

Microbiology

BSc

College of Science,
Engineering and Food
Science



UCC

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Introduction

Microbiology is an important and varied discipline that covers the vast majority of life forms on earth. The word micro, comes from the Greek-word mikros, meaning small. Microbiology describes the study of organisms that are usually invisible to the naked eye, including bacteria, protozoa, fungi, viruses, helminths and prions.

Why Study

Microbiology sits neatly on the interface between fundamental science and applied science/ biotechnology, and this degree caters for students with diverse interests.

The most important aspect of the degree is its relevance to society. Whether it's regarding issues of the food or pharma industries, the environment, or medicine, microbiology is centrally important and is rarely far from the news. This relevance in diverse spheres means graduates have little difficulty in pursuing careers in research and industry.

Careers

The UCC BSc Microbiology degree provides excellent training for a career in the microbiology, biotechnology, food, environmental, medical, pharmaceutical and veterinary sectors.

Graduates have specialised skills in practical and theoretical microbiology that have direct relevance to industry, as well as additional skills in problem-solving, data-handling and presentation, that can be applied in many different sectors.

About 50% of graduates go on to immediate employment, many in companies in the Cork area, but others in international locations. Other graduates choose to pursue higher degrees (MSc or PhD).

Further Study

- MSc Bioinformatics and Computational Biology
- MSc Food Microbiology
- MSc Biotechnology
- MSc in Molecular Cell Biology with Bioinnovation
- PhD Microbiology (Research training programme)
- MSc Microbiology (Research training programme)
- Graduate Entry Medicine.

CK402

DEGREE OUTLET

COURSE PAGE ONLINE

www.ucc.ie/en/ck402/microbiology

CONTACT INFORMATION

Professor Gerald Fitzgerald,
Head of School

T: +353 (0)21 490 2392

E: microbiology@ucc.ie

www.ucc.ie/en/microbiology



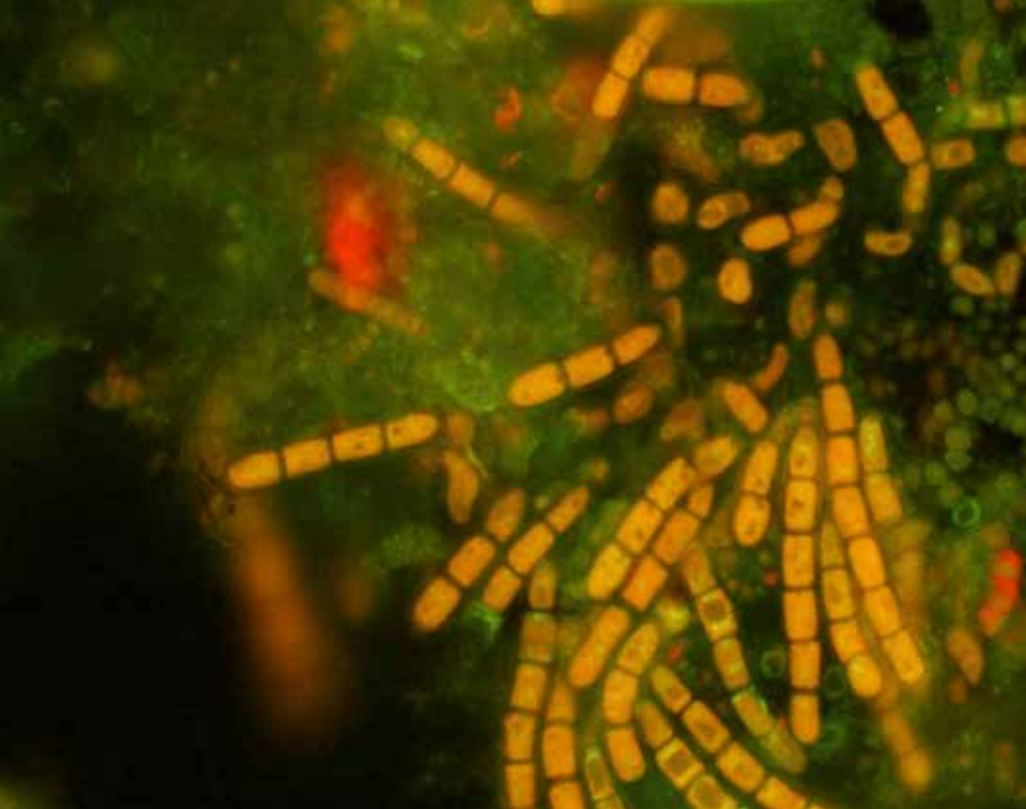
CAROL O'SULLIVAN

GRADUATE, 2005.

"After graduation I worked in the food industry and the medical device industry before completing my Higher Diploma in Education. I now teach full time in a secondary school."



#uccmakeyourmark



Year 1 Modules

BL1002 Cells, Biomolecules, Genetics & Evolution (5 credits); **BC1001** Introduction to Biochemistry and the Biological Basis of Disease; **BL1004** Physiology and Structure of Plants and Animals (5 credits); **CM1200** Fundamentals of Modern Chemistry I (10 credits); **MA1001 & MA1002** Calculus for Science Parts 1 & 2 (5 credits each); **PY1010** Physics for Biological and Chemical Sciences (10 credits); **MB1003** Microbiology in Society (5 credits)

ELECTIVES: **BL1005** Introduction to Ecology (5 credits); **BT1001** Biotechnology (5 credits); **CM1201** Fundamentals of Modern Chemistry 2a (10 credits)

Year 2 Modules

CORE: Biomolecules; Principles of Metabolic Pathways; Introductory Molecular Biology; Principles of Human Structure; Mammalian Cell and Tissue Structure; Introductory Physiology; Introduction to Biostatistics; Fundamentals of Microbiology; Principles of Microbiology. Students that have not completed Fundamentals of Modern Chemistry Part 2 (10 credits) in year 1 must do so in year 2

ELECTIVES: Main Group and Transition Element Chemistry; Fundamentals of Organic Chemistry; Energetics and Kinetics; Spectroscopy; Introduction to Plant Biotechnology; Vertebrate Diversity; Fundamentals of Ecology

Year 3 Modules

Virology; Food & Industrial Microbiology; Environmental Microbial Genomics; Genetic Engineering & Molecular Biotechnology; Molecular Genetics & Genomics; Immunology; Transmission & Epidemiology of Infectious Diseases; Methods in Microbiology; Environmental Systems Microbiology; Medical Microbiology; Food & Industrial Microbiology

Year 4 Modules

CORE: Computational Biology; Eukaryotic Molecular Genetics; Molecular Biology & Physiology of Bacteria; Research Frontiers in Microbiology; Research Project

ELECTIVES: Programming in Python; Advanced Medical Microbiology; Advanced Virology; Current Advances in Immunology; Food Fermentation & Mycology; Microbial Food Safety; Food Biotechnology; Environmental Microbial Genomics; Microbial Diversity & Ecology

KEY FACTS

- Microbiology graduates have a choice of working in diverse industries, pursuing further training or research careers
- 95% of UCC microbiology graduates either secure a job or commence further education shortly after graduation
- The School of Microbiology has the highest research standing of any microbiology department in Ireland. Students are taught by academic staff who are international experts in their research field
- A microbiology degree is a foundation for a future career in microbiology, molecular biology, bioinformatics, cell biology or biotechnology



DR HEATHER MCLAUGHLIN

VISITING STUDENT 2005,
PHD MICROBIOLOGY, 2011.

"I came to Ireland to study as part of my BSc Microbiology at the University of Texas. I was impressed with the quality of the research environment and the priority they place on being internationally competitive."