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# Biomedical sciences

## Essentials

### Course

MSci (Hons) in Biomedical Science  
MSci (Hons) in Biomedical Science (research placement)  
BSc (Hons) in Biomedical Science

### Foundation year for UK and EU students

Refer to the BSc (Hons) in Biosciences (with a foundation year) on page 47

### 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 this course, we offer an international foundation year entry route. Refer to page 34 for details

### Related subjects

Biochemistry (p46), Biology (p48), Medicine (p111), Neuroscience (p115), Pharmacy (p118)

### A levels and IB/BTEC scores

(For other qualifications information, refer to pages 144-146)

Typical A level offer for the MSci in Biomedical Science (research placement): AAA

Typical A level offer range for the other MSci and the BSc: AAB-ABB

A levels (or equivalent) must include Biology (or Human Biology) and one other science subject from Chemistry, Geology, Mathematics, Further Mathematics or Physics

Typical IB diploma offer for the MSci in Biomedical Science (research placement): 36 points including Higher Level Biology and another Higher Level in Chemistry, Mathematics or Physics, with grade 6 in both

Typical IB diploma offer for the other MSci and the BSc: at least 34 points including Higher Level Biology and another Higher Level in Chemistry, Mathematics or Physics, with at least grade 5 in both

Typical BTEC offer: DDD-DDM in the BTEC Level 3 Extended Diploma (QCF) or the former BTEC National Diploma (NQF) in Applied Science. Successful applicants will need to have opted for substantial numbers of modules in biology- and chemistry-related topics

### What else do I need?

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

### Scholarships, fees and living costs

Refer to pages 151-154 and visit [www.sussex.ac.uk/study/money](http://www.sussex.ac.uk/study/money)

## English language requirements

IELTS 6.5 overall, with not less than 6.0 in each section. Pearson's Test of English (Academic) with 62 overall with at least 56 in all four skills. For alternative English language requirements, refer to page 146

## Contact us

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## Open Days

Our Open Day dates for 2015 are 27 June, 5 September and 3 October. We also run regular campus tours. Call 01273 876787 or book online at [www.sussex.ac.uk/visitors](http://www.sussex.ac.uk/visitors)

## Why biomedical sciences?

Biomedical sciences explore the application of powerful modern bioscience approaches, such as molecular cell biology, molecular genetics and genomics, to the study of human disease. They also cover key areas such as anatomy, physiology, immunology and pharmacology. The combination of these subjects offers a breadth and depth of knowledge to understand recent developments in both the biological and medical sciences and their application in the study of the aetiology, diagnosis, treatment and prevention of human disease.

## Why biomedical sciences at Sussex?

- We have a strong practical component to many of our modules as well as the possibility of a year-long placement in industry, or a summer internship with a local company or laboratory, thereby enhancing your employability. Our graduates are highly employable with 97 per cent in work or further study six months after graduation (*Destinations of Leavers from Higher Education Survey 2013/14*).
- Our teaching is informed by our cutting-edge research which is one reason why biomedical science students rated our teaching 2nd among comparable UK institutions, with 94 per cent teaching satisfaction (National Student Survey 2014).
- Our broad-based courses offer a strong grounding in cell and molecular biology, human physiology, microbiology, pharmacology and other clinically related subjects and are ideal as a basis for a biomedical research career or graduate entry to medicine (for more information, refer to pages 52 and 111).

## Ahmad's student perspective

'I'd heard great things about Sussex from friends who studied here, and now I'm here myself, I can see why they loved the University so much.

'The lecturers are incredible at taking complex concepts and making them easy to understand, then building on this with further reading so that you quickly gain functional knowledge of difficult topics. The academic brilliance of the department is really inspiring.

'The course is full of fascinating modules. In Cell Signalling we looked at how one thing regulates another, which regulates something else, with the chain eventually resulting in a physiological response. Then in Anatomy and Haematology we got to study real body parts and see the reality of the things we'd seen in textbooks. It really helps you to understand the human body.

'I plan to go on and study medicine as a postgraduate. The knowledge and practical experience gained at Sussex put me in an ideal position to begin that journey.'

Ahmad Ebadi  
BSc in Biomedical Sciences





## Courses

### MSci or BSc?

We offer a four-year MSci in Biomedical Science and a three-year BSc in Biomedical Science, with common teaching in the first three years to provide you with a firm grounding in human physiology, medical microbiology, clinical chemistry, pharmacology and biosciences required to understand the basis of human disease, diagnosis and treatment.

Year 4 of the MSci aims to develop advanced research skills, and this course is therefore particularly suited to students interested in research-based careers. The BSc degree is ideally suited to students who wish to apply for graduate-entry medicine or for the NHS Scientist Training Programme. This gives you a great deal of flexibility, enabling you to take your studies as far as you wish.

Applicants unsure about whether to do an MSci or a BSc should opt initially for the MSci. If your eventual A level grades meet the offer level for a BSc but not an MSci, we will automatically offer you a place on the BSc degree.

If you initially choose to take a BSc, there remains an option, subject to satisfactory progress, to transfer to the MSci at the end of Years 1 or 2.

### Sussex Choice

Broaden your studies, develop your interests and gain a valuable career edge with Sussex Choice. Look out for the icons:

- P** placements (details on page 36)
- S** study abroad opportunities (details on page 36)

**Biomedical Science**  
**MSci (Hons), 4 years UCAS Code: C709** **P**  
**MSci (Hons) (research placement),** **S**  
**4 years UCAS Code: C710**  
**BSc (Hons), 3 years UCAS Code: C702**

This is a broad-based course, providing you with a strong grounding in human physiology, medical microbiology, clinical chemistry, pharmacology and biosciences necessary to understand the basis of human disease, diagnosis and treatment. It covers a core syllabus of biology, biochemistry and genetics in the first two years with the third year offering you a wide range of modules, allowing you to specialise in your own areas of interest.

We offer an MSci with a research placement, which gives you the opportunity to further enhance your research methods and practices by undertaking a paid placement each year during the summer vacation. You will work on a project to contribute to the research programme of the group and will therefore be involved in cutting-edge research from the beginning of your studies, giving you the competitive edge for securing a research-based career in industry or academia. The placement can be done in the same research group each year or a different one in each year.

Regardless of whether you are studying a BSc or MSci, there are a limited number of summer internships hosted by local companies or laboratories at Sussex or elsewhere.

Refer to Core content on the right.

### How will I learn?

Modules are taught through lectures, practical classes, seminars, student-directed learning and tutorials, supported by digital resources. In the first two years there is a strong practical component to the course, meaning you will develop core laboratory skills that you will be able to apply during independent research projects in Years 3 and 4. This will include teaching by faculty within the University, Brighton and Sussex Medical School and the NHS Trust. Assessment is by a combination of coursework and unseen exams.

Also refer to pages 32-36.

### What will I achieve?

- an understanding of how theory and experiment lead to scientific knowledge and how to evaluate scientific findings critically, especially important in such a rapidly progressing field where knowledge must be constantly updated; communication and teamwork skills; and direct experience with commercial and scientific IT applications
- the knowledge, expertise and laboratory skills needed to develop insight into the phenomenal progress of biomedical sciences
- the opportunity to gain first-hand experience of medical research and the necessary academic qualifications to embark on a career in biomedical research, medicine or other biomedical professions.

### Career paths

Our graduates are well placed to compete for graduate medical school entry. You may also move to postgraduate study leading to academic and applied medical research in the pharmaceutical industry, hospitals, universities and research institutes, or to a career in nutrition, paramedical work, management of clinical trials and medical laboratory sciences and other professions allied to medicine.

**Biosciences (with a foundation year)** **P**  
**BSc (Hons), 4 years UCAS Code: C701** **S**

*Applicants are considered on a case-by-case basis and will present with a range of post-GCSE qualifications. The typical A level offer is currently CCC.*

*There is a separate international foundation year for overseas students (refer to page 34).*

If you have an ambition to undertake a degree in biological sciences but are unable to meet the entry requirements for one of our named courses, our foundation year could enable you to achieve your goal. Taught on the Sussex campus, this course is specifically designed for students who wish to transfer onto one of the degree courses offered by the School of Life Sciences.

For the full course description, refer to page 47.

## Core content

### Foundation year (optional)

**During the foundation year you take introductory modules in biology and chemistry along with mathematics and study skills, including IT. Practical work is an important element of the foundation year**

### Year 1

**Year 1 includes modules on topics such as fundamentals of molecular and cell biology • human physiology • the symptoms, diagnosis and treatment of some common medical conditions • microbiology and pharmacology**

### Year 2

**Year 2 provides a more detailed view of medical microbiology and the principles of drug action. There are introductions to clinical biochemistry • anatomy (including whole-body dissection) • virology • immunology. As in Year 1, there is a strong practical component running throughout the year**

### Year 3

**Year 3 offers a wide range of modules, allowing you to specialise. Topics covered include cell signalling • endocrinology • genomics • immunology in health and disease • neuroscience. You also carry out an extended research project, which provides you with a stimulating opportunity to experience research at the forefront of the biomedical sciences**

### Year 4 (MSci only)

**In this year you gain your integrated Masters degree. The year is devoted to developing your research skills, the focus being a major research project conducted with one of our research teams, taking up about 50 per cent of your work load. Modules include Research, Professional and Communication Skills • Advanced Methods in Molecular Research, as well as a selection of specialised options in the biomedical sciences**



## Prabha's faculty perspective

'I joined the University of Sussex three years ago as a Teaching Fellow and my initial impression of a wonderful campus with an environment highly conducive to learning still holds true.

'Currently, I organise and teach several subject areas in the BSc Biomedical Sciences degree, many of which are related to my area of expertise, microbiology and infectious diseases. I am trained as a microbiologist and have been previously involved in clinical research in the area of superbugs, such as MRSA.

'On this course, students gain a comprehensive understanding of the different disciplines that lay the foundations of research into health and disease. The course is taught by experts in their field and the curriculum is specifically focused on providing students with broad range of career choices.'

**Dr Prabha Parthasarathy**  
Teaching Fellow in Microbiology,  
University of Sussex



## Guaranteed interviews for applicants for medicine

Two competitive schemes are available for applicants who might ultimately wish to study medicine at Brighton and Sussex Medical School (BSMS) and who fulfil the criteria below. These schemes are not transfers into BSMS but an opportunity to obtain a guaranteed interview if you meet the criteria.

All applicants applying to study medicine at BSMS will be required to take the BioMedical Admissions Test (BMAT).

If you are accepted for entry into BSMS, the standard offer for entry after Year 1 will be a 70 per cent (weighted by module credit) average overall for Year 1. For entry after Year 3, the conditional offer will be 65 per cent (weighted by module credit) in the examinations contributing to your overall degree classification.

## 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 at A level, all obtained in one sitting, plus a B at 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 36 overall with grade 6 in Higher Level Chemistry and Biology
- excellent Term 1 class-attendance record
- a 70 per cent (weighted by module credit) average (overall) for Term 1 modules.

### Other requirements

- you have taken the BioMedical Admissions Test (BMAT) in the year of application. The results of the BMAT will be used to assess each application and may be used as a final discriminator if needed after interview
- you have made a UCAS application to BSMS (A100) Medicine by 15 October.
- you have shown some evidence of healthcare-related work experience in your UCAS personal statement.

## Timetable

- nominations of qualified applicants by the University of Sussex to BSMS admissions team in February
- BSMS interview between late January and March. Interviews would be standard BSMS interviews (approximately 50 per cent success rate) and the interview panel would not know that these candidates were in any way unusual.

## For entry after Year 3 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
- a 70 per cent (weighted by module credit) average (overall) across Year 2.

### Other requirements

- you have taken the BioMedical Admissions Test (BMAT) in the year of application. The results of the BMAT will be used to assess each application and may be used as a final discriminator if needed after interview
- you have made a UCAS application to BSMS (A100) Medicine by 15 October.
- excellent record for class attendance and assignment submission by deadline
- you have shown some evidence of healthcare-related work experience in your UCAS personal statement.

### Timetable

- nominations of qualified applicants by the University of Sussex to BSMS admissions team in October
- BSMS interview between late January and March. Interviews would be standard BSMS interviews (approximately 50 per cent success rate) and the interview panel would not know that these candidates were in any way unusual.