MECH H2003: Statics 2

Module Title:	Statics 2
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	2 programme(s)

Module Aim:	To provide the student with an understanding of the underlying scientific principles of static mechanics

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Apply and solve equilibrium equations for rigid trusses and frameworks.
LO2	Apply and solve equilibrium equations for rigid frames and machines incorporating multi-force members.
LO3	Apply and solve equilibrium equations for beams (Shear Force & Bending Moment Diagrams).
LO4	Apply and solve problems for Belt Drives
LO5	Contribute effectively, as an individual and as part of a group, to the planning and realization of investigations in a laboratory environment into the effects of applied forces on components.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite 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
Frameworks Determine the uniaxial force induced in the individual members of a loaded truss/frame by either the Method of Joints or the Method of Sections.
Frames & Machines Determine the force induced in the individual members of a loaded frames and machines .
Shear Force and Bending Moment in beams Shear force and bending moment distributions; Simply supported beams; Cantilevers; Concentrated loading; Uniformly distributed loading.
Belt Drives Flat Belts, angle of lap, frictional effects, belt tensions. Vee Belt, effects of centrifugal tension, optimum velocity. Belt configuration.

Assessment Breakdown	%
Continuous Assessment	90.00%
Practical	10.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	Class Test	1,2	35.00	Week 6
Examination	Class Test	3,4	35.00	Week 12
Practical/Skills Evaluation	Labs: Shear Force & Bending Moment. Framework.	1,3,5	20.00	n/a

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Computing Competencies Assignment	1,5	10.00	n/a

No End of Module Formal Examination

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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
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	Bachelor of Engineering (Honours) in Mechanical Engineering	3	Mandatory
CW_EEMEC_D	Bachelor of Engineering in Mechanical Engineering	3	Mandatory