

Module Details	
Module Title	Introduction to Science
Module Code	BIC3004-A
Academic Year	2022/3
Credits	10
School	UoB International College
FHEQ Level	RQF Level 3

Contact Hours	
Type	Hours
Directed Study	50
Lectures	44
Laboratories	6

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1
BDA	University of Bradford / Semester 2
BDA	University of Bradford / Semester 3

Module Aims
To develop the student's knowledge and understanding of the scientific method and the core principles of biology and chemistry. Students are introduced to the underlying practical skill set required for those studying science and they are prepared for more specialist modules later in the programme.

Outline Syllabus

The importance and significance of the scientific method - the need to test, confirm or challenge theory through practical experimentation and the requirement for accurate recording of data, analysis and clear recording of findings.

Biology: Introduction to cell biology, molecular biology, microbiology, biochemistry and genetics.

Cell structure, cell communication, diffusion, osmosis, facilitated diffusion, active transport, control and co-ordination.

Chemistry: Elements, compounds, molecules and mixtures, density, separation techniques; introduction to atomic structure, the periodic table. Introduction to organic functional groups and principles of nomenclature.

Practical Techniques: Health and safety, serial dilutions, pipetting, spectrometry, titrations, preparation of molar solutions, microscopy, pH measurement, use and selection of laboratory glassware, percentage yields.

Learning Outcomes

Outcome Number	Description
1	Describe the scientific method and why it is important.
2	Describe, explain and interpret introductory concepts in biology and chemistry.
3	Apply biological concepts to solve problems safely in familiar and unfamiliar situations.
4	Apply chemical concepts to solve problems safely in familiar and unfamiliar situations.
5	Analyse experimental data and make reasoned judgements based on this analysis.

Learning, Teaching and Assessment Strategy

Students will learn in small interactive groups (max 18 students) on learner-centred tasks and with a highly interactive approach to learning and teaching. There will be both classroom-based lessons and sessions in a science laboratory to focus on the practical aspect of the module. During the module, formative assignments will be set to provide students with detailed and helpful feedback. The students will be encouraged throughout to reflect on their own performance and the feedback they receive informs sessions with their personal tutor. The personal tutor monitors student performance and supports suggestions for improvement. The personal tutor can draw the senior team's attention to a struggling student through the 'at risk' process.

The summative assessment consists of two parts. Part 1 is an unseen exam which focuses on the theoretical aspects of the module. For part 2 of the summative assessment, the students use the VLE to write up a reflective journal which includes reports from their practical classes, including analysis of the data and issues of health and safety. This reflective journal is submitted for grading in the last week of term.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Examination - Closed Book	Unseen exam consisting of short-answer questions (1.5 Hrs)	40%
Summative	Coursework - Written	Reflective journal covering the students' experience of practical work	60%

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.

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