Biomedical Science

BSc (Hons)
3/4 years full-time
# Welcome
The School of Medical Sciences and the BSc in Biomedical Science

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We can arrange for this material to be transcribed into an accessible format such as Braille, large print, E-text (compatible with screen-reading software) or digital audio such as CD.

Please contact the Faculty of Life Sciences on 01274 234290

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**GENERAL COURSE ENQUIRIES**

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The University of Bradford - Confronting Inequality; Celebrating Diversity™ The University of Bradford is committed to promoting equality, diversity and an inclusive and supportive environment for students, staff and others closely associated with the University in conformity with the provisions of its Charter.

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Welcome to Biomedical Science at the University of Bradford. The course has been accredited by the Institute of Biomedical Science (IBMS) since 1993. This means that the Biomedical Science degree is fit for purpose and meets the academic and scientific requirements for professional body membership.

The degree provides students with a sound scientific basis for careers in the NHS, research, industry or postgraduate study. Our students achieve good degrees, have excellent academic ability and transferable skills, and are competitive nationally for PhD programmes immediately after graduation. The curriculum is designed to provide a flexible study route within the requirements of the IBMS accreditation. Throughout the degree, you will develop your laboratory and numerical skills, written and oral communication, IT and group working skills.

£3m invested in modernising our biomedical, forensic and clinical facilities

Why is Bradford a good place to study?
You will have frequent meetings with personal tutors throughout the degree programme, which provide a mechanism to support you and celebrate your success. The commitment of our staff to the students and the Biomedical Science programme is outstanding and is regularly commended by our external examiners. Our teaching staff are outward facing and engage in extensive research, knowledge transfer and quality assurance outside of the University of Bradford. The programme is well respected by other higher education institutions.
The School of Medical Sciences

BSc in Biomedical Science

Are you interested in human disease?

Would you like to know more about the causes of disease, the effects of disease, on the cells and tissues of the body, the methods used to diagnose disease, and current strategies for disease prevention and treatment?

If you enjoy the biological sciences and are interested in their practical application, particularly in healthcare and related research, a degree course in Biomedical Science could be just what you are looking for.

Bradford was the first university in the UK - and one of the first in the world - to introduce an undergraduate degree course in Biomedical Science. The School of Medical Sciences here at the University of Bradford has continued to pioneer high-quality new developments in clinical and biomedical sciences education, and it is recognised both nationally and internationally for the excellence of its course and graduates. The School's staff are heavily involved in research, with staff recognised for their invaluable contributions at both national and international levels. This knowledge and research experience contribute significantly to the quality of both the course and the overall student experience.

The School of Medical Sciences is large and friendly and is committed to both high-quality teaching and research. As an undergraduate on our BSc Honours degree course, you will be part of a community dedicated to understanding disease processes and developing techniques on which lives - certainly the quality of life - may depend. You'll have the opportunity to develop your interests in a way that will enable you to secure a satisfying career in medical research, in healthcare, in the pharmaceutical, biotechnology or food industries, and many other areas.
Our Biomedical Science course is externally accredited

The Biomedical Science course is accredited by the Institute of Biomedical Science and can lead to registration with the Health and Care Professions Council.

Excellent graduate employment record

Our graduate employment record is excellent, with 82% of 2013 graduates in employment or further study just six months after graduating.* Graduates may find work in an extremely wide range of careers, some of which use their scientific knowledge either outside, or within, a laboratory. Other careers may be based on the wide array of highly prized transferable skills, gained during this course, including careers in business development, journalism, teaching, aviation, etc.

Practical laboratory focus

Our course introduces you to modern laboratory techniques, including DNA technology. They take a fresh approach to biomedical studies and prepare you for a wide range of employment opportunities.

Following a recent multi-million pound conversion, our facilities are classed as excellent and you will learn the latest techniques from enthusiastic and experienced staff.

Graduates from Biomedical Science may apply for entry to Medicine or Dentistry

Graduates may decide to pursue additional degrees in areas such as Medicine, Dentistry, Veterinary Medicine, etc. Graduate entry to a course may be into the second year of the course, for example graduate entry Medicine.

Graduates are well placed to enter a career in Scientific Research

Graduates from this course will have a good grounding in scientific knowledge, research methodology and practical skills. As such, graduates will be well placed when applying to study for a PhD and in their future Scientific Research careers.

Flexible broad base with opportunities to specialise

The Biomedical Science course is broadly based, a critically important aspect which gives a strong scientific foundation. This is then developed in the final year, with optional paths (see page 11) allowing specialisation in a particular field.

Research project and work placement opportunities

In the final year you will undertake a research project on an area of current research. You will also have the opportunity to work for a year in a hospital, research or industrial laboratory between the second and final years. We strongly encourage you to take advantage of this opportunity - for further details see page 8.

Internationally recognised research

The School, and its associated research, have received acclaim at both national and international level. As such, the teaching you receive will be up to date and include a focus on the latest research findings, techniques and cutting-edge practice.

* These statistics are derived from annually published data by the Higher Education Statistics Agency (HESA), based on those UK domiciled graduates who are available for employment or further study and whose destinations are known.
In Biomedical Science you study normal life processes in humans and gain an understanding of disease processes, the methods used in their investigation, and the identification and development of therapeutic intervention strategies. Although the subjects you cover are broadly similar to the pre-clinical components of a medical degree course, our course aims to produce graduates who understand disease from a scientific perspective. We produce highly educated and yet flexible Biomedical Scientists, with excellent career prospects in an extremely wide range of careers.

The BSc Honours course covers three years, but you have the option of taking a year out between the second and third years, in order to gain additional practical laboratory experience (see page 8).

The course has been designed on a modular basis, with two semesters within the academic year. Each semester consists of twelve weeks of teaching and a period of assessment. You study 120 credits in each year, split into 20-credit modules (or the 40-credit research project) and need to complete these before you can be awarded a degree.

In the first two years all students take the same modules, but in your final year you choose to specialise in one of five options. Each final-year option contains two core double modules, plus two specialist double modules and a research project worth a third of the final-year credits.

One of the many advantages of the course is its accreditation by the Institute of Biomedical Science (IBMS). This means that students with the degree qualification who have also completed an IBMS portfolio will be issued with a Certificate of Competence by the IBMS. The Certificate is recognised by the Health and Care Professions Council and will allow the holder to become a registered Biomedical Science Practitioner.

In the final year you study topics at the forefront of disease research, and specialise in one of five major subject areas. This enables you to graduate with sound advanced and specialist knowledge, supported by a broadly based, thorough grounding in general Biomedical Science, and enhanced by practical experience gained in modern and well-equipped laboratories.

The course is also designed to enable you to enhance other skills that employers value very highly; for example, written and oral communication, team working, problem solving and IT skills.

Final-Year Specialisms

Cancer Biology examines the molecular and genetic basis of cancer, and explores current and developing anti-cancer treatments.

Medical Cellular Pathology explores the field of pathology, examining the differences and similarities between cell types, but with a particular emphasis on the cells which make up the skin.

Medical Biochemistry examines the molecular mechanisms that alter the biochemical functioning of cells and lead directly to disease.

Medical Microbiology examines how pathogens can cause disease and be identified, public health issues and the methods used to treat and protect against infections.

Haematology explores the blood group systems and typing, the causes of haematological malignancies, diagnosis and management. It also examines blood transfusion testing, transfusion support and relevant legislation and transplant viability.

For further information about these specialisms, please see page 11.
**BSc (Hons) in Biomedical Science**

**First and Second Years**

### The First-year Syllabus

The modules that you take in the first year are designed to give you an understanding of the normal structure and function of eukaryotic and prokaryotic systems, and to introduce you to the techniques and procedures for their qualitative and quantitative investigation.

**Cell and Tissue Biology (double module)**

This module provides a basic understanding of the structure and function of a variety of differentiated and non-differentiated eukaryotic cells. It also covers specialist techniques used to study cells. You examine the structure and function of the human body at both macroscopic (gross) and microscopic (histological/cytological) levels. You will gain experience of histological techniques used to recognise cells, tissues and organs.

**Introduction to Biochemistry (double module)**

In the first module you examine the major classes of biomolecules, their physical and chemical make-up, and how this affects the reactions in which they are involved. You will also look at how biomolecules function in living processes, and the major biochemical pathways in which they are involved.

**Human Genetics and Developmental Biology (double module)**

You will study the structure of chromosomes and their genes, and the replication of genetic material during cell division. This module also includes the genetic basis of human disease, and descriptions of the more common genetically related diseases. You will consider male and female reproductive systems; the production of gametes; fertilisation; the development of the embryo and foetus; and the formation of the placenta.

**Introduction to Microbiology (double module)**

This module introduces the nature of microbes and their world, including their growth, ecology, taxonomy, safe handling and control. It also covers their impact on our lives and the environment in which we live.

### The Second-year Syllabus

In the second year the emphasis changes to the study of disease. By the end of the year you will have gained considerable general knowledge of human health and disease; the underlying causes of disease, the effects of disease on cells and tissues, methods used in the diagnosis of disease, and therapeutic intervention using drugs.

**Clinical and Analytical Biochemistry (double module)**

This module covers clinical biochemistry, where you investigate the biochemical causes and consequences of disease. You will also study the analytical techniques and practical methods used to study these diseases and give a diagnosis in modern laboratories.

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*Specialism is selected during the second year of the course. In cases where funding requires a specific specialism, please contact the School.*
Immunology and Haematology (double module)
You are introduced to the immune system. You study the tissues and cells of the immune system, and immune responses to infection including the production of antibodies. You will also gain practical experience of immunological techniques. The module covers the study of blood in normal and disease states, the identification of blood groups, antigens and antibodies, that ensure a safe supply of blood and blood components.

Medical Microbiology (double module)
You study how pathogens can cause disease and be identified, public health issues and the methods used to treat and protect against infections.

Molecular Genetics (double module)
This module includes the study of molecular genetics and introduces the theoretical and practical aspects of genetic engineering and gene regulation in prokaryotic and eukaryotic systems.

Pathology (double module)
You will investigate the mechanisms by which diseased states occur, progress and cause complications in patients. You will observe a range of human diseases and the changes they produce in cells and tissues, including in cancer.

Developing Professional Skills 2 (double module)
This module includes intermediate statistics, interview techniques, health and safety in the workplace, and analysis of scientific research papers. It also further develops your individual laboratory skills and ability to work competently. You will develop skills relevant to the workplace and thereby enhance your employability.

The Student View

SAMANTHA FOX
BSc, 3-year

Having completed a year of the course, I am pleased to say that I'm enjoying studying Biomedical Science. The course has a fantastic reputation and I believe it greatly prepares me for continued study in the field of Medical Sciences. Being accredited by the IBMS, the theory and practical work is structured in such a way that it prepares me for a career in any discipline of Medical Sciences, be it research, postgraduate degree or laboratory work.

I would definitely recommend visiting the University to get a feel of what it's like to be on campus, and to see for yourself the fantastic laboratory facilities. It's good to see the standards of the area you'll be working in because it's a big step up from your A-Level science labs and gives you a feeling of the career you're working towards.

So far the course has been very enjoyable. The course content has been interesting, and I've particularly enjoyed Genetics as this was a relatively new subject to me. It's satisfying to see the progression of the course; and how we build upon previous knowledge with increased detail. I'm looking forward to putting all of my knowledge to use in undertaking my final-year project.

In addition to the ‘normal’ academic experience at Bradford, I’ve also been fortunate enough to be part of the group that formed the Biomedical and Healthcare Science Society (BAHSS). Currently I am Secretary for the society and am enjoying helping run events with guest speakers, workshops and general academic student support. The society is open to all students of Biomedical, Healthcare and Forensic Science and is predominantly an academic society with the opportunity for science students to socialise with each other across all years of study. I feel incredibly proud of my achievements this last academic year and am pleased that I’m studying at Bradford.
BSc (Hons) in Biomedical Science

The Year Out

During the placement year I worked full-time hours and completed the IBMS/HCPC generic portfolio which allowed me to gain registration upon completion of the degree - a necessity to working as a Biomedical Scientist within the NHS.

STEPHANIE DRYLAND, BIOMEDICAL SCIENTIST, EAST KENT HOSPITALS UNIVERSITY NHS FOUNDATION TRUST

You may find that taking this optional year out gives a maturity which helps you tackle your final year with a greater motivation, giving you more confidence in your studies. This may improve your chances of obtaining a good degree. Furthermore, employers look for the qualities which a year of laboratory experience provides and you may find that choosing this option makes it easier for you to enter your preferred career.

In the past, students have found a wide range of placements in Hospitals, Universities and companies including Astra Zeneca, Covance, Fisons, Johnson & Johnson, GlaxoSmithKline, Mast Laboratories, Nestlé and the Sanger Centre in Cambridge.

We strongly recommend you take advantage of this opportunity. Your tutor will advise and help you organise your placement. We fully expect you will find the whole experience of great benefit to you, both as an individual and in your career.

BSc in Biomedical Science – An optional year of experience in an approved laboratory

Many students choose to use the experience gained in the first and second years of the course to work in an industrial or research laboratory, although this is not a requirement of the Biomedical Science course.

This optional year outside the University gives you the opportunity to explore a potential career and gain valuable laboratory experience.

You do not pay fees for this period (often referred to as an intercalated year) as it does not form part of the course. Neither is it assessed, although many employers like you to submit a written report at the end of your time with them. As this is an extramural year, not a sandwich course, you will not be formally visited by a member of the School of Medical Sciences, but we are always at the end of the telephone, and you are welcome to contact us if you have any problems.
The Student View

RENE ANKRAH
BSc, 3-year

Bradford is a fantastic place. When I came at first, I didn’t know what to expect but now I think of it as my second home. The staff, students and people of Bradford are really friendly and it’s a really fun environment to be in. You make friends across the campus and I’ve really enjoyed the social life.

The course gives you lots of hands-on experience with equipment right from your first day. One of the highlights, over the last three years, has definitely been the final-year research project, which was absolutely amazing. It has given me important skills and I have come out a different person with a different outlook.

I am now gearing myself up for the next challenge which is a Yorkshire Cancer Research-funded PhD at the Institute of Cancer Therapeutics, starting in October.

The Graduate View

STEPHANIE DRYLAND
Biomedical Scientist,
East Kent Hospitals
University NHS Foundation Trust

The Biomedical Science degree at the University of Bradford was one of my top three choices of universities to go to; I wanted to move away from home to get the full university experience and Yorkshire was an ideal location.

The main ‘deal breaker’ that assured me Bradford was the right choice for me was the accreditation of the degree by the IBMS. I already had in mind the career path I wanted to follow; I wanted to become a Biomedical Scientist working in an NHS laboratory.

During the first and second year of the course we covered all of the basic biology and chemistry required to understand laboratory testing and diagnostics to which knowledge could be built in the final year. During the second year I was fortunate enough to be selected for a position in a biochemistry lab. During the placement year I worked full-time hours and completed the IBMS/HPC generic portfolio which allowed me to gain registration upon completion of the degree - a necessity to working as a Biomedical Scientist within the NHS. The final year of the degree included a scientific project with four weeks of lab work where our lab skills were developed, as well as a module dedicated to professional development. I believe that the help and encouragement I received through this made me very employable. So much so that I secured a job as a Biomedical Scientist in a Haematology and Blood Transfusion lab only two months after my final exams.

I have been working in this lab for just over a year now and have recently started working shifts where I alone am responsible for both the Haematology and Blood Transfusion laboratories through the night. This hospital is a level two trauma centre, has a large number of oncology patients requiring regular transfusion, and provides lab tests for 3 private hospitals as well as a wide network of GP surgeries through the whole of East Kent, so this responsibility is daunting but also extremely rewarding. I am also receiving training that will enable me to complete the specialist IBMS portfolio.

The University of Bradford gave me a great head start to what I hope will be a long career in Biomedical Science and I will always hold fond memories of my time there.
BSc (Hons) in Biomedical Science

The Final Year

The final year includes two core double modules taken by all students. In addition, the course offers you the opportunity to specialise in one of five major options concerned with the origin, development, transmission, monitoring, prevention and treatment of disease. Each specialist option consists of two double modules.

You also undertake a research project, usually in the area of your specialism, which is equivalent to two modules and worth just over 33% of your final grading. You undertake your research project and write up a report based on it during the first part of the second semester. You will be encouraged to present the results of your research work at meetings of learned societies, as well as in poster displays within the School of Medical Sciences.

Final-year Syllabuses

Core Modules
Medical Genetics (double module)
You will study how variation in the human genome leads directly to disease, including a range of cancers, HIV, Huntington’s Chorea, etc. You will also look at current treatments and how new ones are being developed based on cutting-edge research, including the latest developments in gene therapy.

Biology of Disease (double module)
You will study the pathogenic mechanisms associated with the development, progression, manifestation and complications of disease in man. You will also study how disease affects and changes the biochemistry, morphology and physiology in particular organs/tissues. You will also investigate the laboratory diagnosis of these diseases and their management.

Research Project
Research Topics 2 (double module)
This module will help you develop in your abilities to analyse and discuss a range of published scientific information, including clinical and experimental studies. Through personal investigation of a specific topic, within your specialist area, you will be encouraged to strengthen these key personal transferable skills.

Project
The final core component is centred around a research project. You will work independently in the lab, support being given by lecturers and technicians when needed.

You will choose projects from a list, which covers areas related to current research in the School, and which are likely to be of particular interest to you.

The project is a substantial piece of research, worth the equivalent of two modules, including a module on research methods. It gives an understanding and vital experience, particularly for students contemplating a PhD position.

Some recent research projects have included:
- Work on the effects of anti-cancer drugs
- The characterisation of autoantibodies in patients with autoimmune disease
- The regulation of enzymes involved in skin pigmentation
- The mechanisms involved in the binding of pathogenic bacteria to human cells
Final-Year Specialist Options

Cancer Biology (two double modules)
In this option you will study the molecular and genetic basis of cancer, and the treatment of cancer. You will study DNA damage, DNA repair mechanisms, and the roles of proto-oncogenes, oncogenes and tumour suppressors in the cell cycle, and the cellular responses to genotoxic and hypoxic stress. The option will also discuss current anti-cancer treatments and the development of novel target-based approaches. This option embraces the modern laboratory techniques of cellular pathology, molecular biology and medical biochemistry that are used to study cancer.

Medical Cellular Pathology (two double modules)
This option explores the field of pathology, examining the differences and similarities between cell types, but with a particular emphasis on the cells which make up the skin. You will study how the body regulates cell differentiation to produce the multitude of cell types seen in the body, during development and in the adult. In addition, you will explore the cell’s response to toxins, genetic damage, etc., and consider the repair mechanisms and regenerative capabilities of the cell. You will also investigate pathological changes and diseases, such as cancer, inflammation and autoimmune disease. Practical experience will include aspects such as cell culture, histology and histopathology.

Medical Microbiology (two double modules)
In this option you will learn about antimicrobial chemotherapy, molecular mechanisms and drivers of antibiotic resistance currently causing concern; as well as the national and international response to drug resistance. You will also study key microbial virulence factors and their relevance to the development of new therapeutic strategies, diagnostic tests and vaccinations. Lectures, practicals and workshops will explore new techniques being integrated into diagnostics, infection control practices and the investigation of outbreaks, including containment.

Haematology (two double modules)
This option includes analysis of the blood group systems - genes, antigens and antibodies as well as techniques and technologies for typing, serological crossmatching, red cell phenotyping, antibody screening and identification. Blood transfusion, blood components and their applications will be discussed with conditions requiring transfusion support and the legislation/guidelines relevant to blood transfusion practice. You will develop an appreciation of the preparation and interpretation of blood films, monitoring patients for anticoagulation therapy and tests for the diagnosis and management of haematological malignancy.

Medical Biochemistry (two double modules)
In this option you will study the molecular and genetic basis of disease, and how this alters the body’s biochemical pathways. You will study the biochemical basis of protein folding and protein turnover in the cell and how protein mis-folding causes disease. You will explore the role of signal transduction pathways in the development of cardiovascular disease. You will also develop an understanding of the role of protein modifications (acetylation and methylation), the process of transcription regulation and changes in central metabolic pathways in disease.
Professional Bodies

The Health and Care Professions Council

The Health and Care Professions Council is an independent, UK-wide, regulatory body which was established by the Health Professions Order 2001. Their job is to protect the health and wellbeing of people who use the services of the health professionals registered with them. At the moment they register members of 16 professions, some of which are listed below:

- Biomedical Scientists
- Clinical Scientists
- Dietitians
- Paramedics
- Physiotherapists
- Radiographers

Each of the professions above has at least one professional title which is protected by law. It is a criminal offence to claim to be registered with the HCPC if you are not, or to use a protected title that you are not entitled to use.

The HCPC will only register people who meet their standards for training, professional skills, behaviour and health. Regulation means that patients and the public, as well as employers and potential employers, know that registered professionals are safe to practise. It makes sure that the public is protected and also that standards are maintained.

The Institute of Biomedical Science (IBMS) is the professional body for Biomedical Scientists in the United Kingdom. It aims to promote and develop Biomedical Science and its practitioners.

The Institute was founded in 1912 and represents over 19,000 members employed mainly in the National Health Service and private laboratories, veterinary laboratories, Health Protection Agency, Medical Research Council and Department for Environment, Food and Rural Affairs. Other members also work in related commercial fields and in teaching. Most members live and work in the United Kingdom and Ireland but many are employed overseas.

The Institute has many roles, and some of the more important ones are listed below:

- Accreditation of Biomedical Science degree courses
- Issuing the IBMS (certificate of competence registration) portfolio
- Conducting assessments of completed portfolios
- Approving laboratories for registration training
- Awarding the certificates of competence required for registration by the Health and Care Professions Council.

The Institute of Biomedical Science has been granted a licence by the Science Council to award the designation Chartered Scientist to qualifying IBMS members. The designation Chartered Scientist is a mark of excellence awarded to scientists practising at their full professional level and who stay up to date in their scientific field. The designation was conferred to the Science Council by Royal Charter in October 2003 and adds Science to the now-familiar list of chartered professions such as biologist, accountant or surveyor.

Only a small number of courses are accredited by the IBMS and are listed on their website.
Admission

GCE A Levels

The majority of our students enter on the basis of GCE Advanced levels. All study patterns have common entry requirements and our typical offer is 260 UCAS tariff points (equivalent to B, C, C at A level) with at least grade B in either Biology or Chemistry. Preference may be given to those offering both Biology and Chemistry. AS qualifications are welcomed and count as half an A level. Key Skills will not be considered in the points score.

If you have a GCE A level in Biology, but not Chemistry, or an A level in Chemistry, but not Biology, then Biology or Chemistry (or dual award science) are required at GCSE (minimum grade C). English and Mathematics GCSE are required at minimum grade C.

Other Qualifications

We welcome applications from candidates offering either International, Scottish or other UK qualifications. In all cases, the critical consideration will be your ability and achievement in Biology or Chemistry. Please contact us with any queries regarding qualifications not listed here.

BTEC National Qualifications (Level 3)

A typical offer would include the requirement for DMM in a BTEC Extended Diploma; achieved incorporating appropriate modules.

Scottish Highers/Advanced Highers

A typical offer will normally include a minimum requirement of 110 points (grade A), in the Scottish Advanced Higher, for Biology or Chemistry. Students expecting to achieve 80 points (grade A) in their Biology or Chemistry Scottish Higher may, however, be considered and should contact the School.

In common with the typical GCE A-level offer, 260 points will be required overall. English and Maths are required at Scottish Standard Grade (3 or higher).

Irish Leaving Certificate

The Irish Leaving Certificate attracts UCAS points, for entry into UK Universities. Please contact the School before making an application.

Applications for our courses must be made through UCAS. The UCAS code for the University of Bradford is BRADF B56 and the course code for our Biomedical Science course is C900.

International Baccalaureate Diploma

A typical offer would include the requirement for 24 points. This will include a grade of 5, at higher level (6 at standard level), in Biology or Chemistry.

International Qualifications

This course, and the University of Bradford, both have a strong international reputation. We are used to seeing, and accepting, a wide range of international qualifications. If you would like help and advice, please contact the School.

Other Qualifications

If your qualification is not listed here, you have a combination of qualifications or you have any other queries, we will be glad to offer you advice.

* Specialism is selected during the second year of the course. In cases where funding requires a specific specialism, please contact the School.
Students with Disabilities
The School of Medical Sciences has always encouraged applications from students with disabilities, whose applications are considered on the same academic grounds as are applied to all candidates. We make special provisions to provide a suitable learning environment wherever possible. When you enquire we will try to arrange an interview for you with a specialist from our Disability Service to discuss your particular requirements. You will receive information about our facilities, and on the Disabled Students’ Allowance (DSA). For more information, help and advice, please contact the Disability Service.

Admissions Policy
It may be possible to enter directly on to the second year of the course; for example, if you already hold recognised overseas qualifications, wish to transfer from another similar course, hold a relevant HND or have appropriate professional experience. Please contact us before making an application.

International Students
We welcome enquiries from international students, who should make sure that their English is good enough to understand lectures and tutorials. You can show this by passing English at GCSE level (minimum grade C) or by having a recognised international qualification such as IELTS (6.0), Pearson (55) or TOEFL (80 internet-based test). Please write to our admissions staff for further details.

Applicant Visit Days
If you apply, you will be invited to an interview in the School of Medical Sciences, between November and April. Family/friends are also welcome to visit on the day. If you are unable to attend on one of these days, alternative arrangements may be possible.

The Applicant Visit Day will also provide you with relevant information to help you choose the right course and the right University for you. You will be given a warm welcome and opportunities to meet teaching staff and current students. You can tour the School and the teaching laboratories, and find out about our current research activities. There will also be tours of the campus facilities and a chance to see a room in a Hall of Residence.
Career Opportunities

We have run postgraduate programmes at Bradford for several years now, and each year a significant number of our students with a BSc in Biomedical Science have progressed onto these programmes. The BSc equips our students with a strong understanding of how critical appraisal of a complex topic drives research, and they further develop their analytical skills in our postgraduate programmes. This has led to some of those students subsequently being offered PhD places either here at Bradford or at other universities.

Making Knowledge Work

The survey by the Higher Education Statistics Agency (HESA) showed that 89% of our 2013 University of Bradford graduates went into employment or further study within six months of graduating.* Our courses are designed with industry input, and we work with national, international and local businesses, local and regional hospitals, and many more. Our courses are taught by professionals from within those industries, so future employers can rely on our graduates having the skills they need and the confidence to use them. We support entrepreneurship for those who want help and support in starting or entering business, and maintain close links with potential employers, to help you get the graduate career you want.

In 2013 82% of our Biomedical Science graduates entered employment or further education within six months of graduating,*

More detailed information on graduate employment is available on the University website at www.bradford.ac.uk/careers

When it comes to preparing you for the working environment, a work placement can really help. You will be able to put your academic skills in practice, and will learn what aspects of your chosen career you might need to focus on. You will also make contacts that could serve you well in your future career. Contacts you make now may be helpful for you for the rest of your working life.

Laboratory-based careers

These include medical research either in hospitals, universities or research institutes. Research opportunities also exist in the pharmaceutical companies such as AstraZeneca, Fisons, Johnson & Johnson, GlaxoSmithKline, Merck Sharp & Dohme, or Smith & Nephew. Some graduates enter the public sector working as Clinical Scientists or medical laboratory scientific officers in hospital laboratories, or work as scientists in public health laboratories or forensic science laboratories. The food industry also employs a number of our graduates, particularly those specialising in microbiology.

Non-laboratory-based careers

The opportunities here are very wide. Within the pharmaceutical and biotechnology industry, there are careers as clinical trials co-ordinators, and as regulatory affairs executives (involving drug registration and patents). In addition there are opportunities in medical information services, medical sales and medical writing and publishing. The Health and Safety Executive and the Forces also provide career openings. Some of our graduates have also found careers in banking and management, or as computer programmers, distribution trainees, trading standards officers and even a leprosy worker in Nepal.

Further study

Of our 2013 Biomedical Science graduates 33%* chose to continue their studies, either at Bradford or at another university. Many undertake research for the degrees of PhD or MPhil (Doctor or Master of Philosophy). Others seek a more vocational qualification in dietetics, health service management, a taught Master’s degree in a specialist discipline (for example, immunology, forensic science, biochemistry, genetics), or by studying for a Postgraduate Certificate of Education to qualify for a teaching career. Several of our students have also progressed to the new specialist graduate medical programmes.

* These statistics are derived from annually published data by the Higher Education Statistics Agency (HESA), based on those UK domiciled graduates who are available for employment or further study and whose destinations are known.
Typical Recent Jobs Include:

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<tr>
<th>Company/Institution</th>
<th>Role</th>
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<td>A1 Control Laboratories</td>
<td>Laboratory analyst</td>
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<td>Ashford PHLS</td>
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<td>Embryologist</td>
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<td>Royal Hallamshire Hospital, Sheffield</td>
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<td>Thornton &amp; Ross</td>
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<td>Veterinary Service</td>
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<td>Whiston Hospital</td>
<td>Trainee Biomedical Scientist</td>
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Many graduates of the University of Bradford who have been employed in Microbiology have completed professional portfolios after graduation whilst working. In a busy NHS laboratory this can be hard work but they have been very driven and succeeded, eventually progressing in their chosen career within the department.

SUSAN SMITH, ABMS & TRAINING CO-ORDINATOR, DEPARTMENT OF MICROBIOLOGY, LEEDS TEACHING HOSPITALS NHS TRUST
The Graduate View

The project was a great way to carry out all the laboratory techniques we learnt throughout the course.

SAMIA AQEEL
Final-year Student, Postgraduate Medicine

I chose the University of Bradford because it had a good reputation as a university; I had known people who had done the Biomedical Science degree before me and recommended it, and it was close to home. The mix of students and staff created a friendly atmosphere, and made attending university and getting a degree a comfortable and fun process.

My lasting impression of the University is that it has something to offer to everyone; those who come from educated backgrounds and families and those who don’t. It is a stepping stone towards a bright future, especially for those who come from backgrounds where they may be the first from their family to go to university and get a degree, like me!

I would describe the University of Bradford as evolving, diverse, friendly.

KIERAN JONES
PhD

I am currently a fully funded PhD student at King’s College London.

As part of the PhD programme at King’s I attended some of the undergraduate Developmental Biology lectures, and I personally found that they were not as thorough and as well-delivered as the ones I attended in Bradford. I will have a great lasting impression of the University of Bradford. I believe the teaching quality is brilliant and I found the student sports and societies to be very enjoyable and well organised.
ELLiot Greenwood  
BSc (Hons) Biomedical Science graduate

The professional facilities at the University have been invaluable. The Institute of Cancer Therapeutics’ labs and staff are absolutely fantastic. To be in the brand-new labs in the Richmond Building as well as doing my research project has been brilliant. In lectures you might have something on the screen, but that doesn’t compare to experiencing it in a lab. Using the equipment and getting that hands-on experience is really great and that puts us above everyone else.

In my second year I helped set up a research project called Project Genesis which was to investigate the emerging science of tissue engineering. We visited other universities as well as Bradford. And my role was to help set up and run the group. We also used the Institute of Cancer Therapeutics who were absolutely fantastic and the labs were state-of-the-art. What I’ve taken away from these experiences is that it’s an ever-changing field and I want to be in it because I’m never going to get bored. I really enjoy science, and to be able to walk into a lab and do something somebody wouldn’t do in a normal day is great.

Now that I’ve got a First-Class degree from Bradford and the course is accredited, I can work in industry, Biomedical Science, hospitals or research and I’ve got lots to offer to the world with this degree as it covers a wide range of topics.

Ravind Bhangal  
BSc (Hons) Biomedical Science graduate

I’m currently a Biomedical Scientist in Microbiology working in the NHS.

My time at the University of Bradford offered the opportunity to go out on placement working in a pathology department. This allowed me to network and seek out job opportunities following graduation.

My lasting impression of the University is one of success; a great place to study; good access to resources. The University is always making improvements to its departments such as new laboratories.

My top tip for coming to university would be to seize every positive opportunity, and perhaps having an idea of your career and working towards that goal whilst studying.

Samia Aqeel, 
Final-year student, Postgraduate Medicine

My lasting impression of the University is that it has something to offer to everyone; those who come from educated backgrounds and families and those who don’t.
We’ve invested over £120 million in our bustling City Campus and Emm Lane Campus to make sure you get the most out of your time here – whether you’re studying, working, relaxing or playing.

Located just five minutes’ walk from Bradford city centre, the centrepiece of our refurbished campus is the three-storey Student Central building – the heart of student activity and home to University of Bradford Students’ Union.

Our new developments are among the most environmentally-friendly buildings in the world, and have seen us win numerous awards including the Chartered Institution of Building Services Engineers (CIBSE) Carbon Champion of Year 2012.

Around Campus
You can choose from a wide range of places to eat and drink, including the Atrium Restaurant, which offers vegan and halal options, and many other bars and cafés where you can catch up with your course mates over a cappuccino or celebrate with friends on a night out. The campus also boasts its own theatre, library, art gallery and music centre.

Student Central
The Ents Mall houses four bars, a patio terrace and a 1,300-capacity nightclub. The Union Mall has open spaces for group study, student advice centres and a well-stocked shop. You’ll also find plenty of social and study spaces around the central atrium, with teaching rooms, a 130-seat lecture theatre, student services and a computer cluster.

Award-winning Facilities
Our award-winning £40 million student accommodation, The Green, opened in September 2011.

Our Fitness & Lifestyle sports centre boasts a range of top facilities including a gym, swimming pool and climbing wall, with a packed programme of classes, beauty treatments and children’s activities available at hugely competitive prices (visit www.bradford.ac.uk/unique for more details).

There’s also plenty of open green space for you to enjoy on campus, including the grass amphitheatre outside Student Central which plays host to everything from sunbathing in summer to sledging in winter.

Students studying Management or Law-related subjects study at the dedicated Emm Lane parkland campus, two miles (25 minutes’ walk) from the city centre, where beautiful historic buildings stand side by side with the latest state-of-the-art facilities. A dedicated free bus service takes students between the Emm Lane Campus and the City Campus.

Accommodation
During your first year you will be guaranteed a place at our £40m award-winning eco-friendly student village, The Green. Buildings are arranged as a small village, with rooms available in apartments or townhouses. Every building meets the highest standards of sustainability, meaning it costs very little to heat and light. The Green has a real community feel. It is set in beautiful landscaped gardens, with places to relax and socialise. For more details about what’s available for our students, and for costs, visit www.bradford.ac.uk/accommodation.

In subsequent years most students choose to live in privately rented accommodation. Student accommodation is cheaper, easier to find and more conveniently located in Bradford than in most other university cities. Many students live within five minutes of their lectures! Unipol Student Homes (www.unipol.org.uk/bradford) offers a free advice service to students, and is a good way of finding a good-quality, safe place to live at a reasonable cost.
£40m award-winning, eco-friendly student accommodation, The Green

120+ student societies and sports clubs
Bradford is a vibrant, friendly, creative and cosmopolitan city with a population of over half a million people speaking around 70 different languages.

With a lively nightlife and a host of shops, cinemas, sporting venues and cultural attractions, it’s also one of the least expensive student cities in the UK – offering you great value for money too. Social life in Bradford thrives in the multitude of small, independent bars and restaurants dotted around the city centre which, once discovered, will become like a second home. You’ll also find an abundance of art, music and theatre on your doorstep with a wide variety of clubs and venues within a few minutes’ walk of the City Campus.

The National Media Museum is the most visited museum attraction outside London, while the Alhambra Theatre is a major touring venue offering top West End shows, contemporary dance and ballet. There’s also a wealth of grassroots culture to explore, from artist sound walks around historic Manningham to the flourishing poetry and local music scenes.

To support student travel around the city, a free bus service links the City Campus to the two railway stations, the bus station and the city centre.

A global city

We’re a multicultural community, hosting a diverse range of dazzling street events and flamboyant festivals such as the annual Bradford Festival, a vibrant, colourful and multicultural programme of theatre, art, music and dance from around the world. The city’s restaurants serve up a delicious menu of world cuisine including Polish, Chinese, Italian and Middle Eastern, while our famous curry houses earned Bradford the title of Curry Capital of Britain for a record-breaking fourth year in a row - 2011, 2012, 2013 and 2014.

Historically, Bradford was at the heart of the Industrial Revolution and its rich Victorian heritage is evident right across the city with an abundance of handsome architecture. More recent introductions include City Park, an award-winning six-acre landscaped space at the very heart of the city centre, featuring a 4,000 square metre mirror pool, spectacular laser light projections and over 100 fountains.

Almost three-quarters of the City of Bradford district is green open space. The beautifully landscaped Lister Park is within walking distance of the city centre, and is situated next to the University’s Faculty of Management and Law.

The surrounding countryside is equally breathtaking. The towns and villages of Saltaire, Ilkley and Haworth are all popular tourist attractions that are well worth a visit in their own right.
74% of the City of Bradford district is made up of green space.
HOW TO FIND US

WWW.BRADFORD.AC.UK/MEDICAL-SCIENCES

GREAT HORTON ROAD
CLAREMONT
MANNVILLE TERRACE
GROVE ROAD
SHEARBRIDGE ROAD
TUMBLING HILL STREET
LISTERHILLS ROAD
THORNTON ROAD
CARLTON STREET
RICHMOND ROAD

LAISTERIDGE LANE
A647 MORLEY STREET

To Alhambra Theatre & City Hall

A647 EASBY ROAD

To Laisteridge Lane Site

Bus stop to Emm Lane Campus

Sat Nav
Postcode
BD7 1AZ

City Campus map
Map and directions

How to find us

Getting here

Bradford is easy to get to, located right in the middle of the UK with excellent road and rail links and its own international airport. An extensive coach service also connects most parts of the country with Bradford’s Travel Interchange. Postcodes for our sites are BD7 1DP (Sat Nav postcode BD7 1AZ) for the City Campus and BD9 4JL for the Emm Lane Campus.

By road

Bradford is connected to the national motorway network by the M62 and M606, which we recommend you use if arriving from the south, east or west. Use the A629/A650 via Skipton and Keighley if arriving from the north west, or the A1 or A19 if arriving from the north east. The University is clearly signposted on all major routes into the city. Approximate travel distances are:

- London 200 miles (320 km)
- Leeds 8 miles (13 km)
- York 33 miles (53 km)
- Manchester 35 miles (56 km)
- Birmingham 120 miles (192 km)
- Edinburgh 200 miles (320 km)

By rail

Bradford Interchange has extensive rail links, many of which involve changing at Leeds. There are some direct trains from London to Bradford. The free City Bus service operates between the railway stations and the City Campus. Approximate journey times are:

- London (King’s Cross) 3 hours
- Leeds 20 minutes
- York 1 hour
- Manchester 1 hour
- Birmingham 3 hours
- Edinburgh 4 hours
- Glasgow 4 hours

The contents of this publication represent the intentions of the University at the time of printing. The University reserves the right to alter or withdraw courses, services and facilities as described in this booklet without notice and to amend Ordinances, Regulations, fees and charges at any time. Students should enquire as to the up-to-date position when applying for their course of study. Admittance to the University is subject to the requirement that the student complies with the University’s admissions procedures and observes the Charter and Statutes and the Ordinances and Regulations of the University.