

Module Title:	Structural Appreciation
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	1 programme(s)
Teaching & Learning Strategies:	Lectures Practical's Private study
Module Aim:	To give students a basic introduction to some aspects of structural design and an appreciation of what is involved.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Demonstrate a knowledge and understanding of force and the units of force and their application to loads, load types and load paths
LO2	Demonstrate a knowledge of structural form and uses within structure - columns, beams, walls and foundations, a knowledge of Rules of Thumb regarding sizing of elements of construction projects
LO3	Demonstrate an understanding of the components of a force and be able to calculate the vertical and horizontal components of a force and forces in a simple framework using graphical methods, mathematical methods and an understanding of stress - strain and elasticity
LO4	Calculate the reactions of a simply supported member including shear force and bending moments, and be able to draw a shear force & bending diagram for a simply supported beam
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
Structural Form (10 hours lectures) (a) Beams and floors (b) Columns and walls (c) Roofs (d) Foundations (e) Frames
SI Units (8 hours lectures) (a) SI Units (b) Magnitude of SI Units (c) Compatibility of SI Units (d) mathematical expressions for use in calculations
Loading (8 hours lectures) (a) Concept of actions (b) Types of actions (c) Load paths
Concurrent Forces (8 hours lectures) (a) Parallelogram, triangle and polygon of forces (b) Resolution of forces (c) Non Current forces
Moments of Forces (10 hours lectures) (a) Beam reaction (b) Measurement of moment (c) Parallel Forces (d) Uniform distributed loads (e) Shear and bending moment diagrams (f) Concentrated loads and uniform distributed force loading
Stress and Strain (10 hours lectures) (a) Steel, Concrete, Timber. (b) Stress, strain, elasticity (c) Stress/ strain graphs
Newtons Laws (6 hours) (a) Mass, force, gravity (b) Speed, velocity, acceleration

Assessment Breakdown	%
Continuous Assessment	40.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Case Studies	No Description	1,2,3,4	40.00	n/a

No Project

No Practical

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	1,2,3,4	60.00	End-of-Semester

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	30 Weeks per Stage	2.00
Estimated Learner Hours	30 Weeks per Stage	2.00
Total Hours		120.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_CMBSE_D	Bachelor of Science in Construction Management with Buildings Services	1	Mandatory