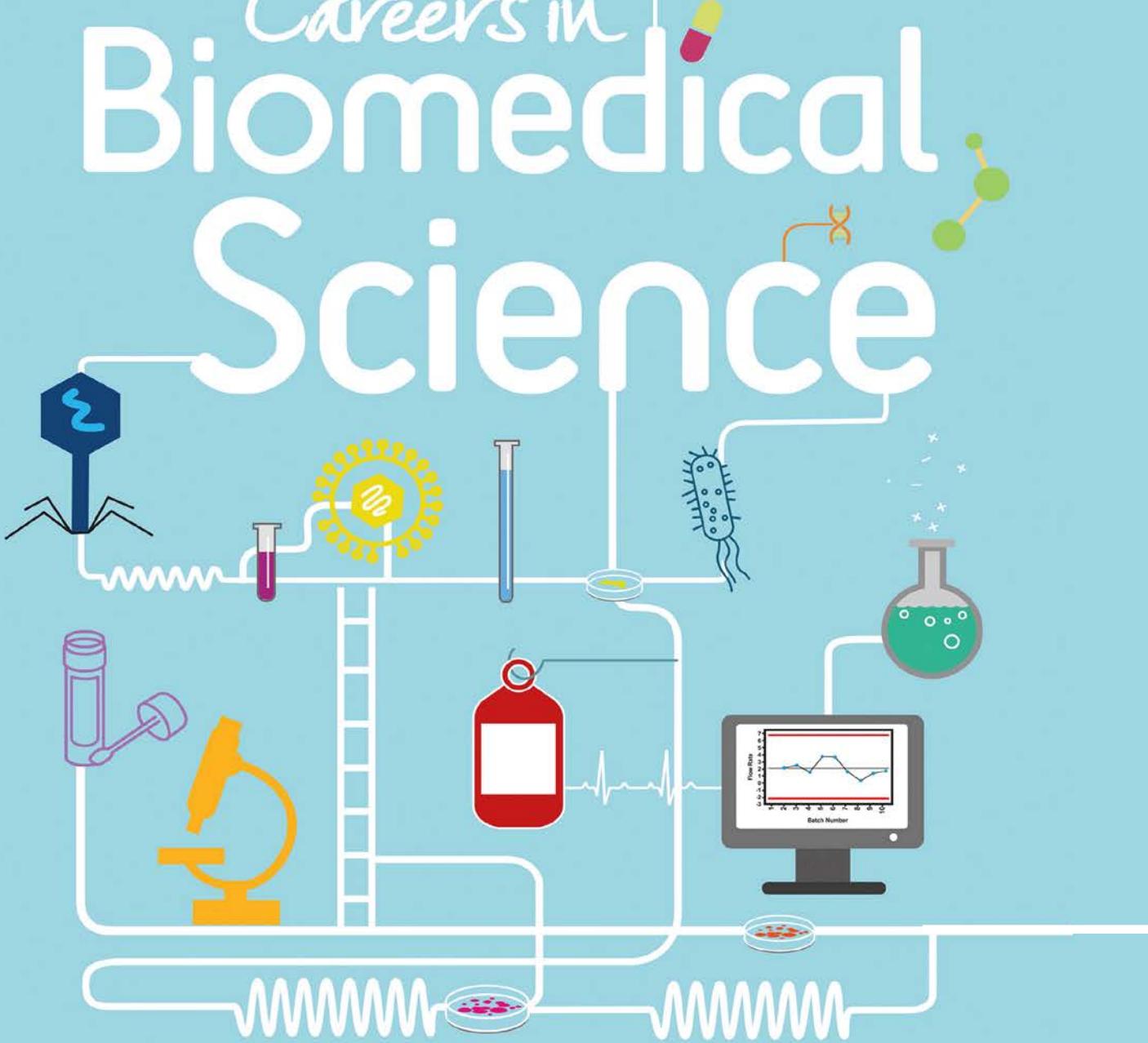
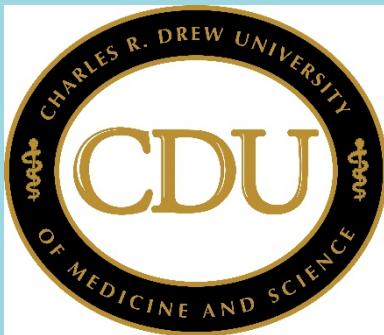


Careers in Biomedical Science



What is biomedical science?

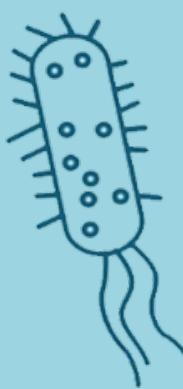
Biomedical science is the **science at the heart of healthcare**



Everyone will use the services of biomedical scientists more than once during their life

Samples taken by doctors or nurses are usually sent to a pathology laboratory to be **analysed by** a biomedical scientist

Biomedical science is one of **the broadest areas of** modern science and underpins much of modern medicine



What is biomedical science?

Biomedical Science is divided into four different laboratory disciplines:

- **Infection Sciences**

Microbiology and Virology



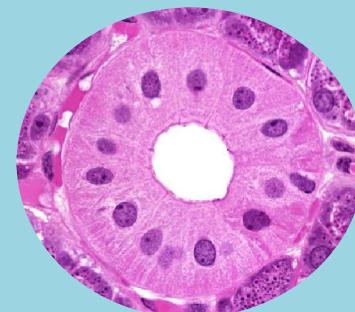
- **Blood Sciences**

Clinical Chemistry, Haematology,
Transfusion and Immunology



- **Cell Sciences**

Histology and cytology



- **Genetics and Molecular Pathology**



Infection Sciences - Microbiology

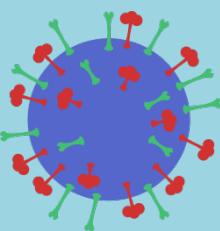
Microbiology is the **study of micro-organisms** such as bacteria, fungi and parasites which cause disease

Biomedical scientists identify these organisms and establish their sensitivity to specific antibiotics



Virology is the **study of viruses** and the disease caused by them such as German measles, HIV and Chickenpox

Virologists are involved in monitoring the effects of vaccines



Blood Sciences - Clinical Chemistry



Biomedical Scientists **analyse blood and other body fluids** to detect enzymes, chemicals and hormones to help the diagnosis of disease e.g. diabetes, and cancer

They also carry out toxicological studies, test kidney and liver functions and help to monitor therapies



Blood Sciences - Transfusion Science

Biomedical Scientists **identify blood groups for blood donation** and ensure the correct group blood is matched to the patient due to receive the transfusion



They also make sure there is enough bloodstocks reserve for critical incidents, such as road traffic accidents and operations



Blood Sciences - Haematology

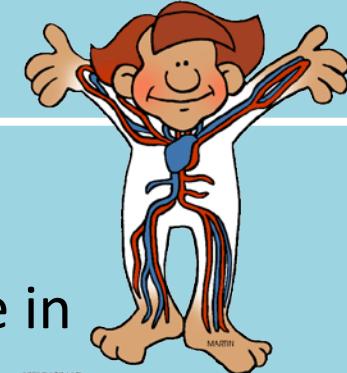
Haematology is the study of blood

In this discipline haematologists are involved with the **formation, composition, function and diseases of blood**

Some of the diseases diagnosed in haematology are leukaemia, malaria and anaemia

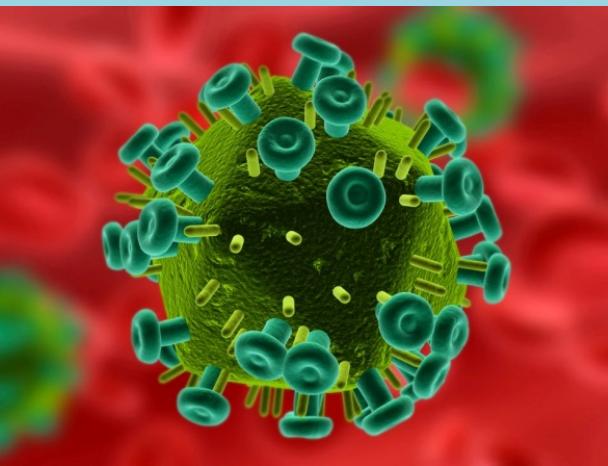


Blood Sciences - Immunology

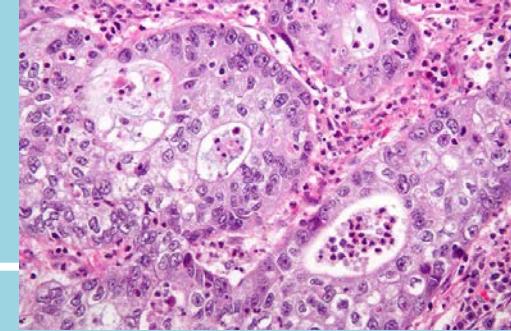


Biomedical scientists in **Immunology** deal with the condition of the **body's immune system** and its role in infectious diseases, allergies, tumour growth, tissue grafts and organ transplantation

Their work is particularly important in the monitoring and treatment of AIDS, autoimmune conditions and allergies



Cell Sciences



Histology is the **microscopical study of tissue samples** to establish the cause of disease

Tissue may be taken during surgery or at post mortem

Diseases such as cancer are diagnosed by looking for abnormal features in tissue and cells

Cytology is best known for **screening cervical smears**, but it also provides a **non-gynaecological service** e.g. bronchial washes and sputum tests



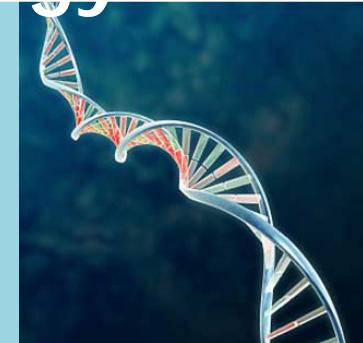
Like histology, specialised techniques are used to prepare and study samples of cellular material



Genetics and Molecular Pathology

Genetics is the study of genes, genetic variation, and heredity in living organisms.

It is generally considered a field of biology, but intersects frequently with many other life sciences and is strongly linked with the study of information systems.



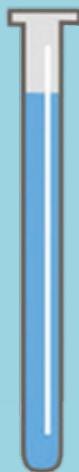
Molecular Pathology is an emerging discipline within pathology which is focused in **the study and diagnosis of disease** through the examination of molecules within organs, tissues or bodily fluids.



What do biomedical scientists do?

Usually **based in laboratories** working in areas of **diagnosis, screening, monitoring and research** they carry out investigations on tissue and body fluid samples

Every year in the UK they handle over **150 million** samples



It is estimated that **over 70%** of medical diagnoses are based on their laboratory test results*

Without a biomedical scientist, diagnosis and treatment would be **less effective**



*Royal College of Pathologists



Biomedical science roles include:

teaching

Infection control

blood donation

training

Transfusion services

veterinary diagnostics

Point of Care Testing

Journalism

Biomedical scientist

^{drug testing}

AIDS and HIV diagnosis
and treatment

Government
advisory

Cancer screening

management

monitoring drug therapies

Pharmaceutical research

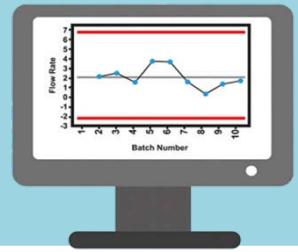
forensics

food safety

rapid response labs

Armed forces





Working in biomedical science

The Health and Care Professions Council (HCPC) is the statutory regulator for biomedical scientists

It is a legal requirement for biomedical scientists practicing in the UK to be registered with the HCPC

Completing an IBMS accredited degree and a Registration Training Portfolio will lead to the award of a Certificate of Competence. This will enable you to apply for HCPC registration as a biomedical scientist

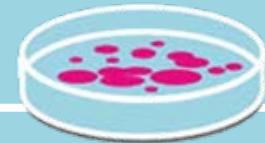
Studying biomedical science

An IBMS accredited BSc honours degree in biomedical science provides the academic knowledge and training you will need to work in biomedical science

You can study part-time or full-time, with Integrated and Sandwich degree courses offering lab placements as part of your training



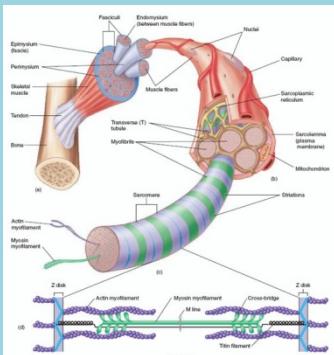
What qualifications do I need?



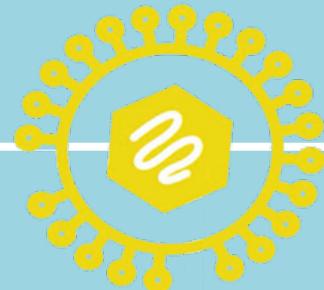
To study biomedical science at university you will need

- A levels (*or equivalent*) in **Biology** and **Chemistry**
- GCSE (*or equivalent*) **Maths**

Biomedical scientists need an in-depth knowledge of anatomy, physiology and pathology – which are all covered in an IBMS accredited degree



Studying biomedical science

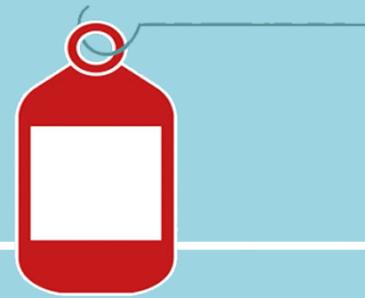


If you plan to work as a biomedical scientist you should choose an IBMS accredited or HCPC approved degree

If your degree is not accredited by IBMS, any educational shortfall can be identified and your degree can be assessed. You may need to take additional modules on an IBMS accredited degree



Skills for life



The skills you will gain studying biomedical science are highly valued by employers and relevant to whichever career path you take

observation

communication

IT statistics

Team working

Project management

investigation

interpretation

numeracy

Problem-solving

data analysis

Time management

Critical thinking



What happens after my degree?

To work for the NHS you will need to become **HCPC registered** and complete an **IBMS Registration Training Portfolio (RTP)**



Graduates of an IBMS accredited degree will have to complete their RTP in an IBMS approved lab

After completing the RTP, graduates can apply to be HCPC registered

Once you are HCPC registered you can start your career as a biomedical scientist



Did you know...

Biomedical Scientist is a legally protected title

hcpc health & care professions council	
Name	Jocelyn E Pryce
Registration number	BS35818
Location	London
Status	Registered
Registered from	01/12/2015
Registered until	01/12/2017

To protect public safety, anyone that uses the title must meet HCPC standards and be HCPC registered

Not everyone who studies biomedical science chooses a career in science after

Biomedical science graduates go on to work in:
law, accountancy, management, marketing, finance,
government, communications and sales



What is the IBMS?

The **Institute of Biomedical Science** is the professional body for biomedical scientists, support staff and students



For **over 100 years** the IBMS has been dedicated to the promotion, development and delivery of excellence in biomedical science

It is governed through an elected council of representatives, that allows its members the opportunity to shape the way it operates



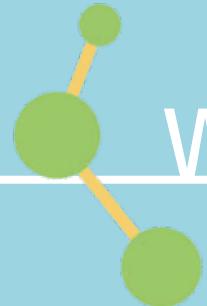


What does the IBMS do?

The IBMS sets the **quality standards** for the profession through: training, education, assessments, examinations and continuous professional development (CPD)

With more than 20,000 members in over 60 countries the IBMS provides a voice for the profession and promotes the role of biomedical science in society





Why join the IBMS as an eStudent?

The IBMS eStudent membership is for students who are **studying for a biomedical science** or related degree

Becoming a member is a great way to **explore and expand your knowledge** of biomedical science and will help **develop your skills and experience**

The IBMS will support you while you study, offering you **advice, tips and guidance** and will **connect** you to a network of **20,000** biomedical science professionals



Why join the IBMS as an eStudent?



Expand your knowledge
Access to our monthly biomedical science dedicated magazine and website resources



Support includes
Advice on placements
Access to expert advice
Member discounts

JOIN TODAY AT
WWW.IBMS.ORG
/ESTUDENT
FOR JUST £10
A YEAR

Connect with
over 20,000 biomedical science professionals

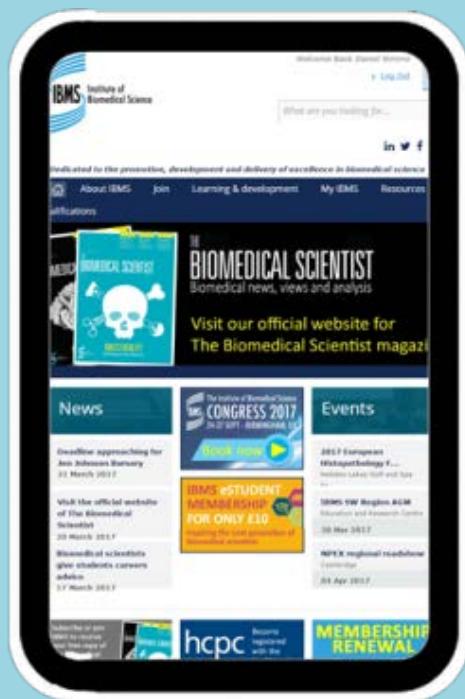


Develop your skills
CPD Portfolio
Journal based learning
Grants and rewards



Find out more about the IBMS

For more information about the IBMS and biomedical science visit our website or follow us on social media



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Science



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