

### Module Details

<b>Module Title:</b>	Cell and Tissue Biology
<b>Module Code:</b>	BIS4008-B
<b>Academic Year:</b>	2019-20
<b>Credit Rating:</b>	20
<b>School:</b>	School of Chemistry and Biosciences
<b>Subject Area:</b>	Biomedical Science
<b>FHEQ Level:</b>	FHEQ Level 4
<b>Pre-requisites:</b>	
<b>Co-requisites:</b>	

### Contact Hours

Type	Hours
Lectures	28
Tutorials	1
Laboratory	10
Directed Study	161

### Availability

Occurrence	Location / Period
BDA	University of Bradford / Academic Year (Sept - May)

### Module Aims

To introduce the structure and function of cells and tissues, including how abnormalities of structure and function can lead to disorder and disease processes.

### Outline Syllabus

This module will cover the major cellular organelles and their functions, including: the nucleus, mitochondria, endoplasmic reticulum, the cytoskeleton, the Golgi, endosomes and lysosomes. Differences between eukaryotic and prokaryotic cells will also be discussed. During the module students will also be introduced to the tools used to investigate organelle function. Cell-cell junctions and adhesion to the extracellular matrix will also be covered.

The module will discuss tissue biology including: epithelia/skin; connective tissues; blood vessels and lymphatics; muscles (skeletal, cardiac and smooth); the central nervous system; the autonomic nervous system; skeletal tissues; cartilage, joints and bone; the exocrine and endocrine system; the respiratory system; the gastrointestinal system and renal system. The topics will be illustrated with reference to pathological conditions where appropriate.

<b>Learning Outcomes</b>	
1	Identify, select and explain fundamental concepts and principles of cell microstructure and tissue organisation (HCPC standard 13).
2	Demonstrate some breadth and depth of awareness and understanding of the broad underlying concepts of microscopy, including sample preparation.
3	Conduct practical laboratory investigations using a light microscope (HCPC standard 14).
4	Evaluate and interpret data from electron micrographs (HCPC standard 14).
5	Work in accordance with laboratory health and safety protocols (HCPC standards 3, 15).
6	Work in small groups, using available resources, to achieve given tasks/ targets and recognise the need for effective time management (HCPC standard 1).

<b>Learning, Teaching and Assessment Strategy</b>
<p>Information outlining the knowledge and understanding required of this module is delivered in lectures. Supplementary material and formative questions will also be made available via the virtual learning environment (VLE). Practical laboratory sessions also provide the opportunity to gain experience in understanding basic microscopy and demonstrate the ability to identify and classify human tissue. Students will undertake a formative and summative 'spot test' to identify tissue types and will be assessed summatively on lecture material and practical elements in the final examination. During directed study hours, students are expected to undertake reading to consolidate and expand on the content of formal taught sessions; research and prepare for assessments and revise material from formal taught sessions. Private study will be facilitated and supported via the use of the VLE which will provide coursework advice and feedback, and revision support.</p> <p>Reassessment of failed elements will be as per the initial method of assessment. Where reassessment of the laboratory practical element is required, students will be given a data set or an opportunity to complete the laboratory practical on an alternative occasion, whichever is more appropriate.</p>

<b>Mode of Assessment</b>				
Type	Method	Description	Length	Weighting
Formative	Examination - MCQ	Formative MCQs will be made available on the VLE (LO 1, 2, 4)	15 minutes	%
Summative	Examination - MCQ	Multiple-choice question (MCQ) examination (LO1, 2, 4)	1.5 hours	60%

Summative	Coursework	Multiple choice questions on the last laboratory practical (LO 1-4)	30 minutes	10%
Formative	Coursework	Practice laboratory spot test (LO1-6)	30 minutes	%
Summative	Coursework	Laboratory spot test with MCQ questions (LO 1-6)	1 hour	30%

### Reading List

To access the reading list for this module, please visit <https://bradford.rl.talis.com/index.html>.

*Please note:*

*This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.*