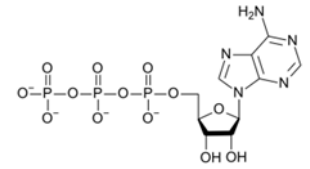




Senior Biology



Overview

Understanding of biological concepts, as well as general science knowledge and skills, is relevant to a range of careers, including those in medical, veterinary, food and marine sciences, agriculture, biotechnology, environmental rehabilitation, biosecurity, quarantine, conservation and eco-tourism. This subject will also provide a foundation for students to critically consider contemporary biological issues and to make informed decisions about these issues in their everyday lives.

Students studying Biology gain an understanding of the living world (including humans) and enhance their understanding of the scope and limitations of science in solving problems of our environment. During the course, students are encouraged to communicate effectively and to work with others in solving problems of mutual concern.

Students who complete the Biology course improve their scientific literacy and numeracy, and develop critical and creative thinking skills. Biology will immerse students in both the practical and the conceptual aspects of the discipline.



Students choosing the course should have performed well in junior science and have good communication skills. Students who have studied Biology and Science 21 Foundations in year 10 will be well prepared for Senior Biology.

Topics studied

Living Things & Cells	This unit is an introduction to the underlying principles of biology including what makes something living, taxonomy and cell structure. Laboratory skills will be developed through microscope use and an experimental investigation on movement across the cell membrane.
Reproduction, Populations & The Environment	This unit focuses on the role of organisms within an ecosystem. Students will study concepts such as modes of reproduction, population dynamics and the interactions between living and nonliving components.
Field Ecology & Systems	This unit focuses on some of the key systems within plants and animals (particularly humans). As part of studying plant systems, student will develop fieldwork techniques during an excursion to the Bunya Mountains.
Digestion & Nutrition	During this unit, students will learn about aspects of digestion including types of molecules, modes of digestion and respiration. Laboratory skills will be developed through an experimental investigation on enzymes.
Cellular Biology	This unit looks as the biochemistry of cellular processes such as respiration, photosynthesis, replication, transcription and translation. Laboratory skills will be developed through an experimental investigation on one of these processes.
Genes & GenEthics	This unit focuses on the role of genes within an organism and patterns of inheritance. Students will be introduced to various biotechnologies and will analyse the ethics of such techniques.
The Search for Better Health	During this unit the health of humans, and also the health of whole ecosystems will be studied. Student will develop fieldwork techniques during an excursion to the Condamine River and Myall Creek.
Past, Present & Future	This unit focuses on aspects of evolution including the theories of evolution, methods of speciation and the evolution of the homo sapiens.

Study Pathways

