



Physics

Foundation Studies Program

Aims

Learning about and working in physics gives people an understanding of the processes that direct the universe and the world, so that they may appreciate and respect them. Through exploring the processes that shape the universe, physicists debate and advance understandings of its workings and of the ways in which actions may affect the future of the Earth. In Physics, students can engage with the work of classical and modern physicists and to join in and/or initiate debates about how physics affects their own lives, society, and the environment.

Learning outcomes

- After successfully completing this subject students should be able to:
- Demonstrate and apply knowledge and understanding of physics to a range of applications and problems.
- Solve a variety of problems in physics.
- Use the terminology and notation of Physics correctly.
- Communicate knowledge and understanding of the ideas, concepts and information of physics effectively, using appropriate physics terms and conventions.
- Obtain, select, analyse, and evaluate the evidence of physics from a variety of different sources, and present informed conclusions or decisions on contemporary physics applications.
- Undertake and report on practical activities.
- Identify and formulate questions, hypotheses, concepts, and purposes that guide investigations in physics.

- Conduct collaborative and individual investigations in physics, using appropriate apparatus and safe working practices and by observing, recording, and interpreting the phenomena of physics.
- Represent, analyse, interpret, and evaluate investigations in physics through the use of technology and numeracy skills.

Subject content

WEEK	TOPIC & ASSESSMENT SCHEDULE
1	Orientation week
2	Motion in 1 dimension
3 - 4	Newton's Laws, Forces & Vectors
5	Practical Skills: Data Analysis
6 - 7	Uniform Circular Motion
8 - 9	Universal Gravity & Satellites
10 - 11	Periodic Motion & Waves
12 - 13	Work, Energy & Power
14 - 16	Momentum & Projectile Motion
17 - 18	Revision
19	Mid-year exams
20 - 23	Electric & Magnetic Fields
24 - 26	Physical Optics
27	Practical Skills: Report Writing
28 - 29	Quantum Optics
30 - 31	Relativity
32 - 35	Nuclear Physics
36 - 37	Revision
38 - 39	SWOTVAC/Exams
40	Graduation

Assessment

General weightings for each assessment item are outlined below.

ASSESSMENT ITEM	WEIGHTING
Tests	30%
Assignments	15%
Practicals	15%
Investigation	10%
Mid-year exam	15%
Final exam	15%

Prerequisites and assumed knowledge

Students should have completed Physics study to a Year 11 equivalent. It is possible for students to complete this course without taking Physics prior, with the understanding that outside study and hard work is required to do so.

It is assumed that student have a basic understanding of geometry, trigonometry and algebra.

Further enquiries

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