

YEAR 10 SCIENCE PROGRAM

There are three pathways followed by students in Year 10. Students will be counselled into these pathways according to their interests, needs and abilities.

PATHWAY (SCIENCE COURSE)	UNITS
Pathway C (10SCC) is the most challenging pathway in Year 10. This pathway leads to any Science course in Year 11 provided the student achieves continued success.	Advanced Chemistry Classical Physics New Generations
Pathway B (10SCB) is of moderate difficulty. This pathway leads to any Science course of study in Year 11 except Chemistry and Physics.	Chemistry in Action Light and Sound New Generations World Around Us
Pathway A (10SCA) is not as mathematical as the other pathways.	Science Enrichment Light and Sound Just Genes World Around Us

Within pathways, different classes will undertake different enrichment tasks.

Within classes, students may be given the opportunity to do different science investigations depending on their interests and abilities.

In each pathway, activities are attempted that will give students the opportunity to demonstrate how well they attain the various outcomes, and that allow them to develop further skills.

When choosing pathways students should bear in mind the recommended prerequisites for Year 11 Courses of Study as shown below:

YEAR 11 COURSES	CHEMISTRY	PHYSICS	INTEGRATED SCIENCES	BIOLOGICAL SCIENCES	HUMAN BIOLOGICAL SCIENCES
Prerequisites Required For Upper School	A grade in Advanced Chemistry plus 65% or more in the science exam.	A grade in Classical Physics plus A or B grade in Mathematics D plus 65% or more in the science exam.	A or B grade in Science plus 55% or more in the science exam.	A or B grade in New Generations or Just Genes plus 55% or more in the science exam.	A or B or C grade in New Generations or Just Genes plus 55% or more in the science exam.

Year 10 Science units

■ *Advanced Chemistry*

Students will investigate the chemistry and technology involved with the processing of minerals in WA. Environmental issues and social effects of this industry are also investigated. Experimental activities and quantitative calculations are emphasised in this advanced chemistry topic.

This course is a prerequisite for Chemistry or Integrated Sciences in Upper School.

■ *Classical Physics*

It is said that Isaac Newton “discovered” gravity when he was struck on the head by a falling apple as he sat under a tree. As Newton found, Physics is full of surprises and to be clearly understood must be experienced first hand. This demanding but fascinating course aims through experimentation and measurement to unravel some of the mysteries surrounding the flow of energy, the behaviour of moving objects wave motion and astronomy.

This course is a prerequisite for Physics in Upper School.

■ *New Generations*

Why are members of the same family similar in appearance? This course explains how characteristics can be inherited and how changes in individuals can lead to changes in populations. This course covers:

- an explanation of inherited features
- a look at genetic disorders
- selective breeding of plants and animals
- genetic engineering
- how a population changes its characteristics over time
- human populations and ecology
- conservation of natural resources.

This course is a prerequisite for Biological Sciences and Human Biological Sciences in Upper School.

■ *Chemistry in Action*

This course covers important chemical changes and related environmental and social issues with a focus on investigating scientifically. It involves a major investigation of students’ own choice. Practical work covers many chemical reactions and the impact of chemistry on the environment. Students are introduced to chemical calculations.

This course provides the minimum background for entry into Integrated Sciences in Upper School.

■ *Light*

How are rainbows formed? Why can we hear someone around a corner and yet we cannot see them? How does a camera work? These and many more questions will be answered in this course by a balance of theory and investigation, leading to an understanding of how light influences our daily lives.

■ *World Around Us*

This course further develops environmental science commenced in Year 9. From water to the Earth, up to the skies and on to the stars – we begin to appreciate our fragile planet.

■ *Just Genes*

This covers similar concepts to New Generations but is taught at an easier level.

■ *Science Enrichment*

This course is a smorgasbord of interesting science activities and investigations. The content depends on the interests of the students and their teacher.