



FREMANTLE
COLLEGE

Science

Course Selections for Year 11

Your options for Science

Biology ATAR

The study of life

Human Biology ATAR

The study of Human systems and functions

Chemistry ATAR

The study of matter and how it interacts in the world

Physics ATAR

The study of the laws of nature

Integrated Science General

The use of Science process to understand the world we live in

Psychology General

How does the Human brain work

Marine Science General

The practical study of the marine environment

ATAR Subjects, Course Outlines Expectations and Pathways



Biology

A unique appreciation of life and a better understanding of the living world are gained through studying the Biology ATAR course. This course encourages students to be analytical, to participate in problem-solving and to systematically explore fascinating and intriguing aspects of living systems, from the microscopic level through to ecosystems.

Students develop a range of practical skills and techniques through investigations and fieldwork in authentic contexts, such as marine reefs, endangered species, urban ecology, or biotechnology. Scientific evidence is used to make informed decisions about controversial issues.

Human Biology

The Human Biology ATAR course gives students a chance to explore what it is to be human—how the human body works, the origins of human variation, inheritance in humans, the evolution of the human species and population genetics. Through their investigations, students research new discoveries that increase our understanding of human dysfunction, treatments and preventative measures.

Chemistry

The Chemistry ATAR course equips students with the knowledge, understanding and opportunity to investigate properties and reactions of materials. Theories and models are used to describe, explain and make predictions about chemical systems, structures and properties. Students recognise hazards and make informed, balanced decisions about chemical use and sustainable resource management. Investigations and laboratory activities develop an appreciation of the need for precision, critical analysis and informed decision making.

Physics

In the Physics ATAR course students will learn how energy and energy transformations can shape the environment from the small scale, in quantum leaps inside an atom's electron cloud, through the human scale, in vehicles and the human body, to the large scale, in interactions between galaxies. Students have opportunities to develop their investigative skills and use analytical thinking to explain and predict physical phenomena. Students plan and conduct investigations to answer a range of questions, collect and interpret data and observations, and communicate their findings in an appropriate format. Problem-solving and using evidence to make and justify conclusions are transferable skills that are developed in this course.

General Subjects, Expectations and Pathways



Integrated Science

The Integrated Science General course enables students to investigate science issues in the context of the world around them. It encourages students to develop their scientific skills of curiosity, observation, collection and analysis of evidence, in a range of contexts. The multidisciplinary approach, including aspects of biology, chemistry, geology and physics, further encourages students to be curious about the world around them and assume a balanced view of the benefits and challenges presented by science and technology. Students conduct practical investigations that encourage them to apply what they have learnt in class to real-world situations and systems.

Marine and Maritime Studies

The Marine and Maritime Studies General course provides students with the opportunity to study the sea and how people interact with it. Practical learning experiences equip students with a broad range of skills and knowledge. Students develop seamanship skills, nautical skills and water-based skills. Students investigate oceanography concepts to explore the interdependence between components of the marine environment, and consider issues around the sustainable management of Western Australian fisheries.

Psychology

In the Psychology General course students will be introduced to psychological knowledge which supports an understanding of the way individuals function in groups. Students learn about well-known psychological models and theories, and the methods used to conduct scientific investigations in the discipline of psychology. Acquiring this foundation of scientific method and critical thinking is a valuable skill which students can apply throughout their study, work and everyday lives.

QUESTIONS?

- Talk to your teacher. Get their recommendation for YOU.
- Talk to students who are in Year 11 and 12.
- Do some research into your post-school options, what's on offer and how you can get in.
- Ask Mr Kennington/Ms Walker about university/TAFE courses and their pre-requisites.
- Check out the WACE course information website
<https://senior-secondary.scsa.wa.edu.au/syllabus-and-support-materials/science>



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