

## Module Specification

### Module Summary Information

<b>1</b>	<b>Module Title</b>	Introduction to Human Biology
<b>2</b>	<b>Module Credits</b>	20
<b>3</b>	<b>Module Level</b>	3
<b>4</b>	<b>Module Code</b>	HEL3006

<b>5</b>	<b>Module Overview</b>
<p>This module is shared between students undertaking the Health Sciences pathway and the Sport and Physical Activity pathway within the foundation year programme.</p> <p>An appreciation of the principles of Human Biology plays a central role in the understanding of the workings of the human body. This module is organised into three distinct phases from fundamental principles, to physiological processes, and then disruption of the interplay of such systems in human disorders. This understanding provides a solid foundation for the subsequent study in a range of disciplines from healthcare, allied healthcare, and other disciplines requiring an understanding of human biology. The topics covered will also be underpinned by practical activities. Pre- and post-session activities will help to develop your key transferrable skills such as being able to reflect and ask probing questions as well as being able to think independently. Development of these skills will ensure a growth in maturity and boost your confidence which will lead to unlocking your learning potential.</p> <p>This module addresses the following foundation aims:</p> <ul style="list-style-type: none"> <li>• To apply your knowledge and understanding to the processes and protocols of studies in higher education, and to begin to recognise their relevance in a range of subject disciplines and related professional context.</li> <li>• To recognise the interrelated nature of subjects and topics across a range of disciplines and their potential impact on related professions.</li> <li>• To provide a foundation upon which knowledge and understanding can be built in preparation for related and relevant employment.</li> </ul> <p>Embedded within the module will be discipline-specific tutorials and seminars, which will provide specific key skills for your particular programme, and also help you to contextualise these topics in a discipline-specific approach.</p> <p>In addition, there is a growing awareness of the importance of interdisciplinary interactions in healthcare, allied healthcare, and other human-focussed disciplines. Towards the end of the module you will take part in a series of workshops to promote interdisciplinary through small-group case studies.</p> <p>You will benefit from a range of learning activities that will be supported by directed e-learning via the module MOODLE site. You will be asked to review short videos and text to familiarise yourself with the topic to be discussed before a lecture. Quizzes will also be attached to the videos enabling you to test yourself. During the module launch emphasis will be placed on the requirement of student</p>	

engagement with these pre-session studies and quizzes. Your engagement will be monitored through MOODLE. There will also be post-session activities in the form of quizzes, articles to read and exercises to complete that will also have an element of being field-specific. For example, an exercise may be set to look at changes during healing of a bone which would be relevant to students coming from an imaging pathway.

Face to face teaching will be conducted through interactive lectures, laboratory practical sessions, and workshops. Lectures will be broken into segments allowing you to complete small exercises, either individually or in groups. This method is important because it will enhance your engagement as well as developing skills such as working in a team, problem solving and increasing confidence.

<b>6</b>	<b>Indicative Content</b>
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Module Introduction – Lecture

An introduction to the structure of the module and the mode of assessment

Biological molecules – Lecture. Presentation of the range of biological molecules of relevance to human form and function.

Cells – Lecture

The structure and composition of cells, including organelles and cellular diversity.

Tissues and organs- Lecture

The organisation of distinct cell types within tissues and organs, and relation to function

Microscopy lab - Tissue & cells – Practical

Introduction to the use of microscopes and the visual analysis of normal and abnormal tissues

Aspects of inheritance – Lecture

Patterns of inheritance, genetic information and human biology in the era of the human genome sequence

Human nutrition – Lecture

Human nutritional requirements

Phase test 1 – Biological molecules, cells, tissues organs

Homeostasis and hormone systems – Lecture

Exploring the principles of homeostasis and the involvement of the autonomic nervous and endocrine systems

Musculo-skeletal systems Exploring the anatomy and physiology of the Muscles and bones. Looking into bone development and maintenance as well as muscle structure and function. To relate pathophysiology of the musculoskeletal system with disease.

Cardiovascular physiology – Lecture

Exploring the anatomy and function of the heart and vascular system to maintain suitable blood pressure and perfusion, and the autonomic control of the cardiovascular system

Cardiovascular Physiology – Practical –measurement of pulse rate, blood pressure and effects of physical activity

Respiratory system.

To explore the anatomy and function of the lungs in blood gas homeostasis. To look into the autonomic control and mechanism of ventilation.

Renal system – Lecture

To explore the anatomy and function of the kidneys. To look into the mechanism of blood filtration.

Exploring the role of kidneys in blood volume and blood pressure regulation

Renal physiology – practical

Testing urine

Know your organs – practical

Hands-on activity to investigate organ structure and function

micro-organisms, infection and infection control – Lecture

Introduction to micro-organisms, infectious disease, contamination and infection control

Microbiology lab – practical  
 Assessing the range of micro-organisms found in everyday objects and environments  
 Phase test 2 – Physiological systems  
 Discipline specific tutorials  
 Tutorials to be delivered by subject teams to introduce discipline-specific requirements  
 Disease: Nutrition disorders Lecture  
 Impact of diet on human health and wellbeing  
 Disease: Cancer- Lecture  
 Introduction to cancer as a disease  
 Disease: Physiological conditions - Lecture  
 Disease: Cardiovascular conditions - Lecture  
 Phase test 3 – Diseases and disorders  
 Interdisciplinary case study workshops

<b>7 Module Learning Outcomes</b>	
<b>On successful completion of the module, students will be able to:</b>	
<b>1</b>	Demonstrate an understanding of molecular and cellular aspects of human biology.
<b>2</b>	Identify how organ systems work, and how they integrate to maintain physiological homeostasis.
<b>3</b>	Recognise how the disruption of normal processes leads to disease.

<b>8 Module Assessment</b>			
<b>Learning Outcome</b>			
	<b>Coursework</b>	<b>Exam</b>	<b>In-Person</b>
<b>1-3</b>		<b>X</b>	

<b>9 Breakdown Learning and Teaching Activities</b>	
<b>Learning Activities</b>	<b>Hours</b>
<b>Scheduled Learning (SL)</b> includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	84
<b>Directed Learning (DL)</b> includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	24
<b>Private Study (PS)</b> includes preparation for exams	92
<b>Total Study Hours:</b>	200