

PHYS 0002 FOUNDATION PHYSICS 1 (WSTC)

Credit Points 10

Legacy Code 900079

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Description This unit provides a brief introduction to the essentials of Physics. This unit is focused on skills and knowledge that students from a variety of science, construction and engineering courses need in their first year of study. Students cover introductory topics in Mechanics, Energy and Power, Electricity and Waves.

School Western Sydney The College

Discipline Physics

Student Contribution Band HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 0 Preparatory subject

Equivalent Subjects PHYS 0001 - Foundation Physics 1 (WSTC)

Incompatible Subjects LGYB 1383 - Physics (WSTC) PHYS 0006 - Physics (WSTC Prep)

Restrictions Students must be enrolled in a Foundation Studies program at The College.

Assumed Knowledge

Year 10 Mathematics and Science or equivalent.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Use graphical and computer methods to analyse data
2. Identify the characteristics of uniform motion and calculate variables of motion in one dimension
3. Identify the characteristics of uniformly accelerated motion and predict variables of motion based on past or current conditions in one dimension
4. Use Newtonian dynamics to quantitatively analyse objects in equilibrium and acceleration
5. Use the concepts of work and conservation of energy to explain the behaviour of different systems
6. Demonstrate an ability to describe and apply quantitative relationship between charge, current, resistance and electrical power in the combined circuits
7. Quantitatively analyse reflection and refraction of waves
8. Perform experiments to demonstrate and measure physics principles and concepts

Subject Content

1. Mechanics - Dynamics and Statics - SI units and their relationship, addition and subtraction of force vectors, motion in a straight line, graphing motion, Newton's Law of Motion, momentum and impulse, conservation of momentum

2. Mechanics - Energy and Power - Work and energy, conservation of energy, power and efficiency
3. Electricity - Ohm's Law, electric current and circuits, electrical power, using electricity safety
4. Waves - Description of wave motion, mechanical waves and sound waves.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/Group Task
Intra-session Exam	1 hour + 15 minute upload	15	N	Individual
Intra-session Exam	1 hour + 15 minute upload	20	N	Individual
Quiz	15 minutes	5	N	Individual
Practical	2 hours	20	N	Group
Final Exam	2 hours + 15 minute upload	40	N	Individual

Prescribed Texts

- The College Foundation Physics 1 student workbook, Western Sydney University The College, Sydney.
- The College Foundation Physics 1 student laboratory workbook, Western Sydney University The College, Sydney.

Teaching Periods