Qualification Specification for:

OCN NI Level 2 Certificate in Applied Science

- Qualification No: 603/1141/1

OCN NI Level 2 Extended Certificate in Applied Science

- Qualification No: 603/1142/3

Qualification Regulation Information

OCN NI Level 2 Certificate in Applied Science
Qualification Number: 603/1141/1

Operational start date: 01 March 2017
Operational end date: 31 July 2030
Certification end date: 31 July 2032

OCN NI Level 2 Extended Certificate in Applied Science
Qualification Number: 603/1142/3

Operational start date: 01 March 2017
Operational end date: 31 July 2030
Certification end date: 31 July 2032

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. Learners have up to 2 years after this date to complete the qualification and 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 qualifications:

→ **OCN NI Level 2 Certificate in Applied Science**
→ **OCN NI Level 2 Extended Certificate in Applied Science**

This specification sets out:

- Qualification features
- Centre requirements for delivering and assessing the qualifications
- The structure and content of the qualifications
- Unit Details
- OCN NI's quality assurance arrangements for the qualifications
- 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 Features

Sector Subject Area

2.1 Science

Aims and Objectives

The OCN NI Level 2 Certificate and the OCN NI Level 2 Extended Certificate in Applied Science qualifications will provide learners with the opportunity to develop their knowledge, skills and understanding in a range of key concepts within Biology, Chemistry and Physics and builds upon the Key Stage 3 science curriculum.

These qualifications were developed in conjunction with post-primary schools and offer an applied approach to science. They contain mandatory units in Biology, Chemistry and Physics and a range of optional units.

Relationship to Curriculum

These qualifications are for learners interested in applied science but who have not studied or achieved a GCSE in this area. They are intended to give learners the knowledge, understanding and skills that will enable them to progress to further learning or training in a science related area. They build upon the Northern Ireland Curriculum and meet the requirements of the Key Stage 4 Entitlement Framework.

These qualifications will allow learners to further develop the following skills:

Cross-Curricular Skills:

- communication
- using mathematics
- using ICT

Thinking Skills and Personal Capabilities:

- self-management
- working with others
- problem solving

Refer to Annexe A for mapping to units within these qualifications:

These qualifications take account of the findings of the Chief Inspector's Report (ETI 2012) and its focus on assessment, skills acquisition and the need for varied teaching approaches. These qualifications will provide learners with the opportunity to work independently and/or collaboratively with other learners. These qualifications and options for assessment will encourage learners to take more responsibility for their own learning development. They suit a wide range of learning styles as they encourage ongoing assessment and build on the learner's skills and capabilities at key stage 4.

Grading

Grading for these qualifications is pass/fail.

Qualification Target Group

These qualifications are targeted at individuals who are interested in developing their knowledge and understanding in applied science and who have not studied or achieved a GCSE in this area.

Progression Opportunities

These qualifications will enable learners to progress to further qualifications in applied science at a higher level or to study particular aspects of science in greater depth.

They also provide learners with the opportunity to acquire knowledge and skills that would support progression to employment within the Science Technology Engineering and Mathematics (STEM) sector.

NI Entitlement Framework

The Department of Education sets out the minimum number and range of courses a school should offer at Key Stage 4 and Post-16. The Entitlement Framework (EF) is the Post-14 curriculum which puts the needs of pupils first. It aims to provide access for pupils to a broad and balanced curriculum to enable them to reach their full potential no matter which school they attend or where they live.

The Entitlement Framework is designed to ensure equity and access to educational opportunities for all learners and enables schools to offer a broad and balanced, economically relevant curriculum to meet the needs and aspirations of all pupils. It will guarantee that all pupils have access to a minimum number of courses at Key Stage 4 and Post-16, of which at least one third must be general and one third applied.

The OCN NI Level 2 Certificate and the OCN NI Level 2 Extended Certificate in Applied Science have been approved by the Department of Education and added to the NIEFQAN file.

For further information visit: https://www.education-ni.gov.uk/articles/qualifications

Entry Requirements

There are no formal restrictions on entry. However, learners must be at least 14 years of age on completion of the qualification and receive appropriate advice and guidance on the suitability of the qualification. They should also have a level of skill required at Key Stage 3 in the following areas:

- Science
- Numeracy
- Literacy
- Communication

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. 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.

Particular attention should be given to:

- ensuring all practical work is conducted in a properly equipped and maintained laboratory
- ensuring learners are briefed about health, safety and security procedures including how to identify hazards and report accidents/injuries/dangerous occurrences
- ensuring levels of supervision are agreed and implemented where appropriate
- clear accident reporting procedures
- ensuring tools and equipment are in safe working order and learners are given proper instruction, training and protective clothing

Delivery Languages

These qualifications are available in English only at this time. If you wish to offer the qualifications 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 these qualifications 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
- Assessor
- Internal Verifier

*Note: A person cannot be an internal verifier for any evidence they have assessed.

Centres must ensure that staff delivering, assessing and internally verifying qualifications are both qualified to teach in Northern Ireland and competent to do so.

Tutors

Tutors delivering the qualification should be occupationally competent, qualified to at least two levels higher than the qualification and have a minimum of one year's experience in the subject area.

Assessors

OCN NI qualifications are assessed within the centre and are subject to OCN NI's quality assurance processes. Units are achieved through internally set, internally assessed, and internally verified evidence. The centre must agree an assessment plan with OCN NI to be given approval to deliver these qualifications.

Assessors must:

- be occupationally competent in the subject area and qualified to at least two levels higher than the qualification
- be eligible to teach in post primary schools in Northern Ireland
- 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 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 qualification.

Internal Verifiers must:

- be occupationally competent in the subject area
- be eligible to teach in post primary schools in Northern Ireland
- have direct or related relevant experience in assessment and verification
- attend OCN NI's internal verifier training

Internal verifiers are required to:

- support 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 2 Certificate in Applied Science

Learners must successfully complete all 3 mandatory units to achieve the qualification.

Total Credits: 17
Total Qualification Time (TQT) for this qualification: 170 hours
Guided Learning Hours (GLH) for this qualification: 136 hours

OCN NI Level 2 Extended Certificate in Applied Science

Learners must successfully complete all 3 mandatory units plus a minimum of 12 credits from any of the optional units.

Total Credits: 29
Total Qualification Time (TQT) for this qualification: 290 hours
Guided Learning Hours (GLH) for this qualification: 232 hours

Unit Reference Number	OCN NI Unit Code	Unit Title	Credit Value	GLH	TQT	Level
Mandatory Units						
A/615/5224	CBD698	Physical Processes	6	48	60	Two
F/615/5225	CBD695	Life Processes and Living Things	6	48	60	Two
J/615/5226	CBD696	Materials and their Chemical Properties	5	40	50	Two
Optional Units						
L/615/5227	CBD691	Chemical Analysis and Detection	6	48	60	Two
R/615/5228	CBD692	Exploring our Universe	3	24	30	Two
Y/615/5229	CBD693	Health Science	3	24	30	Two
L/615/5230	CBD697	Mathematics for Science	3	24	30	Two
R/615/5231	CBD699	Planning, Conducting and Reporting on Scientific Projects	3	24	30	Two

Y/615/5232	CBD700	The Environment and Human Influences	3	24	30	Two
D/615/5233	CBD701	The Living Body	3	24	30	Two

For reference
RQF Level 2 Descriptors

Knowledge descriptor (the holder…)	*Skills descriptor (the holder can…)*
Has knowledge and understanding of facts, procedures and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems. *Can interpret relevant information and ideas.* *Is aware of a range of information that is relevant to the area of study or work.*	*Select and use relevant cognitive and practical skills to complete well-defined, generally routine tasks and address straightforward problems.* *Identify, gather and use relevant information to inform actions.* *Identify how effective actions have been.*

Unit Details

Title	Physical Processes
Level	Two
Credit Value	6
Guided Learning Hours (GLH)	48
OCN NI Unit Code	CBD698
Unit Reference No	A/615/5224
Unit purpose and aim(s): This unit will enable the learner to understand fundamental physical processes.	
Learning Outcomes	**Assessment Criteria**
1. Understand energy transfer.	1.1. Describe different forms of energy. 1.2. Illustrate the law of conservation of energy using energy transfer diagrams. 1.3. Describe the movement of heat energy via the processes of conduction, convection, evaporation and radiation. 1.4. Describe how these processes relate to: a) energy conservation in the home b) the design of energy efficient systems c) choice of materials for different uses
2. Understand electricity.	2.1. Define electrical energy as energy possessed by moving electrons. 2.2. Draw circuit diagrams using common circuit symbols. 2.3. Construct basic series and parallel circuits. 2.4. Use appropriate meters to measure voltage and current in simple series and parallel circuits. 2.5. Illustrate how current and voltage behave in series and parallel circuits. 2.6. Describe what is meant by resistance in electrical circuits. 2.7. Define and apply Ohm's law to simple series and parallel circuits and use V=IR in simple calculations.
3. Understand forces and motion.	3.1. Describe the forces acting on an object. 3.2. Draw and interpret simple distance time graphs. 3.3. Illustrate the difference between velocity and speed. 3.4. Define the terms in the equation v = d/t and apply to simple calculations. 3.5. Describe acceleration in terms of rate of change of velocity. 3.6. Describe the effect of velocity on stopping distances.
4. Understand waves and radiation.	4.1. Illustrate, with practical examples, the properties of transverse and longitudinal waves. 4.2. Define and illustrate using practical examples, the following characteristics of transverse waves: a) frequency b) wavelength c) amplitude d) velocity

	4.3. Define the terms in the equation v=fλ and apply to simple calculations. 4.4. Illustrate the key areas of the electromagnetic spectrum and their uses in everyday life. 4.5. Describe the basic structure and properties of α, β and γ radiation. 4.6. Describe the diagnostic and therapeutic uses of radiation.

Assessment

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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 Assessor 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 Assessor notes/record Learner log/diary

Title	Life Processes and Living Things
Level	Two
Credit Value	6
Guided Learning Hours (GLH)	48
OCN NI Unit Code	CBD695
Unit Reference No	F/615/5225
Unit purpose and aim(s): This unit will enable the learner to understand the fundamentals of biological science.	

Learning Outcomes	Assessment Criteria
1. Understand cellular structure and functions.	1.1. Define key attributes of living organisms. 1.2. Describe the structure and function of typical animal, plant and bacterial cells including selected organelles. 1.3. Illustrate the structure and function of specialised cells including: a) sperm b) Palisade cell c) Red blood cell d) White Blood cell e) Root hair cell f) Nerve cell 1.4. Describe with examples, cellular organisation into tissues, organs and organ systems.
2. Know about transport of nutrients and gases in plants.	2.1. Compare and contrast the structure of flowering and non-flowering plants. 2.2. Illustrate the structure and function of stomata, guard cells, xylem and phloem and how they enable transportation of gases and nutrients in plants. 2.3. Describe the principles of diffusion, osmosis and active transport.
3. Understand genetics and inheritance.	3.1. Define a gene as a length of DNA coding for polypeptide or protein. 3.2. Describe with examples, genetic and environmental variation. 3.3. Describe the role of X and Y chromosomes in determining the sex of humans. 3.4. Describe the principles of natural and artificial selection.
4. Understand how organisms interact with the environment and each other.	4.1. Describe what is meant by the terms ecology and environment. 4.2. Illustrate how at least three plant and three animal species interact with their environment and other plants and animals. 4.3. Describe three examples of how human activity has impacted on ecological systems. 4.4. Describe energy flow through a simple food chain. 4.5. Describe the main elements and their relationships within a chosen food web.

5. Understand what enzymes are and their role in living organisms and industrial processes.	5.1 Describe how an enzyme acts as a biological catalyst. 5.2 Describe the lock and key model of enzyme action. 5.3 Summarise the factors that affect enzyme action including: a) substrates b) temperature c) pH 5.4 Describe the action of digestive enzymes in humans. 5.5 Describe industrial applications of enzymes.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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
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 Assessor notes/record Learner log/diary

Title	Materials and their Chemical Properties
Level	Two
Credit Value	5
Guided Learning Hours (GLH)	40
OCN NI Unit Code	CBD696
Unit Reference No	J/615/5226
Unit purpose and aim(s): This unit will enable the learner to understand materials and their chemical properties.	

Learning Outcomes	Assessment Criteria
1. Understand atomic structure and bonding.	1.1. Describe the structure of the atom in terms of relative atomic mass and charge. 1.2. Describe the difference between elements, compounds, molecules and mixtures. 1.3. Define and give an example of ionic bonding. 1.4. Define and give an example of covalent bonding.
2. Know about the periodic table.	2.1. Describe the general trends and patterns within the periodic table. 2.2. Identify common elements from their proton number or chemical symbol. 2.3. Describe the properties of elements of groups one and seven.
3. Understand the nature of chemistry and the main types of chemical reaction.	3.1. Describe the following reactions using word equations: a) magnesium oxidation b) metal + Acid c) thermal decomposition d) neutralisation e) assessing the pH of a solution 3.2. Illustrate, using experiments, the following reactions: a) magnesium oxidation b) metal + Acid c) thermal decomposition d) neutralisation e) assessing the pH of a solution
4. Understand rates of reaction.	4.1. Describe the progress of reaction in terms of kinetic theory. 4.2. Illustrate using experiments the factors affecting the rate of reaction including: a) temperature b) surface area c) concentration of a reactant d) use of a catalyst

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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	Learner notes/written work Learner log/diary Peer notes Record of observation

	to meet required skills outcomes OR A collection of documents containing work that shows the learner's progression through the course	Record of discussion
Practical demonstration/assignment	A practical demonstration of a skill/situation selected by the Assessor 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 Assessor notes/record Learner log/diary

Title	Chemical Analysis and Detection
Level	Two
Credit Value	6
Guided Learning Hours (GLH)	48
OCN NI Unit Code	CBD691
Unit Reference No	L/615/5227
Unit purpose and aim(s): This unit will enable the learner to be able to demonstrate a range of chemical analysis and detection techniques.	

Learning Outcomes	Assessment Criteria
1. Know the reagents and techniques used to analyse a variety of chemical compounds.	1.1. Define what is meant by organic and in-organic chemistry. 1.2. Carry out a risk assessment. 1.3. Carry out the following tests: a) named cations (Na, K, Li, Sr, Ca, Cu) using flame tests b) water using anhydrous Copper Sulphate c) gas tests to include H_2, O_2, CO_2, NH_3/HCl d) halide tests using Silver Nitrate solution e) metal carbonates using acids f) sulphates using Barium Chloride solution 1.4 Follow safe working practices.
2. Be able to classify chemical substances according to their pH.	2.1. Illustrate the pH scale and the position of strong and weak acids and alkalis and neutral substances. 2.2. Identify different pH indicators. 2.3. Illustrate the colours associated with different pH values when using Universal Indicator. 2.4. Test at least five chemical substances classifying their pH.
3. Be able to show how chromatography is used to analyse materials.	3.1. Illustrate how paper chromatography processes are used in analysis of materials.
4. Be able to detect different chemicals in unknown compounds.	4.1. Apply techniques to detect different chemicals in unknown compounds.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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 Assessor 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 Assessor notes/record Learner log/diary

Title	Exploring our Universe
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD692
Unit Reference No	R/615/5228
Unit purpose and aim(s): This unit will enable the learner to understand the development of astronomy and cosmology.	

Learning Outcomes	Assessment Criteria
1. Know the theories of the evolution of the universe.	1.1. Illustrate how astronomy and the theories of the universe have developed over time including the geocentric and heliocentric models of the universe. 1.2. Illustrate how the Big Bang theory describes the origin of the universe. 1.3. Describe the evidence of the big bang theory including: a) Red Shift/Doppler Effect b) cosmic microwave background radiation
2. Know the current theory on the structure of the universe.	2.1. Describe the importance of gravity in star and planet formation. 2.2. Illustrate the solar system. 2.3. Illustrate the position of planets, stars, solar systems, galaxies and the universe in terms of their relative size.
3. Be aware of the application of technology to astronomy and space exploration.	3.1. Research current technologies used in astronomy and space exploration outlining how they have increased human knowledge of the universe.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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
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 Assessor notes/record Learner log/diary

Title	Health Science
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD693
Unit Reference No	Y/615/5229
Unit purpose and aim(s): This unit will enable the learner to understand how individual and public health is maintained and improved.	

Learning Outcomes	Assessment Criteria
1. Know factors that contribute to healthy living.	1.1. Illustrate the key factors that contribute to a healthy lifestyle.
2. Know how preventative measures can be used to promote a healthier population.	2.1. Outline the role of health screening and describe in detail the impact of one screening programme on public health. 2.2. Describe how the following health initiatives may contribute to the improvement of public health: a) health education b) vaccination programmes c) hygiene and sanitation
3. Be aware of treatments used to combat illness.	3.1. Illustrate how antibiotics fight against specific bacteria. 3.2. Describe how gene therapy may be used to treat a chosen disease.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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
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 Assessor notes/record Learner log/diary

Title	Mathematics for Science
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD697
Unit Reference No	L/615/5230

Unit purpose and aim(s): This unit will enable the learner to use mathematics in a science context.

Learning Outcomes	Assessment Criteria
1. Be able to use mathematical tools in a scientific context.	1.1. Carry out mathematical scientific calculations to solve problems using a range of formulae including: a) V=IR b) v=fλ c) v=d/t d) a=Δv/t
2. Be able to collect and record scientific data.	2.1. Illustrate how accuracy of results are impacted by measuring instruments and techniques. 2.2. Collect and record different data, checking for errors and anomalous results. 2.3. Compare precision and accuracy in scientific measurements.
3. Be able to display and interpret scientific data.	3.1. Illustrate different ways of displaying data from experiments in tabular and graphical form.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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
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 Assessor notes/record Learner log/diary

Title	Planning, Conducting and Reporting on Scientific Projects
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD699
Unit Reference No	R/615/5231
Unit purpose and aim(s): This unit will enable the learner to be able to plan, conduct and report on a given scientific project.	

Learning Outcomes	Assessment Criteria
1. Be able to plan a practical scientific project.	1.1. Plan a practical scientific project to include: a) research b) hypothesis c) methodology d) risk assessment e) resources and equipment f) recording and presenting results
2. Be able to carry out practical scientific project.	2.1. Carry out practical scientific project and record and review results.
3. Be able to analyse and present results on practical scientific project.	3.1. Analyse results of scientific project and produce and present a report on findings and/or conclusions.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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 Assessor 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 Assessor notes/record Learner log/diary

Title	The Environment and Human Influences
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD700
Unit Reference No	Y/615/5232
Unit purpose and aim(s): This unit will enable the learner to understand how to monitor the impact of human activity on the environment.	

Learning Outcomes	Assessment Criteria
1. Know the structure and operation of ecosystems.	1.1. Describe the ecosystem functions and services of a chosen ecosystem.
2. Know how human activities influence the environment.	2.1. Illustrate the effect of the following factors on the environment: a) human population b) pollution c) waste disposal d) sustainable development e) climate change 2.2. Illustrate, with examples, how adverse effects on the environment may be minimised or reversed.
3. Be aware of the techniques used to monitor changes in the environment.	3.1. Monitor at least two ecosystems, using appropriate techniques, including: a) soil analysis b) water and air quality analysis
4. Know how environmental protection is regulated.	4.1. Describe why it is important to conserve the environment. 4.2. Summarise the role of relevant government and non-governmental bodies and agencies involved in environmental protection.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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 Assessor 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 Assessor notes/record Learner log/diary

Title	The Living Body
Level	Two
Credit Value	3
Guided Learning Hours (GLH)	24
OCN NI Unit Code	CBD701
Unit Reference No	D/615/5233
Unit purpose and aim(s): This unit will enable the learner to understand the key functions and systems of the living body.	

Learning Outcomes	Assessment Criteria
1. Understand body systems.	1.1. Describe the key structure and functions of the major organs comprising the following: a) digestive system b) respiratory system c) circulatory system d) renal system e) reproductive system
2. Understand nervous responses in animals.	2.1. Describe the role of the motor, sensory and relay neurons. 2.2. Describe with examples, voluntary and reflex nervous responses. 2.3. Illustrate the components of a simple reflex arc.

Assessment Guidance

Internally set, internally marked, externally moderated
100% coverage of the Assessment Criteria

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
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 Assessor notes/record Learner log/diary

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 qualification and to assure OCN NI of the maintenance of the integrity of the qualification.

The External Verifier will review the delivery and assessment of this qualification. 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 External Verification 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 the 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.

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 centre log-in area of the OCN NI website. www.ocnni.org.uk

Administration

Registration

A centre must register learners within 20 working days of commencement of this 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 log-in of the OCN NI website. www.ocnni.org.uk

Equality, Fairness and Inclusion

OCN NI has considered the requirements of equalities legislation in developing the specification for this qualification.

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.

ANNEXE A

Cross-Curricular Skills at Key Stage 4

The table below shows where units support the development of cross-curricular skills in:

- communication
- using mathematics
- using ICT

Assessors are encouraged, when delivering this qualification, to adopt teaching strategies that maximise the development of cross-curricular skills.

√ indicates opportunities for development

OCN NI Unit code:	**Cross-Curricular Skill**			
	Mandatory/ Optional Unit	Communication	Using Mathematics	Using ICT
CBD698	M	√	√	√
CBD695	M	√		
CBD696	M	√		
CBD691	O	√		
CBD692	O	√		
CBD693	O	√		
CBD697	O	√	√	√
CBD699	O	√	√	√
CBD700	O	√		
CBD701	O	√		

Thinking Skills and Personal Capabilities at Key Stage 4

The table below shows where units support the development of Thinking skills and Personal capabilities:

- problem solving
- self-management
- working with others

Assessors are encouraged, when delivering this qualification, to adopt teaching strategies that maximise the development of cross-curricular skills.

√ indicates opportunities for development

OCN NI Unit code:	**Thinking Skills and Personal Capabilities**			
	Mandatory/ Optional Unit	Problem Solving	Self-Management	Working with others
CBD698	M	√	√	√
CBD695	M		√	
CBD696	M	√	√	√
CBD691	O	√	√	√
CBD692	O		√	
CBD693	O		√	
CBD697	O	√	√	
CBD699	O	√	√	√
CBD700	O	√	√	√
CBD701	O		√	

OCN NI Level 2 Certificate in Applied Science
Qualification Number: 603/1141/1

Operational start date: 1 March 2017
Operational end date: 31 July 2030
Certification end date: 31 July 2032

OCN NI Level 2 Extended Certificate in Applied Science
Qualification Number: 603/1142/3

Operational start date: 1 March 2017
Operational end date: 31 July 2030
Certification end date: 31 July 2032

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

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