

Experimental Design

Module Code:	BIS7007-B
Academic Year:	2018-19
Credit Rating:	20
School:	School of Chemistry and Biosciences
Subject Area:	Biomedical Science
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	15
Tutorials	10
Directed Study	175

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To provide a comprehensive understanding of experimental research planning and design.
To develop student autonomy in experimental research, design, planning and execution.

Outline Syllabus

Chemical, biological and physical safety regulations and practices in biomedical research, human ethics, work with laboratory animals, scientific method, hypothesis and problem driven research in the biomedical arena, design of individual experiments and research projects, project time management and budgeting, experimental protocols, project grant applications, project report writing, Good Laboratory Practices.

Module Learning Outcomes

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

- 1 Explain and critically evaluate your research project area.
- 10 Demonstrate effective written skills in preparing experimental protocols and grant applications.
- 11 Enhance IT skills in grant writing within a short electronic document of defined format (with GANTT chart).
- 12 Exercise initiative, responsibility and independent learning.
- 13 Conduct self in a professional manner and within prevailing legislation (grant budget, GLPGMO, COSHH, Ethics, use of radioisotopes).
- 2 Critically evaluate and communicate scientific data and literature.
- 3 Critically evaluate experimental laboratory techniques.
- 4 Demonstrate self-direction, and originality in a research project.
- 5 Write a grant proposal for your research project.
- 6 Understand how legislation affects experimental design and planning.
- 7 Undertake critical thinking.
- 8 Demonstrate an understanding of research and scientific method.
- 9 Undertake critical thinking for design of individual experiments and small research projects, writing experimental protocols and a grant application.

Learning, Teaching and Assessment Strategy

This course will be presented as a series of lectures and workshops. Students will be responsible for their logbook of activities, in addition to the submission of experimental protocols (25% of the final mark) and a grant application (75% of the final mark). Significant time in the module is allocated to directed study. Students will use this time to search and study the literature related to their project topic and to prepare the assignments.

Particularly, they will build their theoretical and practical expertise in the project related field to prepare the grant applications and experimental protocols. The supervisor's advice will be provided to achieve this goal.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Coursework	Research grant proposal based on your own	0-4000 words	75%	Yes

		research project on a Skin & Regenerative Medicine or Biomedical Sciences topic, dependent on your course			
Summative	Coursework	Two experimental working protocols for your own research project on a Skin & Regenerative Medicine or Biomedical Sciences topic, dependent on your course.	0-1500 words	25%	Yes

Legacy Code (if applicable)

BM-9133D

Reading List

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