PRAC C1602: Workshop Practices

Module Title:	Workshop Practices
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	2 programme(s)

Module Aim:	To introduce students to the basic principles of good workshop practices and manufacturing technology.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Demonstrate an understanding of the correct safety procedures in accordance with the latest Health and Safety Act.
LO2	Demonstrate an understanding of the correct procedures for the use of measuring instrumentation, preparation and marking out raw materials, use of hand tools and fabrication of engineering components in a workshop environment.
LO3	Demonstrate in a workshop environment the fundamental principles of metal removal, describe cutter tool nomenclature and perform basic engineering calculations leading to metal removal.
LO4	Demonstrate an understanding of the selection of appropriate materials for various industrial applications and engineering components.
LO5	Develop 2D models and the generation of 2D drawings of these components using CAD systems.

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

PRAC C1602: Workshop Practices

Module Content & Assessment

Indicative Content
Safety Identification of hazards and dangers in the workshop environment. Health and safety at work.
Use of hand tools Scriber, square, ruler, jennies, callipers, thread gauge, feeler gauge, radius gauge, files, punches, hammer, hacksaw, chisel
Metrology Gauging and measuring. Use of Vernier callipers, micrometres, height gauges, depth gauges, dial test indicators. Use and care of slip gauges, sine bar, angular slip gauges, Vernier callipers, precision balls and rollers
Fabrication, jointing methods & assembly. Permanent joints e.g. riveting, soldering, brazing, silver soldering, gas welding, manual metal arc welding, adhesive bonding. Semi-permanent joints e.g. locking devices, screwed fastenings, keys, dowels and circlips
Machine tools and accessories Introduction and safe operation of drilling machines, centre lathes, and milling machines. Practical demonstration of surface, cylindrical and off-hand grinding machines.
Forming Processes Sand, die and investment casting, Cold rolling and wire drawing, Hot rolling, forging, extrusion and upsetting, Injection and compression moulding.

Assessment Breakdown	%
Continuous Assessment	40.00%
Practical	60.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Written Report	Report on hand-tools	2	10.00	Week 3
Written Report	Safety Report on inspection of an engineering facility	1	10.00	Week 6
Short Answer Questions	Class Test	1,2,3,4	20.00	Week 12

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Lathe work, milling work, tapping & drilling, Welding & fabrication, forging	1,2,3,4,5	60.00	Every Second Week

No End of Module Formal Examination

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

PRAC C1602: Workshop Practices

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	12 Weeks per Stage	2.00
Laboratory	12 Weeks per Stage	4.00
Independent Learning	15 Weeks per Stage	11.87
	Total Hours	250.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EMMEC_B	Bachelor of Engineering (Honours) in Mechanical Engineering	2	Mandatory
CW_EEMEC_D	Bachelor of Engineering in Mechanical Engineering	2	Mandatory