



## Physics Level 2, PHY222 2009

### Aims/General Learning Outcomes

- To demonstrate an understanding of concepts, principles and models and to be able to apply them to explain physical phenomena, systems and devices.
- To describe how physical theories and models have developed.
- To carry out practical investigations to determine relationships, patterns, and trends in physical systems.

### Course Content

Reflection; refraction; lenses; waves; interference; the wave; particle models.

Kinematics; vectors; forces; momentum; motion in two dimensions; circular motion; gravitation; kinetic energy; gravitational potential energy; elastic potential energy.

Radioactivity; Rutherford atom; electromagnetic spectrum.

Electric charge; electric field; potential difference; circuits; a brief introduction to electronics; the magnetic effect; electromagnetic induction.

### Assessment Details

The course will be assessed by

- **1 Internal Achievement Standard (4 credits)**
- **4 External Achievement Standards (17 credits)**

There will be a formative test, lasting one hour, at the end of each section.

There will be a school examination in Term 3, to simulate the external examination, and all work taught until that time will be assessed in it.

All External Assessments will be made by NZQA during the November-December Examinations.

### Appeals

Any queries about an assessment decision should be made to your class teacher when the assessment is handed back. Formal appeals should be made, **within one week** of the assessed work being returned to Ms Powell, Head of the Science Department, or to the Principal's Nominee, Mrs Butler, who will investigate it further.

Work done in pencil or which has 'white-out' corrections cannot be reconsidered for appeals. Appeals need to be made within one school week of receiving a result.

### Further assessment opportunities

There are no reassessment opportunities.

**Assessment Record Sheet for PHY222 in 2009**

<b>Name and number of standard</b>	<b>Credit value</b>	<b>Internal/ External</b>	<b>When assessment takes place</b>	<b>Length of assessment</b>	<b>Description of assessment</b>	<b>Result</b>	
Physics 90252, Version 2.  2.1 Take measurements of physical quantities and analyse data graphically to determine a relationship	4	Internal	Week 5 and 6 of term 2	2 periods	This assessment activity is in two sections. <u>Section one</u> : take measurements and use techniques to maximise accuracy. <u>Section two</u> : analyse data and draw appropriate graphs. All work is completed in class.		
						Result in formative test	Result in school examination
Physics 90255, version 2  2.4 Demonstrate understanding of mechanics	6	External	Formative: Week 4 of term 2  NCEA examination in November	1 period	Written test		
Physics 90254, version 2  2.3 Demonstrate understanding of waves	4	External	Formative: Week 3 of term 3  NCEA examination in November	1 period	Written test		
Physics 90257, version 2  2.6 Demonstrate understanding of electricity and electromagnetism	5	External	Formative: Week 1 of term 4  NCEA examination in November	1 period	Written test		
Physics 90256, version 2  2.5 Demonstrate understanding of atoms and radioactivity	2	External	Formative: Week 4 of term 4  NCEA examination in November	1 period	Written test		