

Module code

SPB-2202

Type of module

Undergraduate: Biological Sciences – Major Core

Cells, Biomolecules and Microbiology



Modular credits

4

Total student
engagement

56 hours

Prerequisite

None

Anti-requisite

None

Aims

To provide an understanding of the fundamental building blocks of life, including cell structures, biomolecule functions, enzymes and microbial processes, laying a foundation for biology, medicine, public health and the environment by developing practical skills in microscopy and microbial techniques for sustainable applications.

Module learning outcomes (MLO)

On successful completion of this module, a student will be expected to be able to:

MLO 1

Analyse the structures and functions of cell organelles and biomolecules.

MLO 2

Analyse the importance of cellular organisation and compartmentalisation and enzyme activity.

MLO 3

Analyse the diversity and types of microbial metabolism.

MLO 4

Evaluate the significance of molecular interactions in living things.

MLO 5

Analyse the principles of microbiology and their impact on biology, medicine, public health and the environment.

Module contents

Overview of Cells

Structures and functions of cell organelles and membranes

Membrane transport

Structure and functions of biomolecules

Enzymes and their key characteristics

Classification and some metabolism of prokaryotes

Assessment

60%

Examination

40%

Coursework

Examination
60%

Written practical reports
30%

10%

■ Examination — 60% ■ Written practical reports — 30% ■ Class tests — 10%

Formative assessment

Weekly discussion
and feedback

Summative assessment

COMPONENT	WEIGHTING
Examination	60%
Coursework	40%
Individual	40%
Written practical reports	30%
Class tests	10%

Graduate attributes and skills

Programme learning objectives (PLO) addressed

1

PLO 1 (Fundamental Theoretical Knowledge in Biology)

3

PLO 3 (Integrated Laboratory, Field and Technical Skills)

2

PLO 2 (Application of Scientific Methods and Data Analysis)

4

PLO 4 (Critical Thinking and Problem-Solving Skills)

Sustainability concept addressed

2

SDG 2 Zero Hunger

3

SDG 3 Good Health and Well-Being

6

SDG 6 Clean Water and Sanitation

Digital skills/software used (not limited to)

- Microsoft Office software (e.g. Word, Excel)
- Application software (e.g. Web browsers, statistical program, cloud-based storage)
- eLearning platforms (e.g. CANVAS, MS Teams, Zoom)
- Microscopy and Imaging Analysis Software (e.g. ImageJ)

Micro-credentialling option

No

Stackable towards GenBESTARI Undergraduate Degree Programme or other relevant Lifelong Learning Programmes

No

Document details

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