BSc Honours

Biomedical Science

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

CIT CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Why study Biomedical Science?

Biomedical Science is the term for the investigations carried out by Biomedical Science is a continually changing profession and involves study of the diverse areas of medical science including clinical biochemistry, medical microbiology, cellular pathology, haematology and transfusion science. It provides training in cutting edge technologies to facilitate investigation of disease and medical research and prepares the student for a career in laboratory medicine. Medical Scientists work in partnership with doctors and other health healthcare professionals in investigating samples of tissue and body fluids in order to diagnose disease and monitor patient treatments.

Programme overview

The Biomedical Science degree programme is offered jointly by University College Cork and Cork Institute of Technology. There are thirty places available on the programme via CAO code CR320. The programme is managed, administered and taught through both institutions.

To be eligible to work as a Medical Scientist in a hospital laboratory, you must hold a BSc Honours degree in Biomedical Science, followed by the postgraduate Diploma in Clinical Laboratory Placement. The degree, in conjunction with the clinical placement, is accredited by both the Academy of Clinical Science and Laboratory Medicine and the Institute of Biomedical Science, allowing you to work as a Medical Scientist in hospital laboratories in Ireland, the UK and elsewhere.

Entry requirements

Leaving Certificate: Minimum H4 in either Physics, Chemistry, Biology or Physics-with-Chemistry (joint). One H5 and four O6/H7 from subjects which are recognised for entry purposes and which must include Mathematics, English and Irish.

Career opportunities

Graduates who have completed the BSc in Biomedical Science, followed by the postgraduate Diploma in Clinical Laboratory Placement, can work as medical laboratory scientists. Graduates can also work in related areas such as in medical research, the biopharmaceutical and biotechnology industries, in public health, and in sales and marketing of medical products.

Postgraduate opportunities

A wide range of postgraduate opportunities is available to Honours Degree graduates in Biomedical Science in the Life Sciences, Health Sciences and related areas. See http://www.ucc.ie/calendar/postgraduate/

What will you be studying?

Year 1 modules

Introduction to Biomedical Science I & II (5 credits each) • Cell Biology • Creativity, Innovation & Teamwork (5 credits) • Health Science (5 credits) • Human Biology (5 credits) • Biological Chemistry I & II (5 credits each) • Calculus for Science I & II (5 credits each) • Physics for Biomedical, Environmental, Food and Nutritional Sciences (10 credits).

Year 2 modules

Introductory Molecular Biology (5 credits) • Professional Practice (5 credits) • Bioanalytical Science (5 credits) • Introduction to Clinical Biochemistry (5 credits) • Haematology and Transfusion Science (5 credits) • Mammalian Cell and Tissue Structure (5 credits) • Biomolecules (5 credits) • Principles of Metabolic Pathways (5 credits) • Fundamentals of Microbiology (5 credits) • Principles of Microbiology (5 credits) • Introductory Physiology I & II (5 credits each).

Year 3 modules

Pharmacology (5 credits) • Molecular Biology (5 credits) • Diagnostic Microbiology (5 credits) • Anaemia and Immunohaematology (5 credits) • Research and Professionalism (5 credits) • Medical Microbiology (5 credits) • Immunology: Host Response to Pathogens (5 credits) • Transmission and Epidemiology of Infectious Diseases (5 credits) • Structural Biochemistry (5 credits) • Advanced Metabolism in Health Disease and Cancer (5 credits) • Cell Signalling (5 credits) • Cellular Pathology I (5 credits).

Year 4 modules

Transfusion Science and Transplantation (5 credits) • Clinical Biochemistry (5 credits) • Quality Management Systems (5 credits) • Statistics in Biomedical Science (5 credits) • DNA Diagnostics and Medical Genetics (5 credits) • Haematology Disorders (5 credits) • Bioinformatics for Biomedical Science (5 credits) • Virology (5 credits) • Cellular Pathology II (5 credits) • Research Project (15 credits).

Further details on programme and modules

http://www.ucc.ie/calendar/science/sci017.html
http://www.ucc.ie/modules/descriptions/page009.html

Work placement

Upon completion of the BSc Honours in Biomedical Science degree, students will be offered the possibility of an 'in-service' training programme in a designated hospital laboratory. This training must be completed to enable graduates to be employed as Medical Scientists.

Key facts

- Course Code: CR320
- The degree is offered jointly by University College Cork and Cork Institute of Technology.
- To work as a Medical Scientist in a hospital laboratory, you must hold a BSc Honours degree in Biomedical Science and the postgraduate Diploma in Clinical Laboratory Placement.
- The degree, in conjunction with clinical laboratory placement, is accredited by both the Academy of Clinical Science and Laboratory Medicine and the Institute of Biomedical Science, allowing you to work as a Medical Scientist in hospital laboratories in Ireland, the UK and elsewhere.

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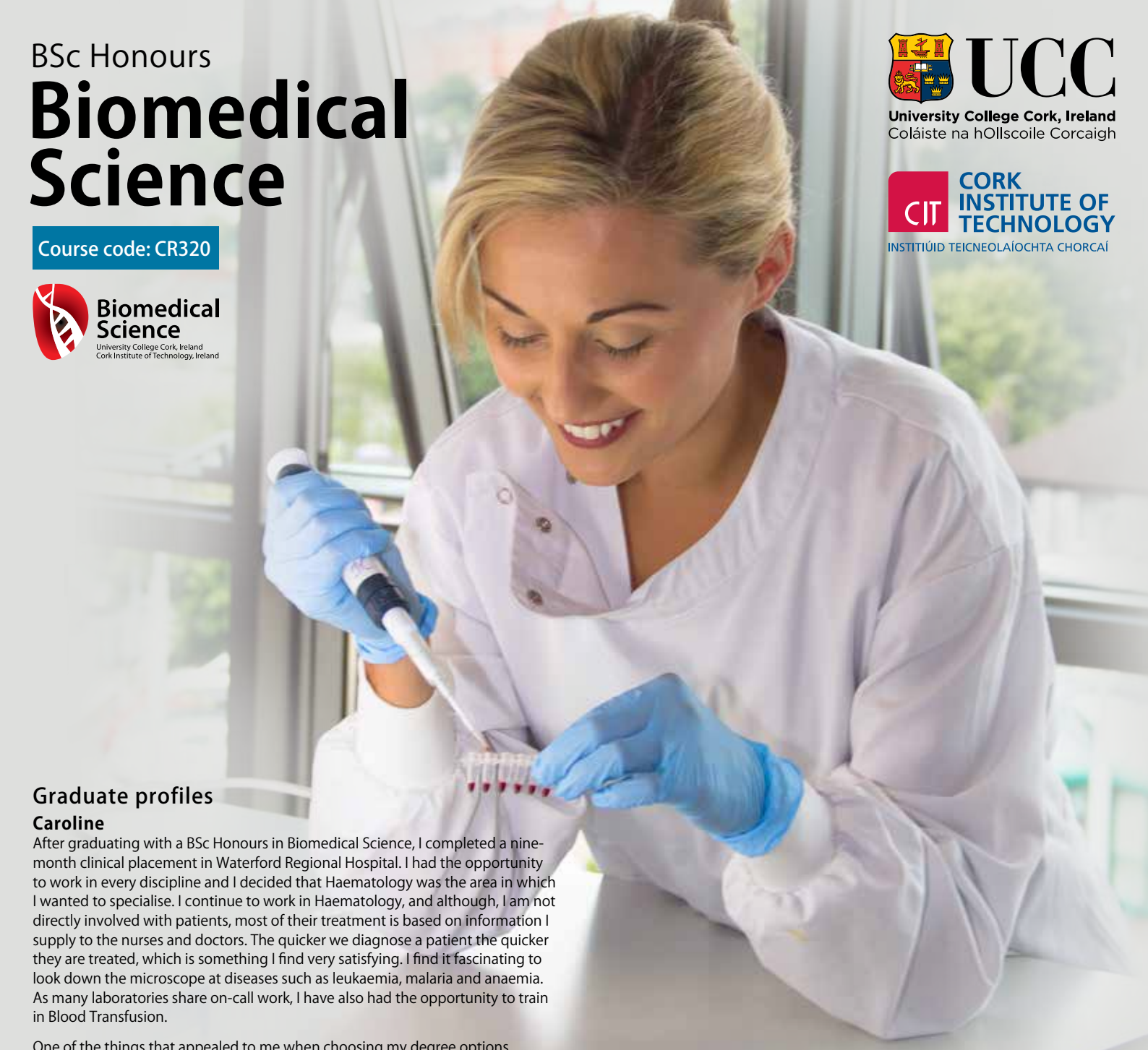

Graduate profiles

Caroline

After graduating with a BSc Honours in Biomedical Science, I completed a nine-month clinical placement in Waterford Regional Hospital. I had the opportunity to work in every discipline and I decided that Haematology was the area in which I wanted to specialise. I continue to work in Haematology, and although, I am not directly involved with patients, most of their treatment is based on information I supply to the nurses and doctors. The quicker we diagnose a patient the quicker they are treated, which is something I find very satisfying. I find it fascinating to look down the microscope at diseases such as leukaemia, malaria and anaemia. As many laboratories share on-call work, I have also had the opportunity to train in Blood Transfusion.

One of the things that appealed to me when choosing my degree options was the ability to travel with my chosen career. Medical Scientists are in high demand in industry and health services, both in Ireland and abroad. Shortly after graduation, I also completed a Masters in Biomedical Science in UCC/CIT, specialising in advanced Haematology/Transfusion Science subjects. A BSc in Biomedical Science can offer a gateway to other interests such as management and research which may evolve as your career progresses.

Kate

I chose to study Biomedical Science for two reasons – my love of science and my intrigue at how it could be applied in the world of medicine. The course is excellently designed, with an emphasis on intellectual and analytical skills and the practical laboratory sessions are extremely relevant. You study subjects specific to the role of a Medical Scientist such as Clinical Biochemistry, Medical Microbiology, Haematology and Transfusion Science. I particularly enjoyed the focus on the diagnosis of disease, and the research project in fourth year really piqued my interest in research.

After graduating, I worked for nine months in the Bon Secours Hospital where I undertook my Postgraduate Diploma in Clinical Placement. I absolutely loved my time here where I put into practice what I had learned over the four years. The opportunities once you graduate are endless. The majority of people go on to work as a Medical Scientist in a hospital lab, while others go into pharmaceutical companies or undertake research Masters or PhD's. I am currently pursuing a PhD looking at the molecular epidemiology, pathogenesis and control strategies of Group B Streptococci.

I absolutely loved my time studying Biomedical Science. I cannot recommend the course strongly enough to anyone who has an interest in the areas of medical science. The skills I learned over the five years have proven vital to me so far.

Niall

The Biomedical Science programme at UCC/CIT provides an exceptional foundation in science with a strong clinical focus. Studying a diverse range of subjects and engaging with excellent tutors fostered nascent academic interests. The course is highly regarded and graduates are well positioned for work in clinical laboratories, industry or to undertake further studies. During the summer breaks, I gained experience in different types of laboratories and worked in industry, research and healthcare sectors. Additionally, the clinical aspect of the course gave me an appreciation for medicine and the impetus to pursue a medical career via Graduate Entry to Medicine. The experience and knowledge acquired from the degree has been of tremendous value in my current studies. I even still have the opportunity to get back to the laboratory where I conduct clinical research. Biomedical science is an outstanding course and definitely worth considering if one has an interest in science and wants a widely recognised and respected qualification.

FURTHER INFORMATION

University College Cork
School of Biochemistry & Cell Biology
Tel: +353 21 420 5417
Email: s.kerins@ucc.ie

School of Microbiology
Tel: +353 21 490 2004
Email: j.morgan@ucc.ie

Cork Institute of Technology
Department of Biological Sciences
Tel: +353 21 433 5484
Email: biomedicalsciences@cit.ie

Web: http://biomed.ucc.ie