PHYS 1006 PHYSICS 2

Credit Points 10

Legacy Code 300829

Coordinator Allan Torres (https://directory.westernsydney.edu.au/search/name/Allan Torres/)

Description This subject develops a deeper understanding of physics for students pursuing courses in nanotechnology, chemical, physical and mathematical sciences. Topics covered include Mechanics: Equilibrium, stress and strain, harmonic oscillators, rotational motion, moment of inertia. Gravitation, types of force in nature. Thermal Physics: temperature, specific & latent heat, heat transfer, kinetic theory of gases, first law of thermodynamics, isothermal, isobaric & adiabatic processes. Introduction to Modern Physics: special relativity, time dilation, length contraction, momentum, mass, rest energy, velocity addition. Basic quantum theory, Planck's hypothesis, wave nature of matter, quantum mechanical view of atoms. Nuclear physics, radiation, half-life, nuclear reactions.

School Science

Discipline Physics

Student Contribution Band HECS Band 2 10cp

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

Level Undergraduate Level 1 subject

Equivalent Subjects LGYA 6150 - Physics 2

Assumed Knowledge

HSC 2 Unit Physics or one semester of university level Physics or equivalent plus HSC 2 Unit Mathematics Band 4 (Not General Mathematics) or one semester of university level Mathematics or equivalent.

Learning Outcomes

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

1. Analyse the description of a physical problem, for the topics listed in the contents, and apply a frame of reference or other appropriate mathematical framework to the problem
2. Explain the physical principles by writing down appropriate equations or other mathematical models such as a geometrical construct to produce a mathematical model of the physical problem
3. Identify known and unknown variables in a mathematical model of a physical problem and manipulate the model to predict unknown variables
4. Interpret results of calculations in terms of real physical world events
5. Record, present and analyse experimental data
6. Estimate the errors in a measurement and propagate the effects of these errors through simple calculations

Subject Content

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.

Type	Length	Percent	Threshold	Individual/ Group Task
Quiz	4x 15 minute quizzes	20	N	Individual
Intra-session Exam	80 minutes	10	N	Individual
Final Exam	2 hours and 20 minutes	40	N	Individual
Practical	3hr lab classes in alternate weeks	30	N	Individual

Prescribed Texts

- Giancoli, D. C., Physics, Principles with Applications, 7th Edition, Pearson (2014)
- Physics 2 Laboratory Manual. Available from the bookshop or via this subjects vUWS web site
- Physics 2 Learning Guide. Available via this subjects vUWS web site

Teaching Periods

Spring (2024)

Parramatta - Victoria Rd

On-site

Subject Contact Allan Torres (https://directory.westernsydney.edu.au/search/name/Allan Torres/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=PHYS1006_24-SPR_PS_1#subjects)