

# BSC (HONS) PHYSIOLOGY

## Overview

### NFQ Level 8, Major Award

Students enter Second Science Physiology First Science Area of Study: Biological and Chemical Sciences (CK402) (<https://ucc-ie-public.courseleaf.com/programmes/bscbf/>) provided they have passed First Science.

### BSc Ordinary Degree - NFQ Level 7, Major Award

Students who pass Third Year may choose not to proceed to Fourth Year and may opt instead to be conferred with a BSc Ordinary Degree (<https://ucc-ie-public.courseleaf.com/programmes/bscpas/>).

## Programme Requirements

For information about modules, module choice, options and credit weightings, please go to Programme Requirements (p. 1).

## Programme Requirements

Code	Title	Credits
<b>Year 1</b>		
Students take <b>60</b> credits as follows:		
<i>Core Modules</i>		
BC1001	Introduction to Biochemistry and the Biological Basis of Disease	5
BL1002	Cells, Biomolecules, Genetics and Evolution	5
BL1004	Physiology and Structure of Plants and Animals	5
CM1200	Fundamentals of Modern Chemistry Part 1	10
CM1201	Fundamentals of Modern Chemistry Part 2a	10
MA1001	Calculus for Science Part 1	5
MA1002	Calculus for Science Part 2	5
MB1003	Microbiology in Society	5
PY1010	Physics for Biological and Chemical Sciences	10
<b>Year 2</b>		
Students take <b>60</b> credits as follows - all listed core modules ( <b>55</b> credits) and <b>5</b> credits of elective modules:		
<i>Core Modules</i>		
Biochemistry		
BC2001	Biomolecules	5
BC2002	Principles of Metabolic Pathways	5
Biotechnology		
BT2001	Introduction to Biotechnology	5
Molecular Biology		
ML2001	Introductory Molecular Biology	5
Microbiology		
MB2005	Fundamentals of Microbiology	5
MB2006	Principles of Microbiology	5
Neuroscience		
AN2003	Principles of Human Structure	5
AN2020	Introduction to Neuroscience, the Brain and Behaviour	5
Physiology		
PL2021	Introductory Physiology I	5
PL2022	Introductory Physiology II	5

Statistics		
ST2001	Introduction to Biostatistics	5
<i>Elective Modules</i>		
Students take modules to the value of <b>5</b> credits from the following:		5
Semester 1		
Chemistry		
CM2001	Main Group and Transition Element Chemistry	
CM2002	Fundamentals of Organic Chemistry	
CM2003	Energetics and Kinetics	
Plant Science		
PS2001	Introduction to Plant Biotechnology	
Zoology		
ZY2000	Vertebrate Diversity	
Semester 2		
Chemistry		
CM2007	Spectroscopy	
Ecology		
AE2001	Fundamentals of Ecology	
<b>Year 3</b>		
Students take <b>60</b> credits as follows – all listed core modules ( <b>55</b> credits) and <b>5</b> credits of elective modules:		
<i>Core Modules</i>		
AN3001	Research Methodology in Neuroscience and Biomedical Science	5
BC3005	Biochemical and Cellular Immunology	5
PL3005	Cell and Epithelial Physiology	5
PL3009	Bioenergetics and Endocrinology	5
PL3020	Neurophysiology	5
PL3021	Cardiovascular Physiology	5
PL3022	Respiratory Physiology	5
PL3023	Renal Physiology	5
PL3024	Digestive Physiology	5
PL3025	Literature Review, Experimental Design and Data Analysis	5
PT3001	Introduction to Pharmacology	5
<i>Elective Modules</i>		
Students take modules to the value of <b>5</b> credits from the following:		5
PT3002	Introduction to Toxicology (5)	
PT3005	Chemotherapy and Pharmacology of Inflammation (5)	
<b>Year 4</b>		
Students take <b>60</b> credits as follows:		
<i>Core Modules</i>		
PL4006	Regulation of Epithelial Transport	5
PL4007	Gene Targeting Tools for Physiology	5
PL4009	Applied Cardiovascular and Respiratory Physiology	5
PL4010	Control of Breathing in Health and Disease	5
PL4011	Learning and Memory	
PL4012	Physiology of Calcium Signalling	5
PL4013	Physiology and Pathophysiology of Vascular Endothelium	5
PL4015	Microbiome and Physiology	5

PL4020	Research Project	20
<b>Total Credits</b>		<b>235</b>

## Programme Learning Outcomes

### Programme Learning Outcomes for BSc in Physiology (NFQ Level 8, Major Award)

On successful completion of this programme, students should be able to:

- Describe the different physiological systems and how they integrate to determine the function of the organism as a whole;
- Explain with suitable molecular, cellular and integrated physiology examples, the concept of homeostasis and how its disruption can lead to the disease state;
- Select techniques suitable for the evaluation of physiological process at the molecular, cellular, organ and system level, in an integrated manner that can be used to increase our knowledge of both normal and pathophysiological states;
- Critically evaluate research publications to enable them to formulate research ideas and hypotheses, and design experiments with appropriate controls;
- Interpret laboratory findings, perform appropriate statistical analysis and clearly communicate their research findings to both scientific and lay audiences, both orally and in writing, in the context of their laboratory research projects and course work.