

<b>Module Title:</b>	Structural Appreciation
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	Lectures Practical's Private study
<b>Module Aim:</b>	To give students a basic introduction to some aspects of structural design and an appreciation of what is involved.
<b>Learning Outcomes</b>	
<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
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <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				
<b>Structural Form (10 hours lectures)</b> (a) Beams and floors (b) Columns and walls (c) Roofs (d) Foundations (e) Frames				
<b>SI Units (8 hours lectures)</b> (a) SI Units (b) Magnitude of SI Units (c) Compatibility of SI Units (d) mathematical expressions for use in calculations				
<b>Loading (8 hours lectures)</b> (a) Concept of actions (b) Types of actions (c) Load paths				
<b>Concurrent Forces (8 hours lectures)</b> (a) Parallelogram, triangle and polygon of forces (b) Resolution of forces (c) Non Current forces				
<b>Moments of Forces (10 hours lectures)</b> (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				
<b>Stress and Strain (10 hours lectures)</b> (a) Steel, Concrete, Timber. (b) Stress, strain, elasticity (c) Stress/ strain graphs				
<b>Newtons Laws (6 hours)</b> (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**

<b>Workload: Full Time</b>		
<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	<a href="#">Bachelor of Science in Construction Management with Buildings Services</a>	1	Mandatory