FP088-30 Foundations of Biology

26/27

Department
Warwick Global Academy
Level
Foundation
Module leader
Rachel Evans
Credit value
30
Module duration
25 weeks
Assessment
50% coursework, 50% exam
Study location
University of Warwick main campus, Coventry

Description

Introductory description

This module develops students' understanding of biological sciences through both practical and theoretical study. Key topics include cell biology, human health, genetics, and the role of biology in solving real-world problems. Students will gain experience in experimental techniques through laboratory work, as well as in evaluating evidence, analysing data, and considering ethical issues in the life sciences. The module also explores recent advances in biology and encourages interdisciplinary perspectives. By the end of the module, students will be able to apply biological concepts, use practical techniques with confidence, and critically evaluate evidence in the life sciences.

Module web page

Module aims

This module will provide a background in the knowledge and practical techniques for success in the biological sciences.

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.

Topic 1. Cell Biology

- Cell structures - prokaryotic and eukaryotic cells
- Stem cells – types and uses in medicine
- The DNA molecule - structure and function
- Enzymes - role and mechanism in biological reactions

Topic 2. Human Biology and Health

- Respiratory System - structure, function and disease case study
- Circulatory System - heart structure, function and coordination, cardiovascular disease
- Hormonal System – endocrine glands and homeostatic regulation
- Immune System and infectious disease - epidemics and pandemics, disease prevention, case studies such as Ebola and Covid-19

Topic 3. Genetics

- The Cell Cycle - cell lifecycles and cancerous cells
- Genetic inheritance and variation
- Genetic technologies – gene editing with CRISPR/Cas9

Topic 4. Fundamentals of Biology

- Laboratory skills and techniques
- Ethical issues in biology
- Utilising and interpreting data in the biological sciences
- Written communication of biological ideas and concepts

Learning outcomes

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

- Apply your knowledge of biological principles and processes to problems in the Life Sciences.
- Create a portfolio of your practical skill development, to include reflections on experimental techniques and analysis of biological data.
- Compose a scientific report to present the results of laboratory investigation to a professional standard.

Indicative reading list

Reading lists can be found in Talis

Research element

The lab skills portfolio includes an element of research as students can choose what to investigate in an experiment and select their own variables.

Interdisciplinary

This module links with the Chemistry module as students will develop knowledge and skills that can be used across both modules in order to develop a broader awareness of the Life Sciences discipline, including interdisciplinary experimental techniques. Students will also develop written, research and experimental skills that can be used in the Academic Communication and Research Skills module.

International

All students are international, representing a wide range of cultural, linguistic, and educational backgrounds. They bring diverse experiences and perspectives, enriching discussion and supporting the development of intercultural awareness. Examples for analysis and evaluation are drawn from a variety of countries, ensuring that teaching and learning are embedded in an international context.

Subject specific skills

This module will develop student's skills in data analysis, research, biological experimental techniques, ethical awareness, and communicating biological information so that they are prepared for undergraduate study.

Transferable skills

Students will develop their skills in academic research, critical thinking, team working, referencing, independent learning , and problem solving.

Study

Study time

Type	Required
Seminars	25 sessions of 2 hours (17%)
Supervised practical classes	25 sessions of 2 hours (17%)
Private study	140 hours (47%)
Assessment	60 hours (20%)
Total	300 hours

Private study description

Reading, watching videos, listening to podcasts, worksheets and note-taking.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group C

	Weighting	Study time	Eligible for self-certification
Assessment component			
Biology Laboratory Portfolio: Part A	15%	10 hours	Yes (extension)
A digital portfolio to showcase skills developed in biological practical techniques and research. Part A is a student-filmed video of completing a required technique with experimental reflections.			
Reassessment component is the same			
Assessment component			
Biology Laboratory Portfolio: Part B	35%	20 hours	Yes (extension)
A digital portfolio to showcase skills developed in biological practical techniques and research. Part B is a lab report.			
Reassessment component is the same			
Assessment component			
Foundations of Biology Exam	50%	30 hours	No
In-person written examination on the content of the Biology module.			

	Weighting	Study time	Eligible for self-certification

- Answerbook Gold (24 page)
- Students may use a calculator
- Graph paper

Reassessment component is the same

Feedback on assessment

Students will receive individual written feedback as well as verbal feedback in seminars

Past exam papers for FP088

Availability

There is currently no information about the courses for which this module is core or optional.