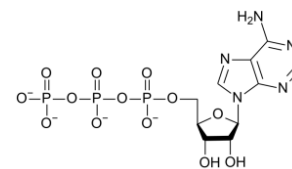




Senior Physics



Overview

Studying Physics provides students with a suite of skills and understandings that are valuable to a wide range of further study pathways and careers. It will enable students to become citizens who are better informed about the world around them and who have the critical skills to evaluate and make evidence-based decisions about current scientific issues. The subject will also provide a foundation in physics knowledge, understanding and skills for those students who wish to pursue tertiary study in science, engineering, medicine and technology.

The study of Physics gives students a means of enhancing their understanding of the world around them, a way of achieving useful knowledge and skills, and a stepping stone for further study. An understanding of Physics adds to and refines the development of students' scientific literacy. Studying Physics will immerse students in both the practical and the conceptual aspects of the discipline.

Physics is an essential pre-requisite for many tertiary courses including engineering and radiography, and is recommended for many others. It is also a preferred course for entry into electrical trades.

The study of Physics requires an amount of maths and students who have performed well in junior school mathematics and sciences, and who can think logically do well in this subject. Students who have studied Chemistry and Physics Foundation or the Archimedes Project in year 10 will be well prepared for Senior Physics.

Topics studied

Moving around	This unit has a classical mechanics approach. Techniques of data collection and analysis involving technology are introduced.
DC electricity	Students will study the basics of electricity and magnetism and how they are related.
Musical instruments	This context will look at the production of sound by musical instruments.
Go with the flow	Students discover the importance of laminar and turbulent flow in applications ranging from the streamlining of cars to the flow of methane gas in pipes.
Keeping cool	Students will learn how heat is transferred and of different methods of cooling.
Doppler Effect	Students will discover how the Doppler effect has diverse applications when finding the speeds of objects.
The telescope	The telescope is a useful tool to demonstrate many aspects of the behaviour of light. The behaviour of reflected and refracted light can be shown in the one instrument.
Structures	Analysis of a structure requires an analysis of forces acting on and within the structure. Students will analyse some simple structures in the context of the static equilibrium of all forces involved.
AC electricity	Students will revisit much of the work they did on DC circuits but apply it to AC circuits in the context of the use of electricity in the home.
Ballistics	Students will analyse the motion of projectiles in flight, during firing and on collision with another object.
Car speed and safety	This is an important time in student's lives with respect to driving and safety. This unit looks at some important aspects of friction and stopping distances.
Our future energy	This unit looks at the use of nuclear energy as a possible future electrical energy source for Australia and compares it to other current and future electrical energy sources.

Study Pathways

