Qualification Specification for:

OCN NI Level 1 Certificate in Engineering Skills

- **Qualification No: 603/0043/7**

Qualification Regulation Information

OCN NI Level 1 Certificate in Engineering Skills
Qualification Number: 603/0043/7

Operational start date: 01 July 2016
Operational end date: 31 December 2027
Certification end date: 31 December 2028

Qualification operational start and end dates indicate the lifecycle of a regulated qualification. The operational end date is the last date by which learners can be registered on a qualification and the certification end date is the last date by which learners can claim their certificate.

All OCN NI regulated qualifications are published to the Register of Regulated Qualifications (**http://register.ofqual.gov.uk/**). This site shows the qualifications and awarding organisations regulated by CCEA Regulation and Ofqual.

OCN NI Contact Details

Open College Network Northern Ireland (OCN NI)
Sirius House
10 Heron Road
Belfast
BT3 9LE

Phone: 028 90463990
Web: **www.ocnni.org.uk**

Foreword

This document explains OCN NI's requirements for the delivery and assessment of the following regulated qualification:

→ **OCN NI Level 1 Certificate in Engineering Skills**

This specification sets out:

- Qualification features
- Centre requirements for delivering and assessing the qualification
- The structure and content of the qualification
- Unit details
- Assessment requirements for the qualification
- OCN NI's quality assurance arrangements for the qualification
- Administration

OCN NI will notify centres in writing of any major changes to this specification. We will also publish changes on our website at **www.ocnni.org.uk**

This specification is provided online, so the version available on our website is the most up to date publication. It is important to note that copies of the specification that have been downloaded and printed may be different from this authoritative online version.

Contents

About Regulation

OCN NI

Open College Network Northern Ireland (OCN NI) is a regulated Awarding Organisation based in Northern Ireland. OCN NI is regulated by CCEA Regulation to develop and award professional and technical (vocational) qualifications from Entry Level up to and including Level 5 across all sector areas. In addition, OCN NI is regulated by Ofqual to award similar qualification types in England.

The Regulated Qualifications Framework: an overview

The Regulated Qualifications Framework (RQF) was introduced on 1st October 2015: the RQF provides a single framework for all regulated qualifications.

Qualification Level

The level indicates the difficulty and complexity of the knowledge and skills associated with any qualification. There are eight levels (Levels 1-8) supported by three 'entry' levels (Entry 1-3).

Qualification Size

Size refers to the estimated total amount of time it could typically take to study and be assessed for a qualification. Size is expressed in terms of Total Qualification Time (TQT), and the part of that time typically spent being taught or supervised, rather than studying alone, is known as Guided Learning Hours (GLH).

Qualification Summary

Sector Subject Area
4.1 Engineering

Qualification Aim and Objective
The OCN NI Level 1 Certificate in Engineering Skills qualification will enable individuals to gain introductory skills in engineering that will be of use generally and as part of a progressive career path leading to further engineering qualifications. It aligns with current government policy in terms of training and retraining individuals in STEM related subjects to access a growing job market in this area.

Grading
Grading for this qualification is pass/fail.

Qualification Target Group
The qualification is targeted at individuals who are interested in developing basic skills in engineering.

Progression Opportunities
The OCN NI Level 1 Certificate in Engineering Skills qualification enables progression to further learning in this area or into employment.

Entry Requirements
There are no formal restrictions on entry. However, learners must be at least 14 years of age to achieve this qualification.

Qualification Support
A Qualification Support pack is available for OCN NI centres within the login area of the OCN NI website (https://www.ocnni.org.uk/my-account/), which includes additional support for teachers, eg planning and assessment templates, guides to best practice, etc.

Ensuring Health and Safety of Learners

The health, safety and security of learners are paramount, particularly for learners under the age of 16. Every effort must be made by the centre and those involved in the delivery to ensure that learners operate in a safe and secure environment where risk of injury is minimum. Particular attention should be given to:

- ensuring learners are briefed about health, safety and security procedures including how to identify hazards and report accidents/injuries/dangerous occurrences
- ensuring learners understand the key legislative and best practice aspects of the engineering industry
- ensuring necessary risk assessments are carried out
- ensuring appropriate levels of supervision are agreed and implemented prior to delivery
- adhering to child protection regulations
- clear accident reporting procedures being in place
- machinery, tools and/or equipment to ensure they are in safe working order and learners are given proper instruction, training, protective clothing and supervision
- appropriate insurance arrangements being in place

Delivery Languages

This qualification is available in English only at this time. If you wish to offer the qualification in Welsh or Irish (Gaeilge) then please contact OCN NI who will review demand and provide as appropriate.

Centre Requirements for Delivering the Qualification

Centre Recognition and Qualification Approval

New and existing OCN NI recognised centres must apply for and be granted approval to deliver the qualification prior to the commencement of delivery.

Centre Staffing

Centres are required to have the following roles in place as a minimum, although a member of staff may hold more than one role*:

- Centre contact
- Programme Co-ordinator
- Tutor
- Assessor
- Internal Verifier

*Note: A person cannot be an internal verifier for their own assessments.

Tutors

Tutors delivering the qualification should be occupationally competent at a higher level than the qualification and have appropriate experience in engineering.

Assessors

The qualification is assessed within the centre and is subject to OCN NI's quality assurance processes. Units are achieved through internally set, internally assessed, and internally verified evidence.

Assessors must:

- be occupationally competent to at least one level higher than the qualification
- have a minimum of one year's experience in the area they are assessing
- have direct or related relevant experience in assessment
- assess all assessment tasks and activities

Internal Verification

OCN NI qualifications must be scrutinised through the centre's internal quality assurance processes as part of the recognised centre agreement with OCN NI. The centre must appoint an experienced and trained centre internal verifier whose responsibility is to act as the internal quality monitor for the verification of the delivery and assessment of the qualifications.

The centre must agree a working model for internal verification with OCN NI prior to delivery of the qualifications.

Internal Verifiers must:

- have at least one year's occupational experience in the areas they are internally verifying
- attend OCN NI's internal verifier training if not already completed

Internal verifiers are required to:

- support tutors and assessors
- sample assessments according to the centre's sampling strategy
- ensure tasks are appropriate to the level being assessed
- maintain up-to-date records supporting the verification of assessment and learner achievement

Structure and Content

OCN NI Level 1 Certificate in Engineering Skills

Learners must successfully complete a minimum of 24 credits, ie the one mandatory unit – 1 credit, plus 23 credits from the optional units.

Total Qualification Time (TQT) for this qualification: 240 hours
Guided Learning Hours (GLH) for this qualification: 216 hours

Unit Reference Number	OCN NI Unit Code	Unit Title	TQT	Credit Value	Level
Mandatory Unit					
K/506/5721	CBA161	Health and Safety in Practice	10	1	One
Optional Units					
T/508/5891	CBD578	Using a Pillar/Magnetic Drilling Machine	60	6	One
A/508/5892	CBD579	Using Hand Tools	50	5	One
F/508/5893	CBD580	Metal Inert Gas Welding	80	8	One
J/508/5894	CBD581	Repair and Maintenance of Mechanical Equipment	80	8	One
L/508/5895	CBD582	Using Power Tools	50	5	One
R/508/5896	CBD583	Using Sheet Metal Machines	80	8	One
Y/508/5897	CBD584	Communication Skills for Engineering	30	3	One
D/508/5898	CBD585	Electrical and Electronic Theory for Engineering	20	2	One
H/508/5899	CBD586	Repair and Maintenance of Electrical / Electronic Equipment	80	8	One
T/508/6135	CBD587	Using a Plasma Cutter	80	8	One

Unit Details

Title	Health and Safety in Practice
Level	One
Credit Value	1
Guided Learning Hours (GLH)	9
OCN NI Unit Code	CBA161
Unit Reference No	K/506/5721
Unit purpose and aim(s): This unit will enable the learner to gain knowledge of health and safety requirements, procedures and equipment in a practical environment.	

Learning Outcomes	Assessment Criteria
1. Know about health and safety requirements, procedures and equipment in a practical environment.	1.1. Outline aspects of key current Health and Safety requirements to include the following: a) Health and Safety at Work Legislation relevant to your region b) Control of Substances Hazardous to Health Regulations relevant to your region 1.2. Outline the correct procedures for reporting accidents and potential hazards. 1.3. Identify the correct response to two emergency situations. 1.4. State the location of a range of emergency equipment.
2. Be able to follow and manage safe working practices.	2.1. Identify the potential risks of a given situation. 2.2. State the purpose and use of safety equipment and/or clothing to minimise risk in a range of situations. 2.3. Select and use appropriate equipment and/or techniques when carrying out a given task.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log

Title	Using a Pillar/Magnetic Drilling Machine
Level	One
Credit Value	6
Guided Learning Hours (GLH)	54
OCN NI Unit Code	CBD578
Unit Reference No	T/508/5891
Unit purpose and aim(s): This unit will enable the learner to understand how to use a pillar / magnetic drilling machine safely.	

Learning Outcomes	Assessment Criteria
1. Understand the key features of a pillar / magnetic drilling machine.	1.1. Illustrate the key features of a pillar / magnetic drilling machine. 1.2. Outline the key health and safety issues associated with operating a pillar / magnetic drilling machine. 1.3. Identify appropriate personal protective equipment (PPE) to be used when operating a pillar / magnetic drilling machine.
2. Be able to set up a pillar / magnetic drilling machine.	2.1. Select and use appropriate personal protective equipment (PPE) when operating a pillar / magnetic drilling machine in line with workplace procedures and manufacturer's specifications. 2.2. Identify and confirm requirements of work to be undertaken. 2.3. Set up a pillar / magnetic drilling machine in line with workplace procedures and manufacturer's specifications. 2.4. Select appropriate drill bit for given material. 2.5. Select appropriate drill speed for given material to be cut.
3. Be able to use a pillar / magnetic drilling machine.	3.1. Use a pillar / magnetic drilling machine to cut and drill given materials safely in line with workplace procedures and manufacturer's specifications. 3.2. Assess if work undertaken meets requirements. 3.3. Shut down equipment safely after use in line with workplace procedures and manufacturer's specifications.
4. Be able to clean up worksite.	4.1. Clean and store PPE and other equipment and materials in line with workplace procedures. 4.2. Clean worksite in line with workplace procedures.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion

	A collection of documents containing work that shows the learner's progression through the course	
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Using Hand Tools
Level	One
Credit Value	5
Guided Learning Hours (GLH)	45
OCN NI Unit Code	CBD579
Unit Reference No	A/508/5892

Unit purpose and aim(s): This unit will enable the learner to understand how to use hand tools safely.

Learning Outcomes	Assessment Criteria
1. Be able to maintain and store hand tools.	1.1. Check tools and cables for damage reporting any issues in accordance with organisational procedures. 1.2. Change tooling on hand tools as required in accordance with manufacturer's instructions and organisational safe operating procedures. 1.3. Check tooling for damage or incorrect installation reporting any issues in accordance with organisational procedures. 1.4. Store hand tools securely, safely and in accordance with manufacturer's instructions.
2. Be able to use measuring equipment.	2.1. Identify and use at least four types of measuring equipment including: a) Multimeters b) Tape measures c) Callipers d) Spirit Levels e) Steel Squares
3. Be able to use hand tools.	3.1. Use the appropriate Personal Protective Equipment (PPE) correctly to carry out the work. 3.2. Carry out work on materials with hand tools using correct tooling as required to given specification. 3.3. Use appropriate holding devices to secure materials correctly.
4. Be able to work safely when using tools and equipment.	4.1. Apply safe working practices when using tools and equipment. 4.2. Outline the purpose and use of barrier cream and antiseptic soap.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion

Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Metal Inert Gas Welding
Level	One
Credit Value	8
Guided Learning Hours (GLH)	**72**
OCN NI Unit Code	CBD580
Unit Reference No	F/508/5893
Unit purpose and aim(s): This unit will enable the learner to understand how to Metal Inert Gas (MIG) weld.	

Learning Outcomes	Assessment Criteria
1. Understand the key features of MIG welding equipment.	1.1. Illustrate the key features of Metal Inert Gas (MIG) welding equipment and associated consumables. 1.2 Outline the key health and safety issues associated with MIG welding equipment and associated consumables. 1.3 Identify appropriate personal protective equipment (PPE) to be used when welding.
2. Know the issues associated with working with MIG welding equipment and associated consumables.	2.1. Outline the health and safety issues associated with working with MIG welding equipment and associated consumables including: a) using welding shields and fume extraction b) working in confined areas c) electrical and gas safety d) splatter e) having appropriate firefighting equipment to hand 2.2. Outline the issues associated with using MIG welding equipment and associated consumables that impact on the quality of the weld.
3. Be able to set up MIG welding equipment and associated consumables.	3.1. Select and use appropriate personal protective equipment (PPE) when operating MIG welding equipment and associated consumables in line with workplace procedures, permissions and manufacturer's specifications. 3.2. Identify and confirm requirements of welds to be undertaken. 3.3. Prepare and restrain materials to be welded appropriately. 3.4. Set up MIG welding equipment and associated consumables in line with workplace procedures, permissions and manufacturer's specifications such as: a) gas pressure and flow rates b) selection and application of electrode c) welding position
4. Be able to weld.	4.1. Use MIG welding equipment and consumables in line with workplace procedures and manufacturer's specifications to produce welds of given specification. 4.2. Assess if weld meets requirements. 4.3. Shut down equipment safely after use in line with workplace procedures, permissions and manufacturer's specifications.

5. Be able to clean up worksite.	5.1. Clean and store PPE and other equipment and materials in line with workplace procedures. 5.2. Clean worksite in line with workplace procedures.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Repair and Maintenance of Mechanical Equipment
Level	One
Credit Value	8
Guided Learning Hours (GLH)	**72**
OCN NI Unit Code	CBD581
Unit Reference No	J/508/5894
Unit purpose and aim(s): This unit will enable the learner to understand how to perform basic mechanical maintenance and repair.	

Learning Outcomes	Assessment Criteria
1. Be able to demonstrate good health and safety practice when working with mechanical equipment.	1.1 Select and use appropriate personal protective equipment (PPE) when working with mechanical equipment. 1.2 Outline potential hazards involved in working with mechanical equipment. 1.3 Outline process for dealing with accidents involving mechanical equipment. 1.4 Carry out safety checks on workplace and tools before use in line with workplace procedures, permissions and manufacturer's specifications.
2. Prepare before undertaking work.	2.1. Identify and confirm tasks to be undertaken. 2.2. Identify and select tools and equipment required for tasks. 2.3. Identify and obtain relevant information such as manufacturer's maintenance manuals and schedules in order to perform maintenance and / or repair. 2.4. Update relevant service or workplace documentation as required.
3. Carry out maintenance and / or repair of mechanical equipment.	3.1. Remove casings and other protective barriers in line with manufacturer's and workplace guidelines if required to perform maintenance and / or repair of equipment. 3.2. Perform maintenance and / or repair of mechanical equipment as required; this may consist of one or more of the following: a) removing dirt and grime b) replacing consumables c) performing appropriate diagnostic tests d) checking and confirming safe and correct operation of equipment e) checking operation and condition of subassemblies and components and replacement or repair if required f) checking fastenings and repair or adjustment as required
4. Complete maintenance and / or repair of mechanical equipment.	4.1. Replace casings and other protective barriers in line with manufacturer's and workplace guidelines. 4.2. Complete appropriate workplace and service documentation as required.

Assessment Guidance		
The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.		
Assessment Method	**Definition**	**Possible Content**
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Using Power Tools
Level	One
Credit Value	5
Guided Learning Hours (GLH)	**45**
OCN NI Unit Code	CBD582
Unit Reference No	L/508/5895
Unit purpose and aim(s): This unit will enable the learner to understand how to use a pillar / magnetic drilling machine safely.	

Learning Outcomes	Assessment Criteria
1. Be able to maintain and store power tools.	1.1. Check tools and cables for damage and ensure tools have a valid test certificate, reporting any issues in accordance with organisational procedures. 1.2. Prepare different types of power source correctly to operate power tools. 1.3. Change batteries correctly and in accordance with manufacturer's instructions. 1.4. Change tooling on power tools as required in accordance with manufacturer's instructions and organisational safe operating procedures. 1.5. Check tooling for damage or incorrect installation reporting any issues in accordance with organisational procedures. 1.6. Store portable power tools securely, safely and in accordance with manufacturer's instructions.
2. Be able to use measuring equipment.	2.1. Identify and use at least four types of measuring equipment including: a) Multimeters b) Tape measures c) Callipers d) Spirit Levels e) Steel Squares
3. Be able to use power tools.	3.1. Use the appropriate Personal Protective Equipment (PPE) correctly to carry out the work. 3.2. Carry out work on materials with power tools using correct tooling to given specification. 3.3. Use appropriate holding devices to secure materials correctly.
4. Be able to work safely when using tools and equipment.	4.1. Apply safe working practices when using tools and equipment. 4.2. Outline the purpose and use of barrier cream and antiseptic soap.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion

Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Using Sheet Metal Machines
Level	One
Credit Value	8
Guided Learning Hours (GLH)	72
OCN NI Unit Code	CBD583
Unit Reference No	R/508/5896
Unit purpose and aim(s): This unit will enable the learner to understand how to use a range of sheet machine including box and pan folding, pinch rolling and treadle guillotine machines safely.	
Learning Outcomes	**Assessment Criteria**
1. Understand the key features of a range of sheet metal machines.	1.1. Illustrate the key features including safety features of a range of sheet metal machines such as: a) box and pan folding machines b) pinch rolling machines c) treadle guillotine machines 1.2. Outline the key health and safety issues associated with sheet metal machines such as: a) box and pan folding machines b) pinch rolling machines c) treadle guillotine machines 1.3. Identify appropriate personal protective equipment (PPE) to be used when operating sheet metal machines such as: a) box and pan folding machines b) pinch rolling machines c) treadle guillotine machines
2. Know the issues associated with working with sheet metal materials.	2.1. Outline the health and safety issues associated with working with sheet metal materials. 2.2. Outline the issues associated with working with sheet metal that impact on the product produced including spring back properties.
3. Be able to set up a range of sheet metal machines.	3.1. Select and use appropriate personal protective equipment (PPE) when operating a range of sheet metal machines in line with workplace procedures and manufacturer's specifications such as: a) box and pan folding machines b) pinch rolling machines c) treadle guillotine machines 3.2. Identify and confirm requirements of work to be undertaken. 3.3. Identify and utilise appropriate safety barriers, sensors and mechanical safety features associated with the sheet metal machine. 3.4. Set up a range of sheet metal machines in line with workplace procedures and manufacturer's specifications such as: a) box and pan folding machines b) pinch rolling machines c) treadle guillotine machines

4. Be able to use a range of sheet metal machines.	4.1. Use a range of sheet metal machines with given materials safely in line with workplace procedures and manufacturer's specifications such as: a) box and pan folding machines b) pinch folding machines c) treadle guillotine machines 4.2. Assess if work undertaken meets requirements. 4.3. Shut down equipment safely after use in line with workplace procedures and manufacturer's specifications.
5. Be able to clean up worksite.	5.1. Clean and store PPE and other equipment and materials in line with workplace procedures. 5.2. Clean worksite in line with workplace procedures.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Communication Skills for Engineering
Level	One
Credit Value	3
Guided Learning Hours (GLH)	27
OCN NI Unit Code	CBD584
Unit Reference No	Y/508/5897
Unit purpose and aim(s): This unit will enable the learner to communicate effectively within engineering context and / or environment.	

Learning Outcomes	Assessment Criteria
1. Know a range of forms of communication used within an engineering workplace.	1.1 Compare the different forms and methods of communication used within an engineering environment. 1.2 Outline the importance of communicating effectively and accurately within an engineering environment.
2. Be able to work and communicate effectively with others.	2.1. Outline with examples the importance of team work within a workplace. 2.2. Outline how communication contributes to effective team working. 2.3. Outline the work structures and reporting systems that exist in the workplace. 2.4. Outline how conflicts within the workplace may be resolved in accordance with an organisation's policy. 2.5. Communicate with others effectively within a team environment.
3. Be able to interpret and convey technical information.	3.1. Interpret oral, written and diagrammatical forms of technical information accurately. 3.2. Use technical information to inform the planning, execution and completion of tasks. 3.3. Convey to others accurate technical information using oral, written and diagrammatical forms of communication.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log

Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Electrical and Electronic Theory for Engineering
Level	One
Credit Value	2
Guided Learning Hours (GLH)	18
OCN NI Unit Code	CBD585
Unit Reference No	D/508/5898
Unit purpose and aim(s): This unit will enable the learner to understand the basic theory underpinning electrical and electronic maintenance and repair.	

Learning Outcomes	Assessment Criteria
1. Know basic electrical and electronic circuit theory.	1.1 Outline the basic units of measurement associated with electrical and electronic circuits including: a) voltage b) current c) resistance d) capacitance e) inductance 1.2 Identify electrical and electronic components of using industry forms of classifications of components. 1.3 Outline what is meant by the following: a) alternating current b) direct current c) conductors d) insulators e) electromotive force f) electrostatic discharge g) earthing
2. Perform basic electrical and electronic circuit calculations.	2.1. Identify the elements within a range of basic electrical and electronic circuits. 2.2. Perform calculations for given series and parallel electrical and electronic circuits.
3. Be able to perform basic electrical and electronic circuit measurements and circuit construction.	3.1. Perform basic measurements on at least five different electrical and electronic circuits using a multimeter. 3.2. Construct basic electrical and electronic circuits to given specifications.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log

Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Repair and Maintenance of Electrical / Electronic Equipment
Level	One
Credit Value	8
Guided Learning Hours (GLH)	72
OCN NI Unit Code	CBD586
Unit Reference No	H/508/5899
Unit purpose and aim(s): This unit will enable the learner to understand how to perform basic electrical and electronic maintenance and repair.	

Learning Outcomes	Assessment Criteria
1. Be able to demonstrate good health and safety practice when working with electrical and electronic equipment.	1.1 Select and use appropriate personal protective equipment (PPE) when working with electrical and electronic equipment. 1.2 Outline potential hazards involved in working with electrical and electronic equipment. 1.3 Outline process for dealing with accidents involving electrical and electronic equipment. 1.4 Ensure all electrical and electronic equipment is isolated and safe to work on before commencing work. 1.5 Ensure precautions to avoid hazards including electrostatic discharge, electric shock and contact with hazardous fluids are undertaken. 1.6 Carry out safety checks on workplace and tools before use in line with workplace procedures, permissions and manufacturer's specifications.
2. Prepare before undertaking work.	2.1. Identify and confirm tasks to be undertaken. 2.2. Identify and select tools and equipment required for tasks. 2.3. Identify and obtain relevant information such as manufacturer's maintenance manuals and schedules in order to perform maintenance and / or repair. 2.4. Update relevant service or workplace documentation as required.
3. Carry out maintenance and / or repair of electrical and electronic equipment.	3.1. Remove casings and other protective barriers in line with manufacturer's and workplace guidelines if required to perform maintenance and / or repair of equipment. 3.2. Perform maintenance and / or repair of electrical and electronic equipment as required and in line with manufacturer's equipment specifications; this may consist of one or more of the following: a) removing dirt and grime b) replacing consumables c) performing appropriate diagnostic tests d) checking and confirming safe and correct operation of equipment e) checking operation and condition of sub-assemblies and components and replacement or repair if required f) checking fastenings and repair or adjustment as required

4. Complete maintenance and / or repair of electrical and electronic equipment.	4.1. Replace casings and other protective barriers in line with manufacturer's and workplace guidelines. 4.2. Complete appropriate workplace and service documentation as required.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Title	Using a Plasma Cutter
Level	One
Credit Value	8
Guided Learning Hours (GLH)	72
OCN NI Unit Code	CBD587
Unit Reference No	T/508/6135
Unit purpose and aim(s): This unit will enable the learner to understand how to cut metal and other conducting materials using a plasma cutter.	
Learning Outcomes	**Assessment Criteria**
1. Understand the key features of plasma cutting equipment.	1.1. Compare plasma cutting to oxyfuel cutting and their applications. 1.2. Illustrate the key features of plasma cutting equipment and associated consumables. 1.3. Outline how input power, output power, cutting speed, duty cycle, torch and cost of consumables would affect choice of plasma cutter. 1.4 Outline the key health and safety issues associated with plasma cutting equipment and associated consumables. 1.5 Identify appropriate personal protective equipment (PPE) to be used when using plasma cutting.
2. Know the issues associated with working with plasma cutting equipment and associated consumables.	2.1. Outline the health and safety issues associated with working with plasma cutting equipment and associated consumables including: a) using shields and fume extraction b) working in confined areas c) electrical and gas safety d) splatter 2.2. Outline the issues associated with using plasma cutting equipment and associated consumables that impact on the quality of the cut including kerf of cut and dross generated.
3. Be able to set up plasma cutting equipment and associated consumables.	3.1. Select and use appropriate personal protective equipment (PPE) when operating plasma cutting equipment and associated consumables in line with workplace procedures, permissions and manufacturer's specifications. 3.2. Identify and confirm requirements of cuts to be undertaken. 3.3. Prepare and restrain materials to be cut appropriately. 3.4. Set up plasma cutting equipment and associated consumables in line with workplace procedures, permissions and manufacturer's specifications such as: a) gas pressure and flow rates b) checking shield cup, tip, electrode and swirl ring c) earth connection d) cutting position and angle
4. Be able to use a plasma cutter.	4.1. Use plasma cutting equipment and consumables in line with workplace procedures, permissions and manufacturer's specifications to produce cuts of given specification.

	4.2. Assess if cut meets requirements. 4.3. Illustrate how a plasma cutter may be used for gouging and piercing. 4.4. Shut down equipment safely after use in line with workplace procedures, permissions and manufacturer's specifications.
5. Be able to clean up worksite.	5.1. Clean and store PPE and other equipment and materials in line with workplace procedures. 5.2. Clean worksite in line with workplace procedures.

Assessment Guidance

The following assessment method/s may be used to ensure all learning outcomes and assessment criteria are fully covered.

Assessment Method	Definition	Possible Content
Portfolio of evidence	A collection of documents containing work undertaken to be assessed as evidence to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Learner notes/written work Learner log/diary Peer notes Record of observation Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the tutor or by learners, to enable learners to practise and apply skills and knowledge	Record of observation Learner notes/written work Learner log
Coursework	Research or projects that count towards a learner's final outcome and demonstrate the skills and/or knowledge gained throughout the course	Record of observation Learner notes/written work Tutor notes/record Learner log/diary
E-assessment	The use of information technology to assess learner's work	Electronic portfolio E-tests

Quality Assurance of Centre Performance

External Verification

All OCN NI recognised centres are subject to External Verification. External verification visits and monitoring activities will be conducted annually to confirm continued compliance with the conditions of recognition, review the centre's risk rating for the qualifications and to assure OCN NI of the maintenance of the integrity of the qualifications.

The External Verifier will review the delivery and assessment of the qualifications. This will include the review of a sample of assessment evidence and evidence of the internal verification of assessment and assessment decisions. This will form the basis of the EV report and will inform OCN NI's annual assessment of centre compliance and risk. The External Verifier is appointed by OCN NI.

Standardisation

As a process, standardisation is designed to ensure consistency and promote good practice in understanding and application of standards. Standardisation events:

- make qualified statements about the level of consistency in assessment across centres delivering a qualification
- make statements on the standard of evidence that is required to meet the assessment criteria for units in a qualification
- make recommendations on assessment practice
- produce advice and guidance for the assessment of units
- identify good practice in assessment and internal verification

Centres offering units of an OCN NI qualification must attend and contribute assessment materials and learner evidence for standardisation events if requested.

OCN NI will notify centres of the nature of sample evidence required for standardisation events (this will include assessment materials, learner evidence and relevant assessor and internal verifier documentation). OCN NI will make standardisation summary reports available and correspond directly with centres regarding event outcomes.

Administration

Registration

A centre must register learners within 20 working days of commencement of a qualification.

Certification

Certificates will be issued to centres within 20 working days of receipt of correctly completed results marksheets. It is the responsibility of the centre to ensure that certificates received from OCN NI are held securely and distributed to learners promptly and securely.

Charges

OCN NI publishes all up to date qualification fees in its Fees and Invoicing Policy document. Further information can be found on the centre login area of the OCN NI website.

Equality, Fairness and Inclusion

OCN NI has considered the requirements of equalities legislation in developing the specification for these qualifications. For further information and guidance relating to access to fair assessment and the OCN NI Reasonable Adjustments and Special Considerations policies, centres should refer to the OCN NI website.

Retention of Evidence

OCN NI has published guidance for centres on the retention of evidence. Details are provided in the OCN NI Centre Handbook and can be accessed via the OCN NI website.

OCN NI Level 1 Certificate in Engineering Skills
Qualification Number: 603/0043/7

Operational start date:	1 July 2016
Operational end date:	31 December 2027
Certification end date:	31 December 2028

Open College Network Northern Ireland (OCN NI)
Sirius House
10 Heron Road
Belfast
BT3 9LE

Phone: 028 90463990
Web: www.ocnni.org.uk