COURSE OUTLINE 2012

Subject and Level:

Year 13 Physics

Course Prerequisites:

Academic requirements: At least 13 credits at Level 2 Science including;

Either Physics 2.4 (AS 90254) Demonstrate Understanding of Mechanics
Or Physics 2.6 (AS 90257) Demonstrate understanding of electricity and magnetism
Or HOD Approval

Subject fees: None except for the purchase of the approved workbook

Aims:

To investigate physical phenomena (in the areas of mechanics, electricity, electromagnetism, light and waves, and atomic and nuclear physics) and produce qualitative and quantitative explanations for a variety of complex situations.

- To apply formulae and graphical methods to find unknowns
- To analyse and evaluate data to deduce trends and relationships in physical phenomena.

Course Content:

The course content includes developing practical skills in the measurement of physical quantities and in the interpretation of data to establish nonlinear relationships.

- The Mechanics section involves developing an understanding of the physical phenomena concepts and principles and concepts involved in translational, rotational and oscillatory motion..
- The Electricity and Electromagnetism section involves the investigation of electricity and electromagnetism including resistance, capacitance and inductance as applied in AC circuits.
- The Light and Waves section involves the study of wave properties and includes multiple source interference and the Doppler Effect..
- The Atomic and Nuclear Physics section aims to develop and understanding of the physical phenomena, concepts and principles involved in the behaviour of radiation and matter at the atomic level.

Assessment:

The Level 3 Physics Course is assessed by five achievement standards. One standard is assessed during the year and four are assessed externally at the end of the year.

Students will be expected to:
Apply formula and graphical methods to find unknowns; give numerical answers to an appropriate number if significant figures using SI units. Describe and explain Physics ideas.

The internal standards is:
90774 – To carry out a practical physical experiment with guidance that leads to a mathematics relationship.

The four external standards require you to demonstrate your understanding of Mechanical systems, Wave systems, Electrical systems and Atoms Photons and Nuclei.

Where can this take you?

Physics gives you a fundamental understanding about how the universe ticks, and also develops your ability in thinking and problem solving. In a world of fast changing technologies the know-how acquired from physics will give you the advantage of appreciating the principals on which they are based. Many courses of study from Medicine, Dentistry and Physiotherapy to Computer Science, Digital Imaging, Meteorology and Engineering recommended a knowledge of Physics as a prerequisite.

Appeal procedures:

The Physics Department follows the approved LPHS Assessment Appeals procedure.

Contact for further inquiries:

Mr McKinney (bam@lphs.school.nz) or Mr Thompson (mbt@lphs.school.nz)

AS No	Standard Title	Credits	Internal / External	Format	Indicative Date
90774v1	Carry out a practical physics investigation with guidance, that leads to a mathematical relationship	5	Internal	Practical	Term 1
90520v3	Demonstrate understanding of waves..	4	External	Exam	November 2012
90521v3	Demonstrate understanding of mechanical systems	6	External	Exam	November 2012
90252v3	Demonstrate understanding of atoms, photons and nuclei	3	External	Exam	November 2012
90523v2	Demonstrate understanding of electrical systems.	5	External	Exam	November 2012