Biomedical sciences

Essentials

Course
MSc (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 MSc 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 MSc 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

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

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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

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
MSci (Hons), 4 years UCAS Code: C709
MSci (Hons) (research placement), 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.

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.
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.

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.
• 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.
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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