

PHYS C1501: Engineering Physics

Module Title:			Engineering Physics			
Language of Instruction:		:	English			
Credits: 5		5				
NFQ Level: 6		6				
Module Delivered In			1 programme(s)			
Teaching & Learning Strategies:			This subject will be taught in theory classes of two hour duration per week and a two hour practical class each week.			
Module Aim:			The aim of this module is to provide the student with an introduction to the basic principles of Physics and develop practical laboratory skills in Physics.			
Learning Out	comes					
On successful	completion	of thi	is module the learner should be able to:			
LO1	Demonstrate a theoretical knowledge and understanding of Physics as applied to civil engineering.					
LO2	Explain the theory behind practical experiments carried out in the laboratory. Apply scientific procedures, including recording and analysing experimental data. Demonstrate an understanding of the principles behind basic laboratory instruments.					
LO3	Identify and quantify basic sources of error in laboratory experiments.					
LO4	Demonstrate an ability to work independently in a laboratory or as part of a team. Apply the appropriate safety procedures in the laboratory.					
Pre-requisite	learning					
Module Record This is prior lea	mmendatio arning (or a	o ns pract	tical skill) that is recommended before enrolment in this module.			
No recommendations listed						
Incompatible These are mod	Modules dules which	have	learning outcomes that are too similar to the learning outcomes of this module.			
No incompatible modules listed						
Co-requisite I	Modules					
No Co-requisite modules listed						
Requirements This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.						
No requirements listed						



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Module Content & Assessment

Indicative Content							
Measurement Physical standards, SI units, basic measurements, length, time, errors measurement of errors.							
Mechanics Vectors and scalars. Displacement, velocity, acceleration, force, gravity, friction, Equations of Motion, Newton's Laws.							
Stress Strain Stress, Strain, Hooke's L	aw, Youngs Mo	dulus					
Forces Components of Forces, Triangle of Forces, Polygons of Forces.							
Moments of Forces Moments of Forces, Supports, Reactions, Types of Loads.							
Practicals Introduction to the Physics Laboratory; Mass Weight and Density; Acceleration Due to Gravity Using a Simple Pendulum; Hooke's Law and Experiments using a Spiral Spring; Determine Youngs Modulus for a Wire; Friction Experiments; Vector Addition of Forces/Resolving Forces; Investigating Moments of Forces; Demonstrating Newton's Laws using Pullys.							
Assessment Breakdown							
Continuous Assessment				50.00%			
Practical				50.00%			
Continuous Assessme	nt					F	
Assessment Type Assessment D		escription	Outcome addressed		% of total	Assessment Date	
Examination	a number of or	ne hour exams throughout the year 1,2,3,4			50.00	n/a	
No Project							
Practical							
Assessment Type		Assessment Description Outc		Outcome addressed		Assessment Date	
Practical/Skills Evaluation		a two hour practical each week	2,3,4		50.00	n/a	
No End of Modulo Forme							
SETU Carlow Campus re	eserves the righ	t to alter the nature and timings of assessment	t				



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Module Workload

Workload: Full Time					
Workload Type	Frequency	Average Weekly Learner Workload			
Lecture	Every Week	2.00			
Laboratory	Every Week	2.00			
Estimated Learner Hours	Every Week	3.00			
	Total Hours	7.00			

Module Delivered In							
Programme Code	Programme	Semester	Delivery				
CW_CMHCE_B	Bachelor of Engineering (Honours) in Civil Engineering	1	Mandatory				