category of the 2010 National Student Survey (NSS); and biosciences at Sussex is ranked 10th in the UK in *The Guardian University Guide 2011*.
- Sussex is firmly established as one of the UK's leading research centres, rated 8th for 'Pre-clinical and Human Biological Sciences' research in the 2008 Research Assessment Exercise (RAE). 85 per cent of our research was rated as recognised internationally or higher, and over half rated as internationally excellent or higher.
- In Year 1, the flexible structure of the programme makes it possible to transfer between Biomedical Science and Biochemistry.
- In Year 2, we offer a limited number of summer internships hosted with local companies or in university laboratories. In your final year, you undertake an intensive laboratory project, working with one of our internationally recognised research groups.

### What sort of career could I have?

The majority of our graduates go on to work in a medically related field or in research. A high percentage of our graduates who apply for entry into medical schools are offered interviews and gain places. The degree provides an excellent training for a wide variety of other careers such as medical research, teaching, and professional or management posts in the NHS, medical communications agencies, or in the pharmaceutical industry.

Other career paths include:

- postgraduate study with a view to entering medical research in academic and applied research institutes
- professions allied to medicine such as nutrition, paramedic training, management of clinical trials and medical laboratory sciences
- research positions in the pharmaceutical industry, hospital laboratories, universities and research institutes.



Prostaglandin H<sub>2</sub> synthase, the site of action of aspirin and ibuprofen

## Anne's perspective

'I chose to study Biomedical Science at the University of Sussex because I'd heard that it's one of the UK's leading research centres for pre-clinical and human biological sciences and because of its good positioning in the league tables. I was also drawn to the diversity of topics offered by the programme.  
'Having spent just a term at Sussex I believe I've made the right choice. There are student mentors on hand to help who have already been through the situations you face on your courses, and academic tutors who are with you through your whole degree programme. Study ranges from lectures with over 100 students to learning in small tutorial and seminar groups, which are particularly helpful in your first year. Brighton is also a very student-friendly place and everything is easily accessible, which adds to an enjoyable first year.'

Anne Akintola  
BSc in Biomedical  
Science



**Guaranteed interviews for applicants for medicine**

Two new competitive schemes have been introduced for applicants who might ultimately wish to study medicine and who fulfil the criteria below. It should be noted that these schemes are not transfers into BSMS but an opportunity to obtain a guaranteed interview if you make an application and meet the criteria.

**For entry after Year 1 at Sussex****Academic requirements**

- GCSE grade B or equivalent in Mathematics and English
- if English is not your first language, an overall IELTS score of 7.5 with at least 7.0 in all sections
- AAA or A\*AB at A level, all obtained in one sitting, plus one AS level. Both Chemistry and Biology are to be passed at A level with grade A; neither General Studies nor Critical Thinking are acceptable as an A or AS level subject
- if you have passed the International Baccalaureate, the required level is 38/18 with grade 6 in Higher Level Chemistry and Biology
- excellent Term 1 class-attendance record
- a 70 per cent (weighted by credit) average (overall) for Term 1 courses or, if not available, evidence of high levels of attainment on all assessed work to date in Year 1, or a strongly supportive statement from your academic advisor.

**Other requirements**

- you have taken the UK Clinical Aptitude Test (UKCAT) in the previous summer
- you have made a UCAS application to BSMS (A100) Medicine by 15 October
- you have the specified level of professional experience within the previous 12 months and completed by February of Year 1.

**For entry after Year 3 at Sussex**

- GCSE grade B or equivalent in Mathematics and English
- if English is not your first language, an overall IELTS score of 7.5 with at least 7.0 in all sections
- a 70 per cent (weighted by course credit) average (overall) across Year 2.

**Other requirements**

- you have taken the UK Clinical Aptitude Test (UKCAT) in the previous summer
- you have made a UCAS application to BSMS (A100) Medicine by 15 October
- you have the specified level of professional experience within the previous 12 months and completed by October of Year 3<sup>†</sup>
- excellent record for class attendance and assignment submission by deadline.

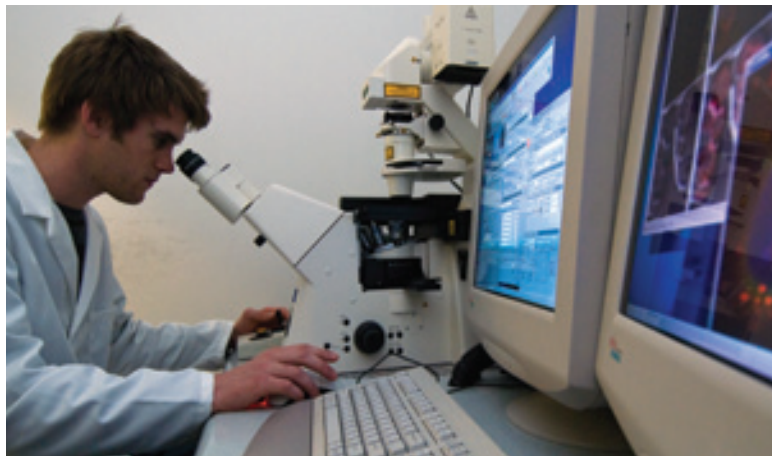
**†Professional experience requirements**

You will be expected to have undertaken a prolonged period of work in one or more healthcare settings, typically once a week over a six-month period in the 12 months leading up to the application. This could be a paid post or volunteer work in a hospital, a care home, the St John's Ambulance Brigade, etc. You should be able to demonstrate learning from these experiences.

**How will I learn?**

Courses are taught by lectures, seminars, student-directed learning and tutorials. This will include teaching by faculty within the University, the Brighton and Sussex Medical School and the NHS trust. Assignments for tutorials include essays, data-handling exercises, computer-based studies and preparation of short talks that in some cases will be gathered together into a portfolio of your work throughout the course.

Developing your laboratory skills is a key objective of the first two years and laboratory work will occupy a major part of your time. In the final year you join one of our research teams to carry out an independent research project to experience laboratory work at the cutting edge of science.

**What will I achieve?**

- An understanding of how to learn – especially important in such rapidly progressing fields where knowledge must be constantly updated; communication skills; teamwork; and direct experience in widely used commercial and scientific IT applications.
- This degree equips you with the knowledge, professional expertise and laboratory skills you need to develop real insight into the phenomenal progress of the biomedical sciences. You have the opportunity to gain sufficient first-hand experience of medical research, and the necessary academic qualifications, to embark on a research career, or a career in other areas of the biomedical sciences and medicine.

**Degrees****Biomedical Science****BSc (Hons), 3 years UCAS Code: C702**

This is a broad-based programme providing you with a strong grounding in human physiology, medical microbiology, clinical chemistry, pharmacology and bioscience that is necessary to understand the basis of human disease, diagnosis and treatment.

Year 1 introduces you to a number of common human medical conditions, their symptoms and the basis for treatment. Many of the courses offered have a strong practical component associated with them. Introductory microbiology and pharmacology allow you to appreciate disease processes and how cellular metabolism and signalling pathways can be modified by drugs.

In Year 2, you will gain a more detailed view of medical microbiology, and be introduced to clinical chemistry and biochemistry, anatomy, virology and immunology. In addition, you will take courses to extend your knowledge in related areas from bioinformatics to neuroscience. As in the first year, there is a strong practical component running throughout the year.

In the final year, you will have access to a wide range of courses such as Cell Signalling; Endocrinology; Genomics; and Immunology in Health and Disease. You will also join a research team and undertake an individual project. This will provide you with a stimulating research opportunity at the forefront of biomedical science.

**Core courses****Courses currently include:****Year 1**

This programme includes topics such as fundamentals of cell and molecular biology, essential skills in biomedical science, human physiology, and metabolism. In addition, you take specialised introductory courses covering common medical problems, microbiology and pharmacology.

**Year 2**

You will focus on medical topics covering areas such as cell regulation and cancer; clinical aspects of biochemistry; clinical chemistry; genes and genomes; haematology; human molecular genetics; medical microbiology; principles of drug action; the human body; the immune system; and virology.

**Final year**

The final year enables you to specialise, choosing from a wide range of options covering topics such as cell signalling and its applications in disease and therapeutics; endocrinology and disease; genes and development; gene regulation; genome stability, genetic disease and cancer; immunology in health and disease; molecular genetics; protein form and function; and regulation of gene expression and translation.

You will also undertake an individual research project.