LF311-15 Laboratories and Assessments for Biomedical Sciences

24/25

Department
Life Sciences
Level
Undergraduate Level 3
Module leader
Daniel Franklin
Credit value
15
Module duration
30 weeks
Assessment
Multiple
Study location
University of Warwick main campus, Coventry

Description

Introductory description

Subject specific laboratory classes and a small group tutorial programme.

Module aims

To complete the development of students' research and transferrable skills through a program of laboratory and tutorial activities (continuation of programs in Years 1 and 2).

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Students will complete the third year of a laboratory and tutorial-based skills program. The key aims of the year 3 program are to embed final year level literature and practical research skills. This will be achieved through a combination of tutorial set tasks, some of which are formative, some summatively assessed, and laboratory classes.

Learning outcomes

By the end of the module, students should be able to:

- Students should be able to critically analyse the primary research literature
- Students should be able to design experiments
- Students should be able to navigate ethical approval
- Demonstrate effective teamwork through cooperative working
- Use your knowledge of microbiology/molecular techniques to perform diagnostic tests on a range of samples following health and safety regulations.
- Analyse positive and negative diagnostic results to support or refute your hypotheses and allow for further investigations.
- Use inductive and deductive methods of reasoning to contextualise both positive and negative results.
- Demonstrate professional conduct and team working practice when conducting this investigation splitting roles equally and taking responsibility for your workload.
- Follow the scientific method throughout this investigation and clearly evidence your process and progress in a well-structured laboratory book.
- Develop a concise writing style to encapsulate and present the relevant information for each of the three cases in a clinical case report.
- Demonstrate a deep understanding of the techniques used in this lab, their application for diagnosis, and pathology of the causative agents of infection in these clinical cases

Subject specific skills

1. Mastery of core lab skills including but not limited to: essential lab maths, pipetting, observational analysis, solution preparation, equipment set up, good laboratory practice in accordance with health and safety requirements.
2. Competency in a range of clinical diagnostic techniques such as but not limited to. Microbiology; Molecular Biology and bioinformatics.
3. Data generation, presentation, analysis and interpretation.
4. Generation of final reports.

Transferable skills

Critical appraisal of source material
Professionalism in managing an effective team.
Ability to work independently and autonomously but in effective collaboration.
Time management and ability to prioritise under pressure.
Evaluative and critical thinking.
Inductive and deductive reasoning.
Confidence in solving unseen problems.

Study

Study time

Type	Required
Tutorials	12 sessions of 1 hour (8%)
Practical classes	50 sessions of 1 hour (33%)
Private study	88 hours (59%)
Total	150 hours

Private study description

Labs - data analysis and report writing.
Tutorials - preparation of material for each contact session, and assessment reports.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A2

	Weighting	Study time
Lab MCQ test completed in teams	4%	
Professional lab skills	24%	
Biomedical Sciences lab report	52%	
Experimental design 1	10%	
Ethical approval tutorial	10%	

Assessment group R2

	Weighting	Study time
Module is not reassessed	100%	

Feedback on assessment

Written individual feedback

Availability

Courses

This module is Core for:

- UBSA-C1B9 Undergraduate Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
- ULFA-C1A3 Undergraduate Biomedical Science (MBio)
  - Year 3 of C1A3 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
- Year 3 of ULFA-C1A7 Undergraduate Biomedical Science with Industrial Placement (MBio)
- ULFA-CB18 Undergraduate Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year