



# Course Information

## Sciences

### Human Biology | HBY

ATAR

## ATHBY

### Unit 3 Control of the body

This unit explores the nervous and endocrine systems and the mechanisms that help maintain the systems of the body to function within normal range, and the body's immune responses to invading pathogens. Comparing and contrasting the endocrine and nervous systems can highlight the roles of each in homeostasis. Humans can intervene to treat homeostatic dysfunction and influence the quality of life for individuals and families.

Students also develop an understanding of specific resistance mechanisms which involve the recognition of invading pathogens producing long-lasting immunity. Also, how vaccinations can result in immunity to infection by exposure to attenuated versions of the pathogens.

### Unit 4 Human variation and evolution

This unit explores the variations in humans in their changing environment and evolutionary trends in hominids.

Humans can show multiple variations in characteristics due to the effect of polygenes or gene expression. The changing environment can influence the survival of genetic variation through the survival of individuals with favourable traits. Gene pools are affected by evolutionary mechanisms, including natural selection, migration and chance occurrences. Population gene pools vary due to interaction of reproductive and genetic processes and the environment. Over time, this leads to evolutionary changes. Gene flow between populations can be stopped or reduced by barriers. Separated gene pools can undergo changes in allele frequency, due to natural selection and chance occurrences, resulting in speciation and evolution. Evidence for these changes comes from fossils and comparative anatomy and biochemical studies.

A number of trends appear in the evolution of hominids, and these may be traced using phylogenetic trees. The selection pressures on humans have changed due to the control humans have over the environment and survival.



#### Prerequisites

Minimum **C Grade** in  
**ATAR Units 1 and 2** or  
the equivalent



#### Year of Study

Year 12



#### Type of Assessment

10% Science Inquiry  
15% Extended Response  
25% Test  
50% Examination



#### Costs

Total Cost \$65