BIC6021-A module descriptor	
Module Title	Medical Bioscience
Credit Level	10 credits (FHEQ Level 6)
Session	2026/7 academic year
BDA occurrence	Semester 1 available at University of Bradford
BDA occurrence	Semester 2 available at University of Bradford
BDA occurrence	Semester 3 available at University of Bradford
BDB occurrence	Semester 3 available at University of Bradford

Transparency notice

This specification for module code BIC6021-A has been generated automatically in advance of the academic year 2026/7. Every effort has been made to ensure that the information is accurate at the time of publication, but changes permitted by our Student Contract Terms and Conditions could be made in the interval between publishing and commencement of teaching; where changes impact the terms and conditions of an applicant's or student's offer, these are communicated to them as soon as possible.

BIC6021-A module aims

This module will give you a comprehensive understanding of the fundamental principles, theories, and methodologies that underpin various aspects of medical biology.

As well as theoretical knowledge, you will develop the practical skills needed to analyse, interpret, and apply biological concepts in clinical contexts and gain insight into the aetiology, diagnosis, and treatment of diseases. This module also aims to cultivate critical thinking, problem-solving, and scientific inquiry within the field of medical bioscience.

BIC6021-A module learning outcomes	
No.	**Students completing the module will be able to:**
01	Demonstrate a comprehensive understanding of the principles of medical biology.
02	Describe the mechanisms underlying human physiology and pathophysiology.
03	Apply molecular biology techniques to analyze biological processes and diseases.

No.	Students completing the module will be able to:
04	Critically evaluate scientific literature and research findings related to medical bioscience.

BIC6021-A module outline syllabus

This module will cover the following topics:

* Chromosomes and chromosomal abnormalities
* Cytogenetic diagnostic techniques
* Autosomal dominant and recessive diseases
* Sex-linked diseases
* Gene expression, gene regulation
* Current techniques for gene expression analyses: DNA sequencing
* Real-time PCR, reporter assays, and western blot analyses
* The Human Genome Project
* Clinical bioinformatics
* Mutagenesis
* RNA decay and selenocysteine incorporation
* Investigation and resolution of genetic disorders
* Ethical, social and psychological issues associated with gene testing and gene therapy.

For more information, visit the VLE (**Canvas**) page, go to our **Reading Lists webpage for this module** or search **https://bradford.rl.talis.com** for this module.

BIC6021-A module notional learning hours

- 60 hours Directed Study
- 40 hours Lectures
- 10 hours Laboratories

The overall expected hours may include contact time, scheduled learning activity, directed and independent study and any minimum expectations for placement learning. Most learning at the University of Bradford has some online content and sessions which are delivered fully by virtual means are labelled as "online".

BIC6021-A module learning, teaching and assessment

Groups are small and classes are student-centred, task-based and interactive.

The classroom approach is explicitly designed to help international students acquire new knowledge and skills, to build their confidence and enable them to become more independent learners. By doing this consistently and across all modules, the programme provides them with a strong foundation for further study in their chosen subject area.

The approach is inclusive and recognises that students come from different backgrounds with a range of previous learning experiences and associated expectations, beliefs and behaviours. Teaching and learning methods are clearly explained so students understand why (where appropriate) they need to engage in new ways of learning and why those they have used or relied on up to this point may be less suited to supporting their ongoing development and their chances of success in UK Higher Education.

Formative work is an integral part of the approach. In class, students are set tasks that require them to apply their knowledge and skills, to think critically and to solve problems. The level of challenge is gradually increased as the students grow in confidence and Tutors help them to see that experimentation, trial and error are central to the learning process, providing constructive feedback on both what has been achieved and how. In this module in particular, feedback is provided through the students' lab/logbooks and experimental calculations and observations are reviewed throughout the course.

Students are also expected to engage in independent study, to reflect on their own performance and to discuss this with their module tutor or personal academic tutor, who will provide support and advice and, when necessary, draw the attention of the Academic Management Team to a struggling student using the 'Students of concern' process.

Application of the information gained from routine techniques used in medical and molecular biology will be assessed in the summative assessment task, which requires the students to present experimental data in the form of a report to show the interpretation and evaluation of their results.

BIC6021-A mode of assessment

Type	Mode	Assessment description	Weight
Summative	Coursework - Written	Written assignment (report) addressing :LO1, LO2, LO3 and LO4 (1500 words)	100%

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