Changing lives through learning

Access to Higher Education Unit

This unit forms part of an Access to HE Diploma. If delivering the graded version of this unit, please refer to the Provider Handbook for details on grading descriptors and the application of these across units within your programme.

Unit Title: Circular Motion, Simple Harmonic Motion and Resonance

Graded Unit Reference Number: GA33PHY14

Ungraded Unit Reference Number: UA33PHY14

Module: Physics

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Learning Outcome (The Learner will):		Assessment Criterion (The Learner can):
1. Understand Uniform Circular Motion	1.1	Explain uniform circular motion in terms of acceleration and centripetal force
	1.2	Perform calculations to find angular speed, centripetal acceleration and centripetal force for common examples of uniform circular motion
2. Understand simple harmonic motion and simple harmonic systems	2.1	Explain the conditions for simple harmonic motion
	2.2	Experimentally investigate common examples of simple harmonic motion, e.g. mass spring system, pendulum
	2.3	Solve problems involving simple harmonic systems, including variation in kinetic and potential energy with displacement and with time
	2.4	Represent simple harmonic motion graphically using distance/time, velocity/time and acceleration/time graphs, including the equation for each graph
	2.5	Solve problems involving simple harmonic motion using formulae and graphical representations

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3. Understand resonance	3.1	Use example to explain the difference between free vibrations and forced vibrations
	3.2	Define resonance and explain resonance in mechanical systems in terms of natural frequency
	3.3	Explain the significance of resonance using desirable and undesirable examples

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