

Research Project

Module Code:	BIS6001-D
Academic Year:	2018-19
Credit Rating:	40
School:	
Subject Area:	Biomedical Science
FHEQ Level:	FHEQ Level 6
Module Leader:	Dr Anna Snelling
Additional Tutors:	

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	22
Tutorials	15
Laboratory	160
Directed Study	203

Availability Periods

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

Module Aims

This module will provide an opportunity for students to develop research skills in a number of areas including experimental design and execution, data analysis and presentation and critical evaluation of the published literature.

Outline Syllabus

Methods used in Biomedical research, including PCR, SDS-PAGE, Western blotting, tissue culture and immunohistochemistry. Statistics for Biomedical Scientists, COSHH and biological safety assessments; Good laboratory practice; Ethics in research; The Human Tissue Act, drug licensing, intellectual property, patenting. Use of the EndNote referencing software, scientific writing, literature searching.

SUPPLEMENTARY ASSESSMENT: a written, critical reflection on the failed component + revision and re-submission of the failed report.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Critically describe and explain and make appropriate judgements around a current research topic in Biomedical Sciences whilst evaluating approaches used to investigate this topic (HCPC standards 2a1, 3a1).
- 2 Plan and execute a programme of original research (HCPC standards 1a6, 2b1, 2c1).
- 3 Assess the chemical, biological & ethical aspects of research in accordance with local policy and laboratory safety protocols. (HCPC standards 1a4, 1a5, 1a8, 2b4, 3a3).
- 4 Select appropriate statistical techniques for a range of scientific analyses.
- 5 Conduct appropriate experiments skilfully and demonstrate practical skills appropriate to the project undertaken (HCPC standards 2a2, 2b4).
- 6 Maintain laboratory records appropriately (HCPC standard 2b5).
- 7 Analyse & evaluate the information collected (HCPC standard 2a4). Perform effective literature searches.
- 8 Clearly convey information or results to the appropriate level of detail.
- 9 Compile a scientific report that presents data in a clear and effective way using correct biomedical and medical language and terminology (HCPC standards 1b3, 1b4).

Learning, Teaching and Assessment Strategy

Lectures, seminars, tutorials and demonstrations will be used to provide relevant information on a variety of aspects associated with preparing for and conducting research, analysing data and carrying out literature searches. Standard laboratory procedures such as PCR, SDS-PAGE, Western blotting, tissue culture and immunohistochemistry will be covered in lectures, as will scientific writing, laboratory Health & Safety, Ethics in research, GLP, IP and patenting. The application of statistical methods, covered in the DPS2 module at stage 2, will be revisited in lectures and computer-based formative tutorials. Drop-in tutorials will also be delivered on the use of the EndNote referencing software.

Each student will be assigned an individual research topic and will be allocated a supervisor. Students will produce COSHH and biological safety forms and a draft Introduction section

using feedback from their supervisor before these elements are submitted for summative assessment. Evaluation of experimental design and research strategy will be achieved through the submission of a `Research Portfolio` assignment on the topic of the research project which is summatively assessed. A 4 week, full-time laboratory project will allow the students to demonstrate their practical skills and their ability to design and implement experiments resulting in a supervisor's mark.

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 undertake specific elements of reading as directed. Communication skills and understanding will be summatively assessed through a written project report, following draft submission and feedback from the supervisor.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Coursework	Preparation of a 'Research Portfolio' based upon research project topic (1500 words)	0 hours	20%	No
Summative	Coursework	Supervisor's assessment of student's performance in laboratory	0 hours	20%	No
Summative	Coursework	Project report (5000 words)	0 hours	60%	Yes

Legacy Code (if applicable)

BM-3008K

Reading List

To view Reading List, please go to [rebus:list](#).