



ETCAL Level 3 Diploma in Engineering
601/6010/X
Structure

Qualification aim

This qualification is aimed at individuals who wish to follow an apprenticeship or Advanced apprenticeship, employees who are looking for career progression within the engineering industry or individuals who wish to further develop their skills.

Assessment

The assessment criteria determine the standard required to achieve each unit and allow for a variety of assessment methods to be used as appropriate to the environment the qualification is delivered in. There is no examined assessment element in this qualification.

Achievement

Learners must achieve a minimum of 54 credits to gain the qualification. 18 credits must be achieved by completing the 2 mandatory units in Group A. A minimum of 18 credits from Option Group B, with a maximum of 7 credits from Option Group B. With the final 18 credits being from one of the 8 Pathways.

Qualification Number		601/6010/X
Qualification Framework		RQF
Title		ETCAL Level 3 Diploma In Engineering
Qualification Level		Level 3
Total Qualification Time		540 TQT
Guided Learning Hours		480 GLH
Qualification Credit Value		54 Credits
Qualification Grading Structure		Pass / Fail

Unit Title	Mandatory/Optional	GLH	TQT	Credit Value	Grading
Mandatory Group – both units must be completed					
Engineering health and safety	M	80		9	Pass/Fail
Engineering Principles	M	80		9	Pass/Fail
Option Group B – The learner must achieve a minimum of 18 credits from this group					
Manual metal arc welding of materials	O	80		9	Pass/Fail
MIG welding of materials	O	80		9	Pass/Fail
TIG welding of materials	O	80		9	Pass/Fail
Platework fabrication of materials	O	80		9	Pass/Fail
Sheet Metalwork fabrication of materials	O	80		9	Pass/Fail
Fabrication and erection of structural steelwork	O	80		9	Pass/Fail
Pattern development for fabrication	O	80		9	Pass/Fail
Maintenance of machine systems	O	80		9	Pass/Fail
Maintenance of Utility systems	O	80		9	Pass/Fail
Maintenance of plant services	O	80		9	Pass/Fail
Maintenance of hydraulic systems	O	80		9	Pass/Fail
Maintenance of pneumatic systems	O	80		9	Pass/Fail
Power generation systems and ancillary equipment	O	80		9	Pass/Fail
Machining materials by turning	O	80		9	Pass/Fail
Machining materials by milling	O	80		9	Pass/Fail
Machining materials by grinding	O	80		9	Pass/Fail
CNC machining of materials	O	80		9	Pass/Fail
Detailed fitting of materials	O	80		9	Pass/Fail
Maintenance of electrical equipment and systems	O	80		9	Pass/Fail

Produce drawing using CAD	O	80		9	Pass/Fail
Organising and managing engineering operations	O	80		9	Pass/Fail
Advanced mathematics and science	O	80		9	Pass/Fail
Mechatronics systems principles and fault finding	O	80		9	Pass/Fail
Computer automated and robotic systems principles and control	O	80		9	Pass/Fail
Power supply and analogue and digital circuit principles and fault finding	O	80		9	Pass/Fail
Electronic power control principles and practice	O	80		9	Pass/Fail
MIG welding of aluminium	O	80		9	Pass/Fail
TIG welding of aluminium	O	80		9	Pass/Fail
Flux-cord arc welding of materials	O	80		9	Pass/Fail
Option Group C – Welding - The learner must achieve 18 credits from one of the optional pathway groups					
This mandatory unit must be completed					
Principles of Welding	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Manual metal arc welding of materials	O	80		9	Pass/Fail
MIG welding of materials	O	80		9	Pass/Fail
TIG welding of materials	O	80		9	Pass/Fail
Option Group D – Fabrication - this mandatory unit must be completed					
Principles of Fabrication	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Platework fabrication of materials	O	80		9	Pass/Fail
Sheet metalwork fabrication of materials	O	80		9	Pass/Fail
Fabrication and erection of structural steelwork	O	80		9	Pass/Fail
Pattern development for fabrication	O	80		9	Pass/Fail
Option Group E – Fabrication and Welding - this mandatory unit must be completed					
Principles of Fabrication and Welding	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Manual metal arc welding of materials	O	80		9	Pass/Fail
MIG welding of materials	O	80		9	Pass/Fail

TIG welding of materials	O	80		9	Pass/Fail
Platework fabrication of materials	O	80		9	Pass/Fail
Sheet metalwork fabrication of materials	O	80		9	Pass/Fail
Fabrication and erection of structural steelwork	O	80		9	Pass/Fail
Pattern development for fabrication	O	80		9	Pass/Fail
Option Group F – Engineering Maintenance - this mandatory unit must be completed					
Principles of Engineering Maintenance, Installation and commissioning	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Maintenance of machine systems	O	80		9	Pass/Fail
Maintenance of Utility systems	O	80		9	Pass/Fail
Maintenance of plant services	O	80		9	Pass/Fail
Maintenance of hydraulic systems	O	80		9	Pass/Fail
Maintenance of pneumatic systems	O	80		9	Pass/Fail
Power generation systems and ancillary equipment	O	80		9	Pass/Fail
Option Group G – Manufacturing Engineering - this mandatory unit must be completed					
Principles of mechanical manufacturing engineering	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Machining materials by turning	O	80		9	Pass/Fail
Machining materials by milling	O	80		9	Pass/Fail
Machining materials by grinding	O	80		9	Pass/Fail
CNC machining of materials	O	80		9	Pass/Fail
Detailed fitting of materials	O	80		9	Pass/Fail

Option Group H – Electrical and Electronic Engineering - this mandatory unit must be completed					
Principles of Electrical and electronic engineering	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Maintenance of electrical equipment and systems	O	80		9	Pass/Fail
Mechatronics systems principles and fault finding	O	80		9	Pass/Fail
Computer automated and robotic systems principles and control	O	80		9	Pass/Fail
Power supply and analogue and digital circuit principles and fault finding	O	80		9	Pass/Fail
Electronic power control principles and practice	O	80		9	Pass/Fail
Option Group I – Shipbuilding - this mandatory unit must be completed					
Principles of shipbuilding	M	80		9	Pass/Fail
The remainder of the credits for this pathway must be taken from the group below					
Manual metal arc welding of materials	O	80		9	Pass/Fail
MIG welding of materials	O	80		9	Pass/Fail
TIG welding of materials	O	80		9	Pass/Fail
Platework fabrication of materials	O	80		9	Pass/Fail
Sheet metalwork fabrication of materials	O	80		9	Pass/Fail
Fabrication and erection of structural steelwork	O	80		9	Pass/Fail
Pattern development for fabrication	O	80		9	Pass/Fail
Maintenance of machine systems	O	80		9	Pass/Fail
Maintenance of utility systems	O	80		9	Pass/Fail
Maintenance of plant services	O	80		9	Pass/Fail
Maintenance of hydraulic systems	O	80		9	Pass/Fail
Maintenance of pneumatic systems	O	80		9	Pass/Fail
Power generation systems and ancillary equipment	O	80		9	Pass/Fail
Option Group J – Composites - these mandatory units must be completed					
Principles of composite materials	M	80		9	Pass/Fail
Principles of composite manufacture	M	80		9	Pass/Fail