

<b>Module Title:</b>	Static Mechanics
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">4 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	The student will be exposed to learning experiences grounded in both classroom and virtual practice. The experiences will be linked through collective analysis, teamwork, and individual challenges.
<b>Module Aim:</b>	To provide the student with an understanding of the underlying scientific principles of Static Mechanics
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Interpret written descriptions of practical static problems.
LO2	Translate written descriptions of static systems into mathematical form as part of the solution.
LO3	Select appropriate mathematical formulae for a given problem and solve.
LO4	Perform experiments on mechanical engineering science topics and interpret the results.
<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>Units of Measurement</b> International system of units. Mass, Length, Time, Density, Force, Weight
<b>Strength of Materials</b> Direct Stress and Strain. Hooke's Law. Modulus of elasticity. Factor of Safety.
<b>Moments of Forces</b> Principle of Moments. Static Equilibrium. Reaction Forces. Applications of Moments.
<b>Static Friction</b> Static Friction Coefficient, Coulombs Laws. Non-Parallel Applied Force.
<b>Simple Frameworks</b> Triangle of Forces. Polygon of Forces. Parallelogram of Forces. Resolution of forces. Struts and Ties.

Assessment Breakdown	%
Continuous Assessment	10.00%
Practical	30.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Examination	In class/online assessment	1,2,3	10.00	Week 6

No Project

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Written lab reports for a number of lab experiments: Triangle of Forces, Static Friction Coefficient, Centre of Gravity, Young's Modulus, Hooke's Law, Modulus of Rigidity	1,2,3,4	20.00	Week 12
Practical/Skills Evaluation	Computer Competencies Assignment	1,2,3,4	10.00	End-of-Semester

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	An end of module terminal examination assessing all content covered from week 1.	1,2,3	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	12 Weeks per Stage	4.00
Laboratory	12 Weeks per Stage	1.00
Independent Learning	15 Weeks per Stage	4.33
Total Hours		125.00

**Module Delivered In**

Programme Code	Programme	Semester	Delivery
CW_EMMEC_B	<a href="#">Bachelor of Engineering (Honours) in Mechanical Engineering</a>	1	Mandatory
CW_EEROB_B	<a href="#">Bachelor of Engineering (Honours) in Robotics and Automated Systems</a>	1	Mandatory
CW_EEMEC_D	<a href="#">Bachelor of Engineering in Mechanical Engineering</a>	1	Mandatory
CW_EEROO_D	<a href="#">Bachelor of Engineering in Robotics and Automated Systems</a>	1	Mandatory