

Module Title:	Engineering Physics
Language of Instruction:	English
Credits:	5
NFQ Level:	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 to develop practical laboratory skills in Physics.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
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 Recommendations	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

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 Law, Youngs Modulus

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 Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	a number of one hour exams throughout the year	1,2,3,4	50.00	n/a

No Project

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	a two hour practical each week	2,3,4	50.00	n/a

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
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