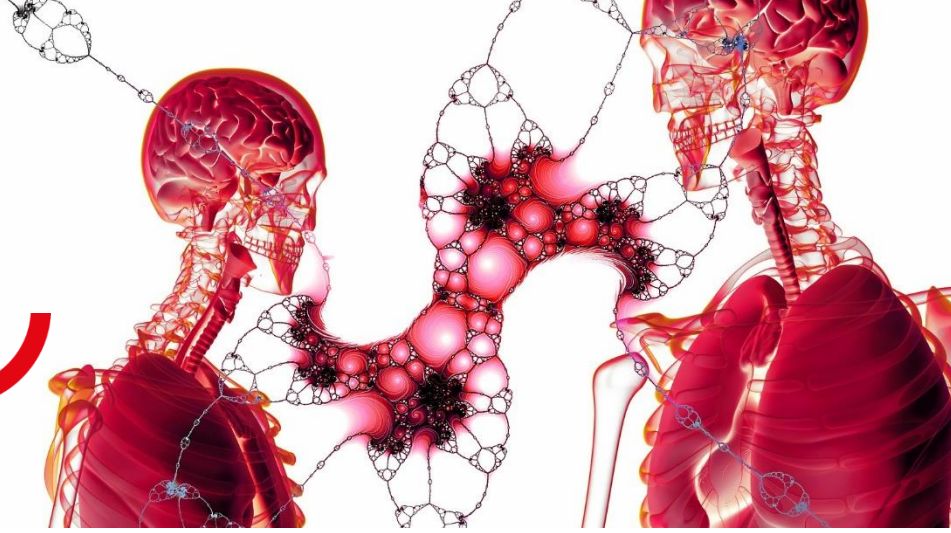


HUMAN BIOLOGY



STUDY ABROAD MODULE OPTIONS

LEVEL 1	
DOUBLE SEMESTER: FALL & SPRING	
BMS1104 Human Structure and Function (40 CATS)	
LEVEL 2	
DOUBLE SEMESTER: FALL & SPRING	
BMS2101 Anatomical Sciences (40 CATS)	
BMS2108 Physiological Sciences (40 CATS)	
LEVEL 2	
SEMESTER 1: FALL	SEMESTER 2 : SPRING
BMS2105 Human Evolution (20 CATS)	
BMS2028 Human Physiological Measurement (20 CATS)	
BMS2015 Molecular Cell Biology (20 CATS)	

Please note: modules may require demonstration of prior learning. Modules may be subject to change.



**QUEEN'S
UNIVERSITY
BELFAST**

**FACULTY OF
MEDICINE,
HEALTH AND
LIFE SCIENCES**

GET IN TOUCH
EMAIL: ASKMHLS@QUB.AC.UK
WHATSAPP: 07851880522

MODULE OVERVIEWS

BMS1104 Human Structure and Function

This module give you an introduction to the structure and function of cells, tissues and systems of the human body. Basic anatomical and physiological terminology. The microanatomy of the cell and the structure, function and classification of the basic tissues of the body including epithelium, connective, muscle and nerve; the structure and function of skin, blood, eye and ear; the structure and function of the organs and components of the major body systems including the cardiovascular, respiratory, urinary, endocrine, immune, alimentary and reproductive systems. The study of anatomy is augmented and supported by a range of practical classes where there are opportunities to examine prosected human cadaveric specimens, preserved potted human specimens and microscopic anatomy via virtual slides. Physiology practical classes encourage students to collect data about the functioning of their own bodies in various situations, learning to analyse and interpret that data and thereby providing further explanation behind many of the principles explained in theory and tutorial classes.

BMS2101 Anatomical Sciences

This module covers the theory and practice underlying the processing of specimens for examination by different types of microscopy including light, electron, immunofluorescence and confocal microscopy. A study of the theory underlying how many of these microanatomical imaging techniques work and when they are best used. Group presentations (classes) by students to their peers on the detailed histological structure of an organ selected from the cardiovascular, respiratory, alimentary, renal, reproductive or lymphoreticular systems. You will also get an Introduction to the study of gross anatomy starting with the basic terminology relating to anatomical planes, anatomical positions and anatomical directions. Study of the gross anatomy of the head, neck, thorax, abdomen and limbs, including an overview of the respiratory, cardiovascular, gastrointestinal, renal and musculoskeletal systems, through the use of osteological and prosected human specimens and by dissection (specimens permitting). The module will also incorporate medical imaging and will involve the integration of a range of imaging modalities into practical classes using advanced interactive technologies.

BMS2105 Human Evolution

This module will provide students with knowledge and understanding of the comparative anatomy between modern humans and our closest living relatives (the great apes). They will gain an understanding of how our current anatomy evolved since the split with the last human / chimpanzee common ancestor by considering the fossil evidence for extinct hominid species from the genera Ardipithecus, Australopithecus, Paranthropus and Homo. Particular emphasis will be given to the evolution of the limbs, pelvis, thoracic cage, cranium, brain and dentition. The genetic evidence for human evolution will also be explored. Where possible the medical significance of human evolution will be explored. Scientific writing and critical review of the scientific literature represents a major element of the module and students will apply the principles learned to reviews of current developments in our understanding of how modern humans evolved.



BMS2108 Physiological Sciences

This module will provide knowledge and understanding in the following areas: Introductory and basic systems pharmacology; physiology of movement and sensation; physiology of pain, analgesia and use of local anaesthetics; the neural control of exercising muscle; physiological regulation of the vasculature and circulation; blood supply to special regions; cardiac output; mechanical and electrical events of the cardiac cycle; the cardiovascular system during exercise; static and dynamic lung mechanics; spirometry; gas transport and transfer; lung function and exercise; renal clearance; acid base regulation and disorders; the kidney's role in exercise and drug excretion; applied physiology including exercise testing and training.

BMS2028 Human Physiological Measurement

This course covers the principles of bioinstrumentation and electrophysiological measurement. Specific study topics include revision of normal physiology and common pathologies of major body systems such as cardiovascular, respiratory, neural, muscular and metabolic systems. The module will examine the methods currently used in clinical and research settings to measure physiological changes to these major body systems.

By the end of the module, the successful student should be able to:

1. List and evaluate the health and research reasons for undertaking measurements of human physiology.
2. Describe examples of methods of human physiological measurement across different body systems and in health and disease.
3. Apply evidence-based principles to interpret physiological measurements.
4. Demonstrate how scientific literature can be used to support, refute or explain measurements made of human physiological parameters.

BMS2015 Molecular Cell Biology

This module aims to provide students with a substantial understanding of the molecular basis of cell structure and function, including practical experience of handling and observing living mammalian cells. The module content covers fundamental issues such as plasma membrane structure and function, cellular compartmentalisation, mechanisms for protein and membrane-based transport between endomembrane compartments, organelle-specific functions, the cytoskeleton and cell junctions. Cell signalling mechanisms and the processes of information flow between the plasma membrane and the nucleus are covered in some detail and will provide students with the knowledge base to understand intracellular control mechanisms and the bulk of the literature published in current medical research.

