UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

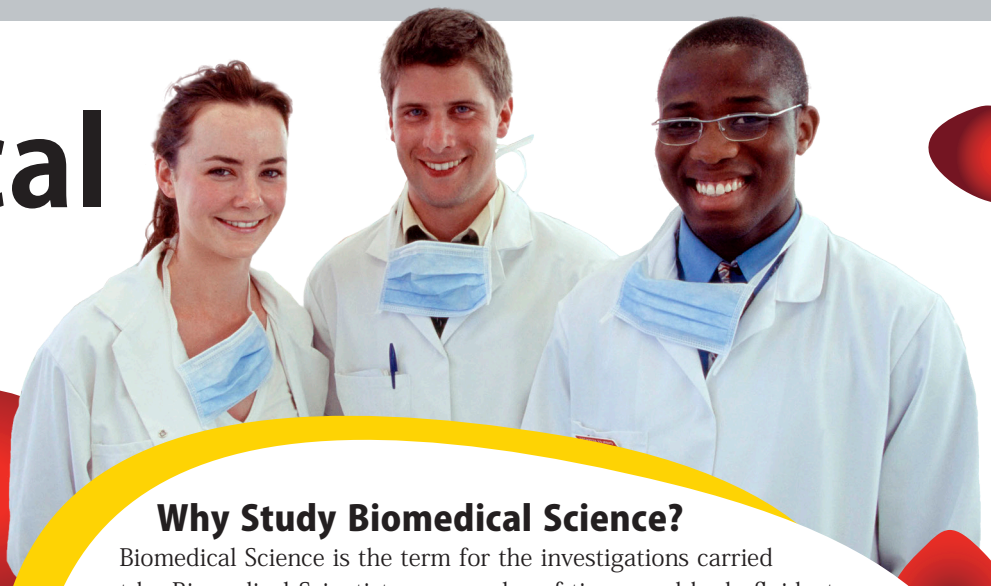
CIT
Institiúid Teicneolaíochta Chorcaí
Cork Institute of Technology

Biomedical Science
University College Cork, Ireland
Cork Institute of Technology, Ireland

Course code: CR320

BSc Honours

# Biomedical Science



## Programme Overview

This new direct entry 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 (replacing CK402 entry to Biomedical Science in UCC and CR085 entry to BSc Biomedical Science level 7 in CIT).

This new degree programme was developed jointly by the two institutes to improve course structure, curriculum, student experience and career opportunities. The programme will be managed, administered and taught through both institutions.

This new direct entry degree programme is accredited and recognised by the Academy of Medical Laboratory Sciences in Ireland. Clinical placement of students in hospital laboratories is required for accreditation.

The aim of this programme is to educate the student in Biomedical Science, including the 'state-of-the-art' technologies used in hospitals and research laboratories. Biomedical Science includes education and training in areas such as Haematology, Clinical Biochemistry, Medical Microbiology and Cellular Pathology, and prepares the student for a career in laboratory medicine and related areas in the Health-Care and Biopharmaceutical industries.

## Why Study Biomedical Science?

Biomedical Science is the term for the investigations carried out by Biomedical Scientists on samples of tissue and body fluids, to diagnose disease and monitor the treatment of patients. Scientists work in partnership with doctors and other healthcare professionals to perform many different roles in medical laboratories. Biomedical Science is a continually changing dynamic profession and involves study of the diverse areas of medical science including: Biochemistry, Microbiology, Genetics, Haematology and Transfusion Science. It provides training in 'state of the art' technologies, to facilitate investigation of disease and medical research.

## Entry Requirements

Minimum Higher C3 in two subjects in the Leaving Certificate, one of which must be in a laboratory science subject taken from: Physics, Chemistry, Biology or Physics-with-Chemistry (joint). In addition, applicants must have passed four further Leaving Certificate subjects at Higher or Ordinary Level, including Mathematics, English and Irish. Agricultural Science is accepted as a subject and attracts CAO points, but does not meet the requirement for the Laboratory Higher C3 subject. In addition, students must have the requisite points for entry onto the course.

## Further Information

### University College Cork

**Department of Biochemistry**
Tel: +353 21 420 5417

**Department of Microbiology**
Tel: +353 21 490 2004

Email: biomed@ucc.ie
Web: http://biomed.ucc.ie

**Science, Engineering and Food Science (SEFS)**
Tel: +353 21 490 3075
Email: college-sefs@ucc.ie

### Cork Institute of Technology

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

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## What will you be studying?

### First Science

Biomedical Science • Cell Biology • Health Science • Human Biology • Chemistry • Mathematics • Physics • Creativite, Innovation and Teamwork

### Second Science

Mammalian Cell and Tissue Structure • Biomolecules • Case Studies in Biomedical Science • Principles of Metabolic Pathways • Analytical Science and Instrumentation • Haematology and Blood Transfusion • Clinical Biochemistry • Introductory Molecular Biology • Fundamental Principles of Microbiology • Introductory Physiology

### Third Science

Structural Biochemistry • Advanced Metabolism • Cell Signalling • Cellular Pathology • Molecular Biology • Haematology and Transfusion Science • Research Design and Statistics • Diagnostic Microbiology • Medical Microbiology • Immunology • Transmission and Epidemiology of Infectious Diseases • Pharmacology

### Fourth Science

Cellular Pathology • Virology • Haematology • Transfusion Science • Quality Management Systems in Biomedical Science • Statistics for Biomedical Scientists • Clinical Biochemistry and Endocrinology • DNA Diagnostics • Toxicology • Research Project

## Further Details

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.

## Career Opportunities

Biomedical Science represents an opportunity to put scientific knowledge into practical use and perform a key role in the medical laboratory. The skills and qualification can be transferred all over Europe and recognised worldwide. Should graduates not wish to pursue the 'in-service' placement, other career options include: Research, Biopharmaceutical and Biotechnology Industries, Public Health and Sales, and Marketing of Medical Products.

## Postgraduat e Opportunities

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



## Graduate Profiles

### Kate

In 2007, I graduated from UCC with a BSc Honours in Biomedical Science. After graduating, I completed nine months clinical placement in a hospital, in order to gain accreditation from the Academy of Medical Laboratory Science in Ireland. This involved shadowing and working with Medical Scientists within the Biochemistry, Histology, Microbiology, Haematology and Blood Bank laboratories of the hospital. Classes were also given on aspects such as quality control, laboratory safety and record maintenance. During this placement, I carried out both research and literature review based projects. As part of this training period, I spent two weeks rotating amongst the different departments of the Munster Regional Transfusion Centre. Following continuous assessment and an oral examination, I obtained accreditation from the Academy of Medical Laboratory Science, and was therefore, qualified to work in a hospital pathology laboratory. In 2008, I applied for a place on the PhD Scholars Programme in Cancer Biology at UCC. In the first year of this structured PhD programme, I was involved in carrying out three twelve-week projects in different areas of cancer research. In September 2009, I began my second year as a PhD student, where I am investigating the process of cell motility and cancer metastasis. The BSc in Biomedical Science provided me with the necessary skills to pursue a career as a medical or a research scientist.

### Caroline

In 2006, I graduated from UCC with a BSc Honours in Biomedical Science. Subsequently, I completed a nine month in-service training year in Waterford Regional Hospital (WRH). Having had the opportunity to work in all the disciplines, I decided that Haematology was the area I wished to specialise in. I have continued to work as a Medical Scientist in this area, in the Haematology Department in WRH and love it. 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 can diagnose a patient the quicker they get treated, which is something I find very satisfying. I also find it fascinating to look down the microscope at diseases such as; leukaemia, malaria and anaemia. Also, as many laboratories share on-call work, I have been given the opportunity to train in Blood Transfusion and gain significant experience, which may be beneficial for future job opportunities.

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, and for those wishing to volunteer for organisations such as Médecins Sans Frontières. I have been able to build on my knowledge by pursuing further professional education courses, run by the Academy of Medical Science. I am currently entering the second year of a two-year part-time Masters in Biomedical Science in UCC/CIT, specialising in advanced Haematology/Transfusion Science subjects. These optional qualifications will help me to develop advanced specialist skills or adopt senior roles and responsibilities. Also within my workplace all scientists are required to play their part in health and safety training of new medical scientists, quality control and quality assurance schemes as part of our quality management system. These experiences have equipped me with transferable skills, which can be applied to many other professions. As well as being a rewarding profession, it is also a flexible one. A BSc in Biomedical Science can offer a great gateway to other interests in management and research, which may evolve as you get older and your career progresses.