BIC3032-A module descriptor	
Module Title	Introduction to Scientific Research
Credit Level	10 credits (RQF Level 3)
Session	2026/7 academic year
BDA occurrence	Semester 3 available at University of Bradford
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Transparency notice

This specification for module code BIC3032-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.

BIC3032-A module aims

This module introduces you to the scientific method and to the core principles of scientific research - the use of experimentation and data collection to test and either validate or disprove a hypothesis (theory).

It builds on learning from the Academic Study Skills module and extends this to the laboratory context, developing your understanding of both good laboratory practice and the need to consider ethical issues when planning and carrying out research.

BIC3032-A module learning outcomes	
No.	**Students completing the module will be able to:**
01	Develop the skills needed to plan and manage a laboratory-based project
02	Demonstrate the ability to appraise existing scientific work and to formulate and test research hypotheses.
03	Demonstrate an understanding of the importance of randomisation, replication and local control in performing laboratory based experiments
04	Develop an understanding of basic laboratory techniques and good laboratory practice – including keeping a laboratory notebook
05	Demonstrate the ability to perform data analysis and to communicate scientific ideas clearly in writing
06	Produce a clear, coherent report and presentation, organising scientific findings with logical structure, visual aids, audience-tailored content, and proper academic citation.

BIC3032-A module outline syllabus

Building on core learning from the preceding Academic Skills module sign, this module is delivered in parallel with the Applied Life Sciences module, the content of which it places in a broader theoretical and practical context.

The Scientific Method
the historical context and the development of a systematic, evidence-based approach to the acquisition and development of knowledge

Experimentation
an introduction to the core principles underpinning experimental practice: randomisation, replication and noise reduction (local control)

Managing risk
an introduction to good laboratory practice that takes into account both the need for safety and the need to obtain reliable data/results

Ethics
exploring the ethical considerations that relate to particular research topics and to the collection and storage of data

Planning
Write a research report outlining the purpose, significance and chosen data collection methods with detailed explanations.

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.

BIC3032-A module notional learning hours

- 70 hours Directed Study
- 25 hours Lectures
- 5 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".

BIC3032-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.

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.

Assessment is designed to introduce students to the scientific method, research planning and effective communication of scientific findings.

The research proposal (60%) assesses Learning Outcomes 1-5 and requires students to identify a research question, justify its significance and propose suitable data collection and analysis approaches.

The presentation (40%) assesses Learning Outcomes 5-6 and requires students to communicate research plans and findings to an academic audience.

Formative activities include research planning exercises, ethics discussions, proposal workshops and presentation rehearsals.

Success is achieved when students demonstrate understanding of research design principles, critical evaluation of evidence and effective scientific communication.

To pass the module, students must achieve the University pass mark overall. Students who do not pass the first time will be given an opportunity to complete equivalent assessments that address the failed learning outcomes.

BIC3032-A mode of assessment			
Type	**Mode**	**Assessment description**	**Weight**
Summative	Coursework - Written	The research along with details and an explanation of the chosen data colllection methods chosen (LO1 – LO5). 1500 words	60%
Summative	Presentation	Presentation of the completed project (LO5-LO6)	40%

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