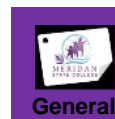


# Biology

## General senior subject – BIO (possible 4 QCE credits)



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.

## Structure

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

## Assessment

In Units 1 and 2 students will complete formative assessment items including a data test, a student experiment and a research investigation.

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).

### Summative assessments

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			

### Additional Requirements

Study Requirements	Special Requirements
<p>This is a General subject and as such requires a significant commitment of time and energy to complete the course successfully. This includes:</p> <ul style="list-style-type: none"> <li>• Three lessons per week face to face teaching.</li> <li>• Individual/study group/tutorial sessions 1-2 hours per week.</li> </ul> <p>Students may be required to complete experimental work in their own time in order to complete their assessment.</p>	<p>Students must have access to the internet at home or at a local library. Students must also be able to borrow texts from the school library at all times.</p> <p>Due to the large amount of technologically based assessment and classwork it is recommended that students are participants in the College's BYOx program.</p>