

Module Details	
Module Title	MRes Project Part 1
Module Code	LIS7020-E
Academic Year	2020/1
Credits	60
School	Life Sciences (Faculty-wide)
Subject Area	Life Sciences (Faculty-wide)
FHEQ Level	FHEQ Level 7
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Seminars	12
Tutorials	15
Directed Study	198
Laboratories	375

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

Module Aims

To provide the opportunity for students to:

- Develop self-direction and originality in the application of knowledge and problem solving.
- Develop a comprehensive understanding of appropriate advanced scientific techniques and how those techniques can be used to create and interpret knowledge.
- Further develop their analytical, critical analysis, time management and IT skills.
- Further develop their awareness of current issues in a research topic of their choice.
- Work as part of a research team on a real world project.

Outline Syllabus

Introduction to specific project areas and laboratory methods, COSHH and biological risk assessment, ethical considerations, time management, data management. Introduction to working in a research team and laboratory. 10-week laboratory research period. Writing a 250-word lay abstract, submitting a short communication in the style of a manuscript detailing results, submitting a scientific abstract for a poster to be presented at the faculty Research Open Day and giving a seminar.

Learning Outcomes	
Outcome Number	Description
1	Appraise a particular scientific problem and critically evaluate published results to formulate a hypothesis.
10	Demonstrate effective time management and project planning.
11	Demonstrate a knowledge of the applications of proteomics, bioinformatics, advanced statistical analysis and simulation technology.
12	Demonstrate effective communication skills in preparation of a 15-minute talk about the objectives of the project, its methodology and results.
2	Use theoretical and practical approaches to plan and implement a programme of original research.
3	Perform an assessment of potential hazards associated with research activity in your area and document a programme of work in accordance with all relevant safety, ethics, GLP and data management requirements.
4	Systematically gather, critically analyse and evaluate data, present data in an appropriate way and apply statistical analysis where appropriate.
5	Interpret results, discuss critically in the context of published work and suggest appropriate future work based on own and others' results.
6	Demonstrate effective communication skills by submission of a summary of research for a lay audience.
7	Demonstrate effective communication skills by submission of a poster abstract for a specialist audience.
8	Demonstrate effective communication skills in preparation of a draft communication manuscript for publication.
9	Work effectively to agreed objectives, responsibilities and working arrangements.

Learning, Teaching and Assessment Strategy
The module develops and enhances students' autonomy in learning. Each student has extensive choice, selecting a topic of interest to be researched from a list of options relevant to their specific programme. Students will join a research team in the University of Bradford to carry out their research. Learning outcomes are developed and achieved through the module by planning and completing an individually-designed programme of laboratory work and attendance in workshops. Students meet frequently with their academic supervisor and other researchers who provide individual training and continual formative feedback to the student throughout the project. In addition, students attend five workshops on health and safety at work, proteomics, bioinformatics, and simulation technology, where they work in groups to solve problems set by the workshop coordinator. Students also complete a CV and receive formative feedback. LO6 is assessed by writing a summary of research suitable for a lay audience. LO7 is assessed by writing an abstract for University Research Open day Poster session. LO1-LO5 and LO8 are summatively assessed by writing a journal manuscript in the style of a short communication. LO9 and LO10 are summatively assessed continuously throughout the module by the supervisor. LO3 and LO11 are summatively assessed through submission of complete portfolio containing workshop problem-solving exercises, a reflective statement and Health and Safety assessments. LO12 is summatively assessed through a 15-minute powerpoint presentation.

Mode of Assessment				
Type	Method	Description	Length	Weighting
Summative	Coursework	Lay Summary (250 words)	N/A	10%
Summative	Coursework	Poster Abstract (300 words)	N/A	10%
Summative	Coursework	Manuscript based on project work (6000 words)	N/A	40%
Summative	Coursework	Supervisor's assessment of laboratory competence and adherence to health and safety regulations	N/A	10%
Summative	Coursework	Submission of complete portfolio containing workshop problem-solving exercises and Health and Safety assessment	N/A	20%
Summative	Coursework	Seminar on project objective, methodology and results	15 mins	10%
Formative	Coursework	Draft of lay summary	250 words	N/A
Formative	Coursework	Draft poster abstract	300 words	N/A
Formative	Coursework	Draft manuscript	6000 words	N/A
Formative	Coursework	Draft CV	Draft CV	N/A

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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