

Module Details	
Module Title	Cell Biology
Module Code	BIS4016-B
Academic Year	2024/5
Credits	20
School	Life Sciences (Faculty-wide)
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Directed Study	167
Laboratories	9
Lectures	24

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims
<p>Cells are the building blocks of the human body. An understanding of how cells function is needed to be able to understand how human bodies work,</p> <p>This module supports the programme by developing learners' knowledge of the underlying concepts and core principles of Biomedical Science (PLO1) through the development of an understanding of the cellular basis of life and our anatomy. This module will introduce the structure and function of cells, specialised cell types including immune cells and the visualisation techniques used to study subcellular organelles.</p> <p>This module will support those students who wish to undertake a career in research or the cellular basis of disease.</p>

Outline Syllabus

Academic content:

Structure and function of prokaryotic and eukaryotic cells
Organelle function and transport
The life and death of a cell
Inter- and intracellular signalling through paracrine, autocrine, exocrine and 2nd messengers
The vast array of different cell types present within the human body will be discussed including cell specialisation and differentiation
Structure, function and production of immune cells.
Microscopy techniques for the visualisation of cells and cell ultrastructure

Employability and enterprise skills:

Biomedical knowledge and understanding
Communication skills
Critical thinking
Laboratory skills

Teaching and Learning Methods: The LTA strategy encompasses education for employability and equal opportunities for learners.

Concepts, principles and knowledge will be explored in lectures that are characterised by active learning concepts. This theoretical knowledge will be supported by hands-on learning in the laboratory to understand light microscopy, visualisation of different cell types, cell counting, and cell life and death. This mix of methodologies will be accessible to different learning styles and will develop hands-on practical and applied biomedical skills.

The following statement applies to learners that are completing this module as part of the Biomedical Scientist Standard Apprenticeship:

This module is aimed at these elements of Knowledge Skills and Behaviours:

S29, K3, K35, K36, K41, K42, K53, B1, B2, B3, B4, B5.

Learning Outcomes

Outcome Number	Description
01	On successful completion of this module, students will be able to... Identify, select and explain fundamental concepts and principles of cell microstructure (HCPC standard 13).
02	Understand how a cell progresses through the cell cycle and the different ways in which it can expire (HCPC standard 13)
03	Demonstrate ability, awareness and understanding of light microscopy, including sample preparation (HCPC standard 14).

Learning, Teaching and Assessment Strategy

The LTA strategy encompasses education for employability and equal opportunities for learners. Concepts, principles and knowledge will be explored in lectures that are characterised by active learning concepts. This theoretical knowledge will be supported by hands-on learning in the laboratory to understand light microscopy, visualisation of different cell types, cell counting, and cell life and death. This mix of methodologies will be accessible to different learning styles and will develop hands-on practical and applied biomedical skills.

This module will be assessed by a closed-book MCQ exam and an assessed practical.

Formative MCQ tests will be made available via the virtual learning environment (VLE) at the completion of each teaching block as well as at the end of each semester, providing immediate feedback for learners to self-assess their understanding and progress.

Formative feedback will be given on a non-assessed practical. The formal examination will assess breadth and depth of subject knowledge and understanding.

Private study will be facilitated and supported via the use of the VLE which will provide coursework advice and feedback, and revision support.

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.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Examination - practical/laboratory	Assessed lab practical.	50%
Summative	Examination - MCQ	Examination - MCQ.	50%

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.