MD3A1-15 MD3A1-15 Laboratories and Assessments for Integrated Science

22/23

Department
Warwick Medical School
Level
Undergraduate Level 3
Module leader
Andrew McAinsh
Credit value
15
Module duration
12 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

MD3A1-15 - Laboratories and Assessments for Integrated Science

Module aims

To increase the practical and laboratory skills of Integrated Science students, including experimental design.
To increase the written and critical evaluation skills of Integrated Science students.
To continue to encourage students to use the primary literature to research topics.
To support the student’s overall development as effective working scientists.

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.

(This module aligns with that already aproved in SLS).

Learning outcomes

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

- Efficiently design & perform experiments following Good Laboratory Practice taking an Integrated Science approach – i.e. combining principles and techniques from more than one discipline to answer biological questions.
- Write detailed, well-researched, concise, effective summaries of scientific information on a variety of topics.
- Demonstrate ability to critically interpret scientific papers
- Research topics in the literature.

Indicative reading list

Reading lists can be found in Talis

Interdisciplinary

Students will learn to solve scientific problems by integrating concepts and approaches from different scientific disciplines, including biology, physics, chemistry and computing, with the underlying mathematics serving as a common language

Subject specific skills

Be able to harness the methods and concepts of more than one discipline to answer biological questions.

Transferable skills

Carry out experiments following Good Laboratory Practice taking an Integrated Science approach
Skills with written detail, well-researched, concise, effective summaries of scientific information
The ability to critically interpret scientific papers and to design experiments

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Study

Study time

Type	Required
Tutorials	12 sessions of 1 hour (8%)
Practical classes	8 sessions of 6 hours (32%)
Assessment	90 hours (60%)
Total	150 hours

Private study description

No private study requirements defined for this module.

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 A1

	Weighting	Study time	Eligible for self-certification
Assessment component			
Integrated Science Lab 1 Report	25%	20 hours	Yes (extension)
Project Lab Report 2000 words or 5 pages (with the font size specified e.g. 12).			
Reassessment component is the same			
Assessment component			
Integrated Science Lab 2 Report	25%	20 hours	Yes (extension)
Project Lab Report 2000 words or 5 pages (with the font size specified e.g. 12).			
Reassessment component is the same			

	Weighting	Study time	Eligible for self-certification
Assessment component			
Mini Review on Integrated Science Topic	25%	25 hours	Yes (extension)
Mini-Review (2000 words or 5 pages including figures and references, with the font size specified).			
Reassessment component is the same			
Assessment component			
Project plan	25%	25 hours	Yes (extension)
Mini-project plan for a 6-month student project including brief background, abstract, and objectives. This can be 1 page or 750 words (with the font size specified).			
Reassessment component is the same			

Feedback on assessment

The Lab reports will be written in the format of a scientific paper, in line with and further developing the approach first used in Y1 and Y2 Integrated Science. The project plan will be written in a brief summary page format. Feedback on project design will be provided in the weekly tutorials. Further tutorials in Term 2 will provide feedback on the minireview, which will be formally assessed.

Availability

Courses

This module is Core for:

- Year 3 of UMDA-CF10 Undergraduate Integrated Natural Sciences (MSci)