



## **Group Award Specification for:**

**HNC in Environmental Management at SCQF level 7**  
**HND in Environmental Management at SCQF level 8**

**Group Award Code HNC: GR7J 15**  
**Group Award Code HND: GR7K 16**

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## Contents

1	Introduction.....	1
2	Qualifications structure .....	3
	2.1 Structure.....	3
3	Aims of the qualifications .....	5
	3.1 General aims of the qualifications .....	5
	3.2 Specific aims of the qualifications .....	6
	3.3 Graded units.....	6
4	Recommended entry to the qualifications .....	7
	4.1 Core Skills entry profile .....	8
5	Additional benefits of the qualification in meeting employer needs.....	8
	5.1 Mapping of qualification aims to units .....	9
	5.2 Mapping of National Occupational Standards (NOS) .....	10
	5.3 Mapping of Core Skills development opportunities across the qualifications .....	15
	5.4 Assessment strategy for the qualifications .....	18
6	Guidance on approaches to delivery and assessment.....	21
	6.1 Sequencing/integration of units.....	21
	6.2 Recognition of prior learning .....	22
	6.2.1 Articulation and/or progression.....	23
	6.2.2 Credit transfer .....	23
	6.3 Opportunities for e-assessment .....	24
	6.4 Support materials.....	24
	6.5 Resource requirements.....	24
7	General information for centres .....	24
8	Glossary of terms and acronyms .....	24
9	General information for learners .....	27

# 1 Introduction

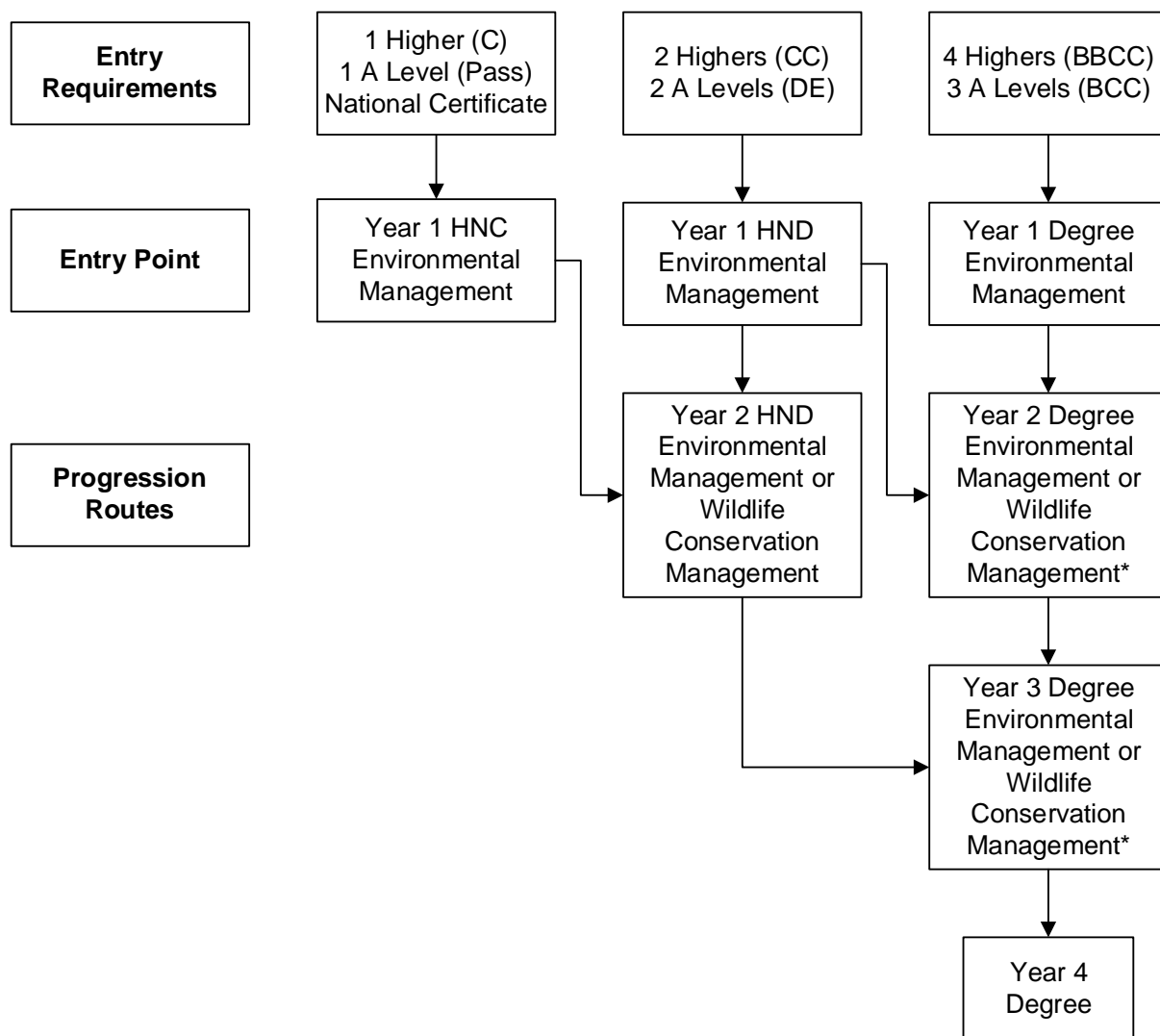
This document was previously known as the arrangements document. The purpose of this document is to:

- ◆ Assist centres to implement, deliver and manage the qualification.
- ◆ Provide a guide for new staff involved in offering the qualification.
- ◆ Inform course managers teaching staff, assessors, learners, employers and HEIs of the aims and purpose of the qualification.
- ◆ Provide details of the range of learners the qualification is suitable for and progression opportunities.

The HNC/HND in Environmental Management (EM) has been developed to provide an up to date and vocationally relevant replacement for the Environmental Management sector to the existing HNC in Countryside and Environmental Management, and HND in Environmental Resource Management. The relatively minor change to the HND title (from Environmental Resource Management to Environmental Management) provides a more accurate reflection of the range of module framework of delivery, and range of contexts in which this HNC and HND qualifications could be delivered. The entry and exit route for this award is illustrated below in Figure 1.1.

Successful completion of the HNC/HND will provide learners with the opportunity to seek employment in the broader Environmental Management Sector; for instance, as a Rural Development Assistant, Environmental Field Centre Assistant, Environmental Management or Sustainability Assistant (i.e. Nairns/RBS/IKEA), Waste and Recycling Assistant, National Park Officer, Assistant Woodland Ranger, Rural Business Advisor, or to progress to a range of degree level provision. As illustrated in Figure 1.1, the HNC supports progression into Year 2 of the HND in EM. The HND in EM supports progression onto the degree in EM or, with the provision of bridging learning, onto the linked degree programme in Wildlife and Conservation Management (WCM), and would also allow external transfer onto relevant HND/degree programmes across a range of HE Institutes.

Application for accreditation is being undertaken with the Chartered Institute for Water and Environmental Management (CIWEM) for the Environmental Management Programme.



\* Students who enroll for the degree at year 1/2 complete the HNC and HND alongside these students

\*\* Students progressing on to the Wildlife and Conservation Management HND/Degree will require provision of bridging learning materials.

Figure 1.1: Learner entry and exit potential for the HNC/HND Environmental Management. Progression within SRUC from HND could be onto the EM or WCM Programme Frameworks with bridging learning provided as necessary to include modules such as *Habitat Management, Ecological Surveying, and Interpretation and Visitor Management Techniques*.

## 2 Qualifications structure

This HNC group award is made up of a total 12 SQA unit credits. To achieve the HNC EM learners must complete the mandatory modules under the award framework together with optional modules as necessary amounting to the required 12 SQA unit credits. To allow progression to the HND, learners must achieve a further 3 SQA unit credits from the optional elective choices. The framework offers a mandatory 2 SQA unit credit module. A mapping of Core Skills development opportunities is available in Section 5.3.

### 2.1 Structure

The HNC in Environmental Management (HNC EM) at SCQF level 7 requires the learner to achieve 96 SCQF credit points to gain the award (12 SQA credits), composed of 11 mandatory unit credits, together with one optional unit credit.

<b>HNC Environmental Management at SCQF level 7</b>					
<b>Mandatory units</b>					
<b>88 SCQF credit points (11 SQA unit credits) required</b>					
<b>4 code</b>	<b>2 code</b>	<b>Unit title</b>	<b>SQA credit</b>	<b>SCQF credit points</b>	<b>SCQF level</b>
J4R7	34	Biodiversity Conservation	1	8	7
J4RA	34	Ecology and Ecosystems	1	8	7
J4RD	34	Geology and Geomorphology	1	8	7
HV9V	34	Rural Land Use	1	8	7
J4FC	34	Environmental Awareness	1	8	7
J509	34	Environmental Management Graded Unit 1	1	8	7
J4RF	34	Planning and Development: An Introduction	2	16	7
J4RH	34	Professional Software Applications	1	8	7
J4RG	34	Pollution Management and Resource Recovery	1	8	7
J462	34	Economic Issues: An Introduction	1	8	7
<b>Optional units</b>					
<b>8 SCQF credit points (1 SQA unit credit) required</b>					
<b>4 code</b>	<b>2 code</b>	<b>Unit title</b>	<b>SQA credit</b>	<b>SCQF credit points</b>	<b>SCQF level</b>
J4RJ	34	Soil Management	1	8	7
J1BV	34	Business Management: An Introduction	1	8	7
F2EH	35	Transport Towards a Sustainable Future	1	8	8
F3X2	34	Classification and Identification of Organisms	1	8	7
J4R8	34	Biology: An Introduction	1	8	7

The HND in Environmental Management at SCQF level 8 requires the learner to achieve 240 SCQF credit points, consisting of 176 SCQF credit points (22 SQA unit credits) from the mandatory section and the remaining 64 SCQF credit points from the optional sections. The mandatory section contains 80 SCQF credit points at SCQF level 8, and includes an 8 SCQF Point SCQF level 7 (Graded Unit 1) and two 8 SCQF point SCQF level 8 (Graded Units 2 and 3).

<b>HND Environmental Management Mandatory Units</b>					
<b>4 code</b>	<b>2 code</b>	<b>Unit title</b>	<b>SQA credit</b>	<b>SCQF credit points</b>	<b>SCQF level</b>
J4R7	34	Biodiversity Conservation	1	8	7
J4R8	34	Biology: An Introduction	1	8	7
J4RA	34	Ecology and Ecosystems	1	8	7
J4RD	34	Geology and Geomorphology	1	8	7
J4RH	34	Professional Software Applications	1	8	7
J462	34	Economic Issues: An Introduction	1	8	7
HV9V	34	Rural Land Use	1	8	7
J4RC	34	Environmental Awareness	1	8	7
J4RG	34	Pollution Management and Resource Recovery	1	8	7
J4RF	34	Planning and Development: An Introduction	2	16	7
J509	34	Environmental Management Graded Unit 1	1	8	7
J4RV	35	Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science	2	16	8
HV9X	35	Global Climate Systems	1	8	8
F6CY	35	Resource Economics	1	8	8
J4S2	35	Sustainable Resource Recovery and Pollution Control	1	8	8
J4RT	35	Freshwater Environments: Management and Protection	1	8	8
J4RS	35	Environmental Management Systems	1	8	8
F5T6	35	Monitoring and Analytical Methods for Environmental Science	1	8	8
J50A	35	Environmental Management Graded Unit 2	1	8	8
J50B	35	Environmental Management Graded Unit 3	1	8	8

HND Environmental Management Optional Units					
4 code	2 code	Unit title	SQA credit	SCQF credit points	SCQF level
F3X2	34	Classification and Identification of Organisms	1	8	7
J4RY	35	Habitat Management	1	8	8
J4S4	35	Terrestrial Ecology	1	8	8
J1BV	34	Business Management: An Introduction	1	8	7
J4RM	35	Ecological Surveying	1	8	8
F6BL	35	Energy and the Environment	1	8	8
F6CS	35	Reclamation of Degraded Land	1	8	8
J4S1	35	Marine Environments: Management and Protection	1	8	8
F566	35	Tourism: Sustainability and Rural Communities	1	8	8
H92V	35	Environmental Chemistry: Theory and Laboratory Skills	1	8	8
DE3R	34	Personal Development Planning	1	8	7
J4RJ	34	Soil Management	1	8	7
F6BK	35	Rural Socio-Economic Development	1	8	8
F402	35	Forestry: Woodland Conservation	1	8	8
J4RR	35	Education for Sustainability: Principles and Practice	1	8	8
F2G9	35	Farm Scale Renewable Energy	1	8	8

### 3 Aims of the qualifications

The principal aim of the HNC in Environmental Management (EM) at SCQF level 7 is to:

Develop learners' knowledge, understanding and skills in relevant environmental sciences and environmental sectors in order to apply these in the protection and sustainable use of the environment and natural resources. Produce learners who are confident communicators, who have a good understanding of the issues within the field of environmental management, and who have the transferable skills to meet emergent challenges in the industry.

The principal aim of the HND in Environmental Management at SCQF level 8 is to:

Provide individuals with both generic and specific knowledge and understanding, competencies, skills and current/emergent technologies in environmental management to enable them to either to continue to progress academically, or into a career in environmental management with more managerial/team management responsibilities.

#### 3.1 General aims of the qualifications

- 1 To provide educational and industry relevant skills-based training for potential and current employees in the environment and natural resource management industries.
- 2 To enable an articulated progression route to higher level of learning from National Certificate to Honors degree.
- 3 To raise levels of awareness, skills and knowledge and encourage a holistic approach to sustainable environmental management.
- 4 To develop transferable skills that enable learners to perform and communicate effectively in the workplace.
- 5 To promote adaptability in the learners approach to environmental management.

## 3.2 Specific aims of the qualifications

- 6 Develop awareness of new and current theory in the fields of environmental management and sustainability to provide understanding enabling management of environmental pressures and maintenance of environmental resilience.
- 7 Define current principles and practice of sustainable development from environmental, ecological, and socio-economic perspectives.
- 8 Apply industry recognised theoretical and empirical methods to address key national environmental issues.
- 9 Understand the relationship between natural and anthropogenic systems, and identify the impacts of human activity on the environment and its management.
- 10 Execute a range of communication skills to collaborate with a diverse range of rural stakeholders and environmental managers.
- 11 Participate effectively in environmental management teams to test current policy and environmental management practices.
- 12 Undertake environmental management projects, with data collection and analysis, to assess technical or socio-economic environmental management questions.

## 3.3 Graded units

The purpose of the graded units is to assess the learner's ability to integrate and apply the knowledge and/or skills gained in the individual mandatory units, to demonstrate that they have achieved the principal aims of the group award, and to grade the learner achievement. The graded units will be assessed and a grade of A, B or C will be awarded.

The HND in Environmental Management contains the following graded units:

- 1 Graded Unit 1 is an investigation that takes the form of a project-based case study.
- 2 Graded Unit 2 takes the form of a project-based investigation.
- 3 Graded Unit 3 is an exam based unit.

The project graded units will develop the learners' planning, practical, scientific, research and reporting skills. The examination-based graded unit will help prepare learners for degree-level studies.

The three graded units were chosen to develop and test the skills that the learners have acquired during their studies and their ability to integrate the material from the different units. In Year 1, all the learners are asked to carry out a case study. For this they will be given some information relating to either a countryside or urban green space site, and they will be asked to develop proposals based on this information plus any additional material that they are able to gather during a site visit or online. They are given clear written guidance on how to complete this task and will be supported through the assessment by means of workshop sessions and additional site visits as required. As this is the first time that they have been asked to carry out such a complex task, and complete a formal report, it is important that the requirements of the assessment are appropriate and clear.

For the HND there are two graded units with one being an investigation and the second an examination. The investigation follows similar lines to the Year 1 unit but requires much more of the learners in terms of gathering information and data, analysing this and drawing more in-depth conclusions. At this level, they will be expected to utilise an even wider range of knowledge and to draw together information from the core units from the first two years.



The examination in the second Year 2 graded unit will include both extended responses and essay question (s) that will test their ability to produce well — structured work under the pressure of a time limit. The questions will require the learners to bring together the knowledge and skills that they have acquired across the two years of study, and to demonstrate an understanding of a range of aspects of environmental management.

These graded units were chosen to reflect the abilities that would be expected of someone working in the environmental management industry. Employees have to bring together a range of different subject areas in order to produce well thought out recommendations regarding both the management of countryside sites for wildlife and conservation, and the environmental management of these sites with regards environmental sustainability and sustainable resource use. They also have to demonstrate an ability to recognise the potential conflicts that arise between different users and to arrive at acceptable compromises. It is considered that the type of graded units chosen will fully test these abilities.

## 4 Recommended entry to the qualifications

Entry to this qualification is at the discretion of the center. The following information on prior knowledge, skills, experience or qualifications that provide suitable preparation for this qualification has been provided by the Qualification Design Team as guidance only.

Learners would benefit from having attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ Two SQA Highers (SCQF level 6) together with three National 5s (to include one science or geography)
- ◆ An appropriate group of National Units at SCQF level 5/6. These may include: *Geography: Human Environments* (SCQF level 5); *Geography: Physical Environments* (SCQF level 5/6); *Environmental Science: Earths Resources* (SCQF level 5/6); *Environmental Science: Sustainability* (SCQF level 5/6), and *Environmental Science: Living Environment* (SCQF level 5/6)
- ◆ Appropriate vocational qualification such as an SVQ/NVQ at level 3 in a relevant subject, for example; SVQ Environmental Conservation
- ◆ Other combinations of National Qualifications, vocational qualifications and qualifications from other awarding bodies may be acceptable at equivalent SCQF levels
- ◆ Learners with suitable (paid or unpaid) work experience and strong references may also be considered for HNC level entry (interview/personal statement required)

## 4.1 Core Skills entry profile

The Core Skill entry profile provides a summary of the associated assessment activities that exemplify why a particular level has been recommended for this qualification. The information would be used to identify if additional learning support needs to be put in place for learners whose Core Skills profile is below the recommended entry level or whether learners should be encouraged to do an alternative level or learning programme.

<b>Core Skill</b>	<b>Recommended SCQF entry profile</b>	<b>Associated assessment activities</b>
Communication	SCQF level 5	Reports; extended response questions; presentations
Numeracy	SCQF level 4	Statistics and analysis, scientific calculations, graphical presentation of findings
Information and Communication Technology (ICT)	SCQF level 5	Collecting, collating and presenting evidence/data; presentations/reports.
Problem Solving	SCQF level 4	Practical activities in real life environments/project work
Working with Others	SCQF level 4	Group working; practical work

## 5 Additional benefits of the qualification in meeting employer needs

This qualification was designed to meet a specific purpose and what follows are details on how that purpose has been met through mapping of the units to the aims of the qualification. Through meeting the aims, additional value has been achieved by linking the unit standards with those defined in national occupational standards and/or trade/professional body requirements. In addition, significant opportunities exist for learners to develop the more generic skill, known as Core Skills through doing this qualification.

## 5.1 Mapping of qualification aims to units

Code	Unit title	General aims					Specific aims						
		1	2	3	4	5	6	7	8	9	10	11	12
J4R7 34	Biodiversity Conservation	X	X	X		X	X	X		X		X	X
J4R8 34	Biology: An Introduction	X	X			X	X						
J4RD 34	Geology and Geomorphology	X	X	X			X		X	X			
J4RH 34	Professional Software Applications	X	X	X	X				X		X		X
HV9V 34	Rural Land Use	X	X	X		X	X	X				X	X
J4RC 34	Environmental Awareness	X	X	X		X	X	X	X	X		X	X
J4RG 34	Pollution Management and Resource Recovery	X	X	X			X	X	X	X			X
J4RF 34	Planning and Development: An Introduction	X	X	X		X	X	X			X	X	X
J4RA 34	Ecology and Ecosystems	X	X				X	X	X	X	X	X	X
J462 34	Economic Issues: An Introduction	X	X	X				X				X	X
J4RS 35	Environmental Management Systems	X	X	X		X	X	X	X	X		X	X
J4S2 35	Sustainable Resource Management and Pollution Control	X	X	X	X	X	X	X	X	X		X	X
J4RV 35	Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science	X	X	X	X	X	X		X	X	X	X	X
F6CY 35	Resource Economics	X	X	X	X		X	X					X
J4RT 35	Freshwater Environments: Management and Protection	X	X	X		X	X		X	X	X	X	X
HV9X 35	Global Climate Systems	X	X	X			X	X	X	X		X	X
H92V 35	Environmental Chemistry: Theory and Laboratory Skills	X	X	X			X		X		X	X	X
F3X2 34	Classification and Identification of Organisms	X	X								X	X	X
J4RJ 34	Soil Management	X	X	X			X		X	X		X	X
J1BV 34	Business Management: An Introduction	X	X		X	X	X					X	X

Code	Unit title	General aims					Specific aims							
		1	2	3	4	5	6	7	8	9	10	11	12	
F6BK 35	Rural Socio-Economic Development	X	X	X	X	X	X	X				X	X	
DE3R 34	Personal Development Planning	X	X		X						X		X	
F6CS 35	Reclamation of Degraded Land	X	X	X		X	X		X	X		X	X	
F6BL 35	Energy and the Environment	X	X	X			X	X				X	X	
F2EH 35	Transport Towards a Sustainable Future	X	X	X	X	X	X	X		X		X	X	
F566 35	Sustainable Tourism and Rural Communities	X	X	X	X	X		X			X	X	X	
J4S4 35	Terrestrial Ecology	X	X	X		X	X		X	X	X	X	X	
F3SM 35	Habitat Management	X	X	X		X	X		X	X	X	X	X	
J4RR 35	Education for Sustainability: Principles and Practice	X	X	X	X	X	X	X			X	X	X	
J4S1 35	Marine Environments: Management and Protection	X	X			X	X		X			X	X	
F2G9 35	Farm Scale Renewable Energy	X	X			X						X	X	
F433 35	Ecological Surveying	X	X		X				X		X	X	X	
F402 35	Forestry: Woodland Conservation	X	X	X		X	X		X	X	X	X	X	

## 5.2 Mapping of National Occupational Standards (NOS)

Code	Unit title	National Occupational Standard																			
		CS2	CS27	CS36	CS39	CS40	CS42	CS70	EM3	EM7	EM15	EnC1	EnC3	EnC4	EnC5	EnC7	EnC8	EnC9	EnC15	EnC33	H69
J4R7 34	Biodiversity Conservation					X					X						X	X			
J4R8 34	Biology: An Introduction																X			X	
J4RD 34	Geology and Geomorphology	X										X									
J4RH 34	Professional Software Applications				X								X		X						

Code	Unit title	National Occupational Standard																			
		CS2	CS27	CS36	CS39	CS40	CS42	CS70	EM3	EM7	EM15	EnC1	EnC3	EnC4	EnC5	EnC7	EnC8	EnC9	EnC15	EnC33	H69
HV9V34	Rural Land Use			X	X	X	X	X				X	X						X		
J4RC34	Environmental Awareness			X				X	X	X											
J4RG34	Pollution Management and Resource Recovery		X		X					X	X										
J4RF34	Planning and Development: An Introduction					X	X	X				X							X		
J4RA34	Ecology and Ecosystems	X		X	X								X	X			X	X		X	
J46234	Economic Issues: An Introduction																				
J4RS35	Environmental Management Systems		X			X			X	X	X										
J4S235	Sustainable Resource Management and Pollution Control	X	X		X				X		X		X								
F6CY35	Resource Economics										X										
J4RT35	Freshwater Environments: Management and Protection	X		X	X	X	X				X	X	X	X			X		X	X	
HV9X35	Global Climate Systems								X		X				X				X		

Code	Unit title	National Occupational Standard																			
		CS2	CS27	CS36	CS39	CS40	CS42	CS70	EM3	EM7	EM15	EnC1	EnC3	EnC4	EnC5	EnC7	EnC8	EnC9	EnC15	EnC33	H69
H92V 35	Environmental Chemistry: An Introduction	X			X		X						X		X						
F3X2 34	Classification and Identification of Organisms	X		X	X							X	X	X			X			X	
J4RJ 34	Soil Management			X	X		X						X								X
J1BV 34	Business Management: An Introduction		X				X	X	X												
F6BK 35	Rural Socio-Economic Development					X	X	X				X									
DE3R 34	Personal Development Planning	X				X									X						
J4RV 35	Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science				X	X	X	X					X	X	X	X					
F6CS 35	Reclamation of Degraded Land	X			X						X		X					X			X
F6BL 35	Energy and the Environment								X	X	X										
F2EH 35	Transport Towards a Sustainable Future							X	X	X	X										

Code	Unit title	National Occupational Standard																			
		CS2	CS27	CS36	CS39	CS40	CS42	CS70	EM3	EM7	EM15	EnC1	EnC3	EnC4	EnC5	EnC7	EnC8	EnC9	EnC15	EnC33	H69
J4S3 35	Sustainable Tourism and Rural Communities	X	X			X		X			X	X									
J4S4 35	Terrestrial Ecology	X		X	X	X	X						X	X			X	X	X	X	
F3SM 35	Habitat Management	X		X	X	X	X						X	X			X	X	X	X	
J4RR 35	Education for Sustainability: Principles and Practice		X						X		X	X									
J4S1 35	Marine Environments: Management and Protection						X				X						X	X	X	X	
F2G9 35	Farm Scale Renewable Energy							X			X										
F433 35	Ecological Surveying	X		X	X		X						X	X	X		X	X		X	
F402 35	Forestry: Woodland Conservation	X		X	X	X	X						X	X			X	X	X	X	
F5T6 35	Monitoring and Analytical Methods for Environmental Science	X	X			X	X		X	X			X	X	X			X			

<b>NOS unit key</b>	
<b>SSC Code</b>	<b>Title</b>
CS2	Monitor and maintain health, safety and security
CS27	Develop and Implement Plans to reduce and manage waste
CS36	Carry out work to create or manage habitats
CS39	Conduct site assessments in the land-based and environmental sector
CS40	Evaluate options for the development of sites in the land-based and environmental sector
CS42	Manage sites in the land-based and environmental sector
CS70	Identify and assess rural land use
Em15	Develop an awareness of environmental good practice
EnC1	Promote responsible public use of outdoor sites
EnC3	Survey and report on the condition of the environment
EnC4	Conduct field surveys
EnC5	Analyse data from field surveys and report on findings
EnC7	Use geospatial data in environmental surveys
EnC8 and EnC33	Identify species
EnC9	Monitor and Report on Environmental Change
EnC15	Identify areas at risk of flooding
EnC33	Apply Species Identification Skills
EM7	Environmental Auditing
H69	Assess and improve the condition of the soil on land-based sites



### 5.3 Mapping of Core Skills development opportunities across the qualifications

Unit code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
J4R7 34	Biodiversity Conservation	X	X	X	X	X			X	X	X		
J4R8 34	Biology: An Introduction	X	X	X									
J4RD 34	Geology and Geomorphology	X	X	X					X	X	X	X	
J4RH 34	Professional Software Applications				X	X	SCQF level 6	SCQF level 6	X			X	
HV9V 34	Rural Land Use	X	X	X			X	X	X	X			
J4RC 34	Environmental Awareness	X	X	X					X				
J4RG 34	Pollution Management and Resource Recovery	X	X	X					X	X		X	
J4RF 34	Planning and Development: An Introduction	X	X	X					X	X		X	
J4RA 34	Ecology and Ecosystems						X	X	X	X	X	X	
J462 34	Economic Issues: An Introduction	X	X	X					X	X	X		
J4RS 35	Environmental Management Systems	X	X	X					X	X	X		
J4S2 35	Sustainable Resource Management and Pollution Control	X	X	X					X	X	X		

Unit code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
F6CY 35	Resource Economics	X	X	X					X	X	X		
J4RT 35	Freshwater Environments: Management and Protection	X	X	X									
HV9X 35	Global Climate Systems	X	X	X	X	X			X	X	X	X	
H92V 35	Environmental Chemistry: Theory and Laboratory Skills	X	X			X	X		X				
F3X2 34	Classification and Identification of Organisms	X	X		X	X	X		X				
J4RJ 34	Soil Management	X	X	X									
J4RT 35	Freshwater Environments: Management and Protection	X	X	X	X	X			X	X	X		
F1RJ 34	Business Management: An Introduction	X	X	X	X	X			X	X	X		
F6BK 35	Rural Socio-Economic Development	X	X	X								X	X
DF4E 34	Developing Skills for Personal Effectiveness					X	X		SCQF level 6	SCQF level 6	SCQF level 6		

Unit code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
J4RV 35	Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science				X	X	X	X	X	X	X	X	X
F6CS 35	Reclamation of Degraded Land	X	X	X					X	X	X		
F6BL 35	Energy and the Environment	X	X	X	X	X							
F2EH 35	Transport Towards a Sustainable Future	X	X	X								X	X
J4S3 35	Sustainable Tourism and Rural Communities	X	X	X			X	X					
J4S4 35	Terrestrial Ecology	X	X		X	X	X	X	X	X	X	X	X
F3SM 35	Habitat Management	X	X		X	X	X	X	X	X	X	X	
J4RR 35	Education for Sustainability: Principles and Practice	X	X	X								X	X
J4S1 35	Marine Environments: Management and Protection	X	X	X									
F2G9 35	Farm Scale Renewable Energy	X	X	X	X	X							
F433 35	Ecological Surveying	X	X	X					X	X	X		
F402 35	Forestry: Woodland Conservation	X	X		X	X	X	X	X	X	X	X	

## 5.4 Assessment strategy for the qualifications

Unit code	Unit	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
J4R7 34	Biodiversity Conservation	Case study				
J4R8 34	Biology: An Introduction	Short answer question (test)		Extended response question		
J4RD 34	Geology and Geomorphology	Investigation				
J4RH 34	Professional Software Applications	Collaborative review of search strategies		Practical applications demonstration		
HV9V 34	Rural Land Use	Report	Restricted response questions			
J4RC 34	Environmental Awareness	Case study/questions	Report/personal action plan	Case study/questions		
J4RG 34	Pollution Management and Resource Recovery	Short/extended response questions	Case study	Short/extended response questions	Case study	
J4RF 34	Planning and Development: An Introduction	Presentation	Restricted response questions	Planning application review	EIA review	
J4RA 34	Ecology and Ecosystems	Short answer question (test)	Practical and report			
J462 34	Economic Issues: An Introduction	Extended response questions		Investigation		
J4RS 35	Environmental Management Systems	Report				
J4S2 35	Sustainable Resource Management and Pollution Control	Open-book extended response questions				

Unit code	Unit	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
J4RV 35	Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science	Restricted/extended response questions	Report	Restricted/extended response questions	Report	Report
F6CY 35	Resource Economics	Case study presentation	Extended response question	Essay/report		
J4RT 35	Freshwater Environments: Management and Protection	Case study		Short/extended response questions		
HV9X 35	Global Climate Systems	Restricted/extended response questions		Portfolio	Report	
H92V 35	Environmental Chemistry: Theory and Laboratory Skills	Restricted/extended response questions				
F3X2 34	Classification and Identification of Organisms	Open-book assessment	Practical report			
F3X2 34	Classification and Identification of Organisms	Portfolio				
J4RJ 34	Soil Management	Short answer questions (test)	Case study			
J1BV 34	Business Management: An Introduction	Case study report/wiki/blog				
F6BK 35	Rural Socio-Economic Development	Case study report				

Unit code	Unit	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
DE3R 34	Personal Development Planning	Action plan	Case study	Action plan		
F6CS 35	Reclamation of Degraded Land	Case study report				
F6BL 35	Energy and the Environment	Restricted/extended response questions		Case study		
F2EH 35	Transport Towards a Sustainable Future	Restricted/extended response questions		Report		
J4S3 35	Sustainable Tourism and Rural Communities	Restricted response questions	Case study			
J4S4 35	Terrestrial Ecology	Restricted/extended response questions			Investigative report	
F3SM 35	Habitat Management	Investigative log book				
J4RR 35	Education for Sustainability: Principles and Practice	Report/portfolio		Presentation		
J4S1 35	Marine Environments: Management and Protection	Restricted/extended response questions	Case study	Restricted/extended response questions		
F402 35	Forestry: Woodland Conservation	Optional site plan				
F2G9 35	Farm Scale Renewable Energy	Restricted/extended response questions		Report		
F433 35	Ecological Surveying	Assessment portfolio — written or oral presentation				

## 6 Guidance on approaches to delivery and assessment

This qualification provides learners with the appropriate knowledge, skills and experience for employment or further study in the environmental sector and is based on a sound foundation of theoretical knowledge, which is reflected in the applied nature of the Units studied and the overall award. The qualification builds on the HNC Environmental Management framework, implemented as year one of this qualification resulting in learners having, and developing, a wide knowledge over a range of relevant issues. Such issues include land use strategies, environmental issues and impacts, sustainability and environmental resource management, environmental assessment methods, relevant legislation, policy, risk, and health and safety issues. These issues are explored in both a classroom context but also using real-life case studies, laboratory and field analysis, and frequent site visits. This range of knowledge builds a strong theoretical and applied foundation, and enables learners to take a flexible and holistic approach to issues.

The HND in Environmental Management is designed to develop learner's knowledge and skills in relevant environmental sciences and environmental management sectors, along with the ability to apply these in sustainable management and use of environmental resources. Learners develop knowledge in a range of areas vital to environmental management, and learn how to monitor and manage the environment in a holistic and sustainable manner. The HND combines theoretical knowledge with practical and applied skills, which are mainly delivered through site visits, for example to nature reserves, environmental monitoring sites, and industrial sites. These site visits allow learners to see appropriate techniques and practices in action, and add to their knowledge and awareness of actual workplace situations and the industry overall. Upon completion of the HND, learners should have understanding of human interactions with the environment, management of environmental resources, and skills in monitoring, evaluation and remediation.

### 6.1 Sequencing/integration of units

Delivery of this qualification would normally extend over two years of full-time study, but can be taken on a part-time basis over an extended period. It will be delivered by means of lectures, practical and laboratory classes, tutorials, and field or industrial visits. After a first year foundation covering a range of environmental science and resource management issues, learners will further develop knowledge and skills in the area of use of environmental resources, environmental issues, and impacts and management, focusing on the practical understanding and management or mitigation of such impacts. Throughout the qualification learners will have the opportunity to further develop awareness of environmental management issues and practices. Learners will have the opportunity to develop the Core Skills of *Communication, Numeracy, Information Technology, Problem Solving and Working with Others*. The inclusion of a broad range of options from across the environmental and management spectrum allows the development of abilities and interests leading to preferred progression or career paths. Assessments may take the form of open /closed-book tests (in class or e-assessment), practical assessments, assignments, reports, presentations and projects. The overall assessment strategy is to encourage a holistic approach to assessment, which means that the assessment of some outcomes within units, or across some units, may be combined.

There are three graded units within the HND Award. Graded Unit 1 is undertaken in the first year of the HND. This will take the form of an investigation in which learners will apply the knowledge, understanding and practical skills that they have developed throughout the first-year units. This graded unit is at SCQF level 7 and is worth 1 HN credit.

In the second year of the HND learners will undertake two graded units at SCQF level 8, each worth one HN credit. One will be a three-hour examination, to assess and grade ability to retain and integrate knowledge and understanding. The other will be an investigation, which will assess the learner's ability to apply knowledge, understanding and practical skills to research a particular topic.

There is no prescribed sequence for delivery of units, although centres should try to deliver units that form part of the HNC or HND Graded Units as early as possible to allow learners the most time to prepare.

Individual units contain the required knowledge and skills if delivered on a stand-alone basis, as a result across an overall group award there is likely to be duplication of content.

Centres delivering the HNC and/or HND should minimise duplication of assessment (or assessment of overlapping outcomes) where possible, and effort should be made to identify cross-over between outcomes and units and plan assessments to take account of this. The use of projects and/or a portfolio approach to producing evidence can be helpful in reducing over-assessment (see previous section) and can help learners to integrate the knowledge and skills they have developed.

While not intended to be exhaustive the table below identifies opportunities for integration of assessment across units:

Unit title	Integration opportunity
Energy and the Environment	Data Collection and Handling Methods
Classification and Identification of Living Organisms	Ecology and Ecosystems
Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science	Monitoring and Analytical Methods for Environmental Science
Resource Economics	Rural Socio-Economic Development

## 6.2 Recognition of prior learning

SQA recognises that learners gain knowledge and skills acquired through formal, non-formal and informal learning contexts.

In some instances, a full group award may be achieved through the recognition of prior learning. However, it is unlikely that a learner would have the appropriate prior learning and experience to meet all the requirements of a full group award.

The recognition of prior learning may **not** be used as a method of assessing in the following types of units and assessments:

- ◆ HN Graded Units
- ◆ Course and/or external assessments
- ◆ Other integrative assessment units (which may or not be graded)
- ◆ Certain types of assessment instruments where the standard may be compromised by not using the same assessment method outlined in the unit
- ◆ Where there is an existing requirement for a licence to practice
- ◆ Where there are specific health and safety requirements
- ◆ Where there are regulatory, professional or other statutory requirements
- ◆ Where otherwise specified in an assessment strategy

More information and guidance on the *Recognition of Prior Learning* (RPL) may be found on our website [www.sqa.org.uk](http://www.sqa.org.uk).



The following sub-sections outline how existing SQA unit(s) may contribute to this group award. Additionally, they also outline how this group award may be recognised for professional and articulation purposes.

## 6.2.1 Articulation and/or progression

The HND Environmental Management is designed to articulate primarily with year 3 of the BSc Environmental Management programme. This articulation route may enable entry to a much wider range of possible career pathways, such as:

- ◆ Research Assistant
- ◆ Environmental Officer
- ◆ Countryside Manager
- ◆ Energy Auditor
- ◆ Environmental Recruitment Advisor
- ◆ Local Authority Development Officer
- ◆ Rural Business Planner/Advisor
- ◆ Farm Business Assessor
- ◆ Environmental Consultancy
- ◆ Further studies (BSc/MSc)

There are other progression routes to environmental management qualifications at other Higher Education establishments, which further broaden possible career pathways. Learners are advised to liaise directly with the HE establishments prior to each year's intake of learners as unit credits that count towards entry requirements can vary and applications will be considered on an individual basis.

## 6.2.2 Credit transfer

There is no transition framework for the HND Environmental Management, but learners can be given credit transfer for individual units. Credit transfer can be given where there is broad equivalence between the subject related content of the unit or combination of units. Learners who are given credit transfer between predecessor units and revised HN Units must still satisfy all other conditions of the HND in Environmental Management.

Examples of possible credit transfer are given below:

Predecessor code	Predecessor title	New code	New title
F3SJ 34	Biology: An Introduction	J4R8 34	Biology: An Introduction
F430 34	Biodiversity Conservation	J4R7 34	Biodiversity Conservation
F3SL 34	Geology and Geomorphology	J4RD 34	Geology and Geomorphology
F2G8 34	Environmental Awareness	J4RC 34	Environmental Awareness
F2EE 34	Pollution and Waste Management: An Introduction	J4RG 34	Pollution Management and Resource Recovery
F435 35	Freshwater Environments: Management and Protection	J4RT 35	Freshwater Environments: Management and Protection
F6D0 35	Environmental Management Systems	J4RS 35	Environmental Management Systems
F3SM 35	Habitat Management	J4RY 35	Habitat Management
F433 35	Ecological Surveying	J4RM 35	Ecological Surveying
F3SS 35	Marine Environments: Management and Protection	J4S1 35	Marine Environments: Management and Protection
F21V 34	Soil Management	J4RJ 34	Soil Management

## 6.3 Opportunities for e-assessment

E-assessment may be appropriate for some assessments within this HND but not for all of the programme. By e-assessment, we mean assessment that is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software.

## 6.4 Support materials

A list of existing ASPs is available to view on SQA's website.

## 6.5 Resource requirements

In addition to the requirement for suitably experienced and qualified staff to deliver and assess the qualification centres will also require access to computer laboratories with GIS capability together with laboratory and relevant case-study field sites.

# 7 General information for centres

## Equality and inclusion

The unit specifications making up this group award have been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners will be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements).

## Internal and external verification

All assessments used within this/these qualification(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* ([www.sqa.org.uk/GuideToAssessment](http://www.sqa.org.uk/GuideToAssessment)).

# 8 Glossary of terms and acronyms

**CIWEM:** Chartered Institute of Water and Environmental Management

**EM:** Environmental Management

**Embedded Core Skills:** is where the assessment evidence for the unit also includes full evidence for complete Core Skill or Core Skill components. A learner successfully completing the unit will be automatically certificated for the Core Skill. (This depends on the unit having been successfully audited and validated for Core Skills certification.)

**Finish date:** The end of a group award's lapsing period is known as the finish date. After the finish date, the group award will no longer be live and the following applies:

- ◆ learners may not be entered for the group award
- ◆ the group award will continue to exist only as an archive record on the Awards Processing System (APS)

**Graded unit:** Graded units assess learners' ability to integrate what they have learned while working towards the units of the group award. Their purpose is to add value to the group award, making it more than the sum of its parts, and to encourage learners to retain and adapt their skills and knowledge.

**Lapsing date:** When a group award is entered into its lapsing period, the following will apply:

- ◆ the group award will be deleted from the relevant catalogue
- ◆ the group award specification will remain until the qualification reaches its finish date at which point it will be removed from SQA's website and archived
- ◆ no new centres may be approved to offer the group award
- ◆ centres should only enter learners whom they expect to complete the group award during the defined lapsing period

**SQA credit value:** The credit value allocated to a unit gives an indication of the contribution the unit makes to an SQA group award. An SQA credit value of 1 given to an SQA unit represents approximately 40 hours of programmed learning, teaching and assessment.

**SCQF:** The Scottish Credit and Qualification Framework (SCQF) provides the national common framework for describing all relevant programmes of learning and qualifications in Scotland. SCQF terminology is used throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at [www.scqf.org.uk](http://www.scqf.org.uk).

**SCQF credit points:** SCQF credit points provide a means of describing and comparing the amount of learning that is required to complete a qualification at a given level of the Framework. One National Unit credit is equivalent to 6 SCQF credit points. One National Unit credit at Advanced Higher and one Higher National Unit credit (irrespective of level) is equivalent to 8 SCQF credit points.

**SCQF levels:** The level a qualification is assigned within the framework is an indication of how hard it is to achieve. The SCQF covers 12 levels of learning. HNCs and HNDs are available at SCQF levels 7 and 8 respectively. Higher National Units will normally be at levels 6–9 and graded units will be at level 7 and 8. National Qualification Group Awards are available at SCQF levels 2–6 and will normally be made up of National Units that are available from SCQF levels 2–7.

**Subject unit:** Subject units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

**Signposted Core Skills:** refers to opportunities to develop Core Skills arise in learning and teaching but are not automatically certificated.

**WCM:** Wildlife and Conservation Management

## History of changes

It is anticipated that changes will take place during the life of the qualification and this section will record these changes. This document is the latest version and incorporates the changes summarised below. Centres are advised to check SQA's APS Navigator to confirm they are using the up to date qualification structure.

**NOTE:** Where a unit is revised by another unit:

- ◆ No new centres may be approved to offer the unit which has been revised.
- ◆ Centres should only enter learners for the unit which has been revised where they are expected to complete the unit before its finish date.

Version Number	Description	Date

## Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of this qualification.

## 9 General information for learners

This section will help you decide whether this is the qualification for you by explaining what the qualification is about, what you should know or be able to do before you start, what you will need to do during the qualification and opportunities for further learning and employment.

The HND in Environmental Management has been designed to provide you with an opportunity to develop the knowledge and skills required to work effectively in the environmental sector.

You will have the opportunity to study a range of vocationally relevant areas including:

- ◆ Biodiversity Conservation
- ◆ Ecology and Ecosystems
- ◆ Sustainable Resource Recovery and Pollution Control
- ◆ Fundamentals of Geospatial Approaches and Data Analysis in Environmental Science
- ◆ Resource Economics
- ◆ Global Climate Systems
- ◆ Geology and Geomorphology
- ◆ Environmental Awareness
- ◆ Rural Land Use
- ◆ Energy and the Environment

Depending on where you study and your particular interests, there are also a range of more specialist units that will allow you to deepen and develop your knowledge and skills, for example:

- ◆ Environmental Chemistry
- ◆ Soil Management
- ◆ Classification and Identification of Organisms
- ◆ Education for Sustainability
- ◆ Sustainable Transport
- ◆ Reclamation of Degraded Land
- ◆ Forestry: Woodland Conservation

A wide range of methods will assess the HND, including practical work, reports, presentations, written or recorded responses and portfolio building. There may also be opportunities to undertake e-assessment.

In order to achieve the HND you will also need to complete two graded units (in addition to the graded unit you achieved for your HNC), that will allow you to demonstrate that you can integrate and apply the knowledge and skills you have developed throughout the HND. Graded Unit 2 will require you to undertake a project based investigation, including planning the investigation, undertaking it and evaluate it once complete. Graded Unit 3 is an open-book exam, split in two 1.5-hour papers, including both extended response and essay style questions.

Upon completion of the HND you will be well equipped to seek employment within the Environmental and wider land-based industries or to progress to further degree level study.