

Biology

General senior subject

General

Recommendation

A High Achievement (B) in year 10 Science and English and a Sound Achievement (C) in Maths.

Rationale

Biology provides opportunities for students to engage with living systems.

Students develop their understanding of cells and multicellular organisms. They engage with the concept of maintaining the internal environment. They study biodiversity and the interconnectedness of life. This knowledge is linked with the concepts of heredity and the continuity of life.

Students learn and apply aspects of the knowledge and skills of the discipline (thinking, experimentation, problem-solving and research skills), understand how it works and how it may impact society. They develop their sense of wonder and curiosity about life; respect for all living things and the environment; understanding of biological systems, concepts, theories and models; appreciation of how biological knowledge has developed over time and continues to develop; a sense of how biological knowledge influences society.

Students plan and carry out fieldwork, laboratory and other research investigations; interpret evidence; use sound, evidence-based arguments creatively and analytically when evaluating claims and applying biological knowledge; and communicate biological understanding, findings, arguments and conclusions using appropriate representations, modes and genres.

Pathways

A course of study in Biology can establish a basis for further education and employment in the fields of medicine, forensics, veterinary, food and marine sciences, agriculture, biotechnology, environmental rehabilitation, biosecurity, quarantine, conservation and sustainability.

Objectives

By the conclusion of the course of study, students will:

- describe and explain scientific concepts, theories, models and systems and their limitations
- apply understanding of scientific concepts, theories, models and systems within their limitations
- analyse evidence
- interpret evidence
- investigate phenomena
- evaluate processes, claims and conclusions
- communicate understandings, findings, arguments and conclusions.

Delivery (mode, time requirements, lessons)

Students are expected to undertake independent study to complete tasks and assessment in accordance with the Work Rate Calendar. Students also have access to a one-hour scheduled lesson and a one-hour tutorial each week. Lessons are delivered via Blackboard Collaborate and teleconferencing.

Student requirements

Computer, access to email, printer, scanner, telephone or headset with microphone, digital camera, exercise book, stationery and the biology kit.

Structure

Unit 1	Unit 2	Unit 3	Unit 4
Cells and multicellular organisms <ul style="list-style-type: none"> • Topic 1: Cells as the basis of life • Topic 2: Multicellular organisms 	Maintaining the internal environment <ul style="list-style-type: none"> • Topic 1: Homeostasis • Topic 2: Infectious diseases 	Biodiversity and the interconnectedness of life <ul style="list-style-type: none"> • Topic 1: Describing biodiversity • Topic 2: Ecosystem dynamics 	Heredity and continuity of life <ul style="list-style-type: none"> • Topic 1: DNA, genes and the continuity of life • Topic 2: Continuity of life on Earth

Assessment

Formative assessment

Unit 1		Unit 2	
Formative internal assessment 1 (IA1): Data test	10%	Formative internal assessment 3 (IA3)	20%
Formative internal assessment 2 (IA2): Student experiment	20%		
Formative internal assessment (EA): 50% Examination			

Summative assessment

Unit 3		Unit 4	
Summative internal assessment 1 (IA1): Data test	10%	Summative internal assessment 3 (IA3): Research investigation	20%
Summative internal assessment 2 (IA2): Student experiment	20%		
Summative external assessment (EA): 50% Examination			

In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall subject result (A–E).

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