Physics T

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This course which incorporates the new Australian Curriculum is designed to develop an understanding of the fundamental concepts of physics together with the skills of problem solving, report writing and communication. Students will need to have good mathematical skills. Physics is essential for careers in physics and engineering and recommended for others such as architecture, medicine and design.

Course Patterns

This course is sequential in Years 11 and 12. Year 12 students joining Physics will study units 1 and 2.

Minor - Unit 1: Linear Motion & Waves, Unit 2: Thermal, Nuclear & Electrical Physics

Major - The above units, Unit 3: Gravity and Electromagnetism, Unit 4: Revolutions in Modern Physics

Prerequisites

Students are best prepared with A/B grades in Year 10 Science and Mathematics.

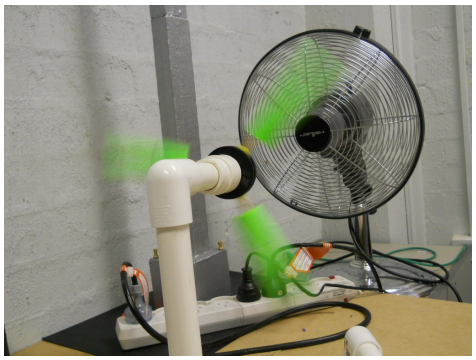
Note

This course is a rigorous introduction to Physics and it would be an advantage if a mathematics **course such as Mathematical Methods is studied in conjunction with Physics.**

Units

Year 11

Unit 1:
Linear Motion & Waves
Students investigate energy production by considering heating processes, radioactivity and nuclear reactions, and investigate energy transfer and transformation in electrical circuits.



Unit 2:
Thermal, Nuclear & Electrical Physics
Students describe, explain and predict linear motion, and investigate the application of wave models to light and sound phenomena

Year 12

Unit 3:
Gravity and Electromagnetism
Students investigate models of motion in gravitational, electric and magnetic fields to explain how forces act at a distance, and use the theory of electromagnetism to explain the production and propagation of electromagnetic waves.

Unit 4:
Revolutions in Modern Physics
Students investigate how shortcomings in existing theories led to the development of the Special Theory of Relativity, the quantum theory of light and matter, and the Standard Model of particle physics.

More About Physics

Physics is the area of knowledge that is concerned with the structure of the universe and the best explanations of natural phenomena.

An understanding of physics underpins all branches of science. Its processes, attitudes and values are powerful ways of generating new ideas. Studying this subject will develop your ability to carry out scientific enquiry with creativity, responsibility, confidence and competence.

To achieve at a high level in this course you will need good mathematical skills and should also be studying the Mathematics Methods course, or achieving very good results in Mathematics Applications.

This course is essential for a wide variety of careers in science. Satisfactory completion of the course may also entitle you to advanced standing at CIT.

Students and teachers are continuing to explore the unique opportunities afforded by our unique and exciting wind tunnel.