



QQI

Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

Component Specification NFQ Level 5

Biological Diversity 5N1568

1. Component Details

Title	Biological Diversity
Teideal as Gaeilge	Éagsúlacht Bhitheolaíoch
Award Type	Minor
Code	5N1568
Level	5
Credit Value	15
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to work independently and under supervision in a biological diversity environment and be familiar with biological diversity strategies.
Learning Outcomes	Learners will be able to: <ol style="list-style-type: none">1 Examine the spatial distribution of biodiversity2 Examine the classification of organisms using taxonomy and distinguish between taxonomy and systematic3 Distinguish between the genus and species, division and phylum and category and taxon4 Summarise the range of biological benefits of biodiversity, including food and drink, medicines and pharmaceutical resources, breeding stocks and population reservoirs, wood products, fibre products, future resources and biological control5 Identify the ecosystem services dependent on biodiversity, including prevention of soil erosion,

resistance to agricultural catastrophe, improved crop varieties, pollination, regulation of the atmosphere, regulation and protection of water supplies, nutrient recycling and storage, soil genesis and protection, pollution breakdown and absorption, maintenance of ecosystems and natural pest control

- 6 Explore the various methods of biodiversity valuation
- 7 Examine the effects of habitat loss, degradation and fragmentation
- 8 Explore how the invasion of non-native species can affect biodiversity
- 9 Distinguish between habitat, species and genetic diversity
- 10 Examine the various sources of pollution and their effect on biodiversity, with specific reference to agrichemicals
- 11 Investigate the funding mechanisms currently directed towards biodiversity programs
- 12 Examine key techniques used in restoration ecology
- 13 Explore the main features of each of the five kingdoms
- 14 Examine the main factors in the protection and management of conservation areas
- 15 Recognise the importance of the International Union for the Conservation of Nature (IUCN) and the red list of threatened species
- 16 Examine the characteristics of genetic pollution and investigate the risk posed by exotic species
- 17 Examine the economic value of biodiversity
- 18 Construct a cladogram
- 19 Measure the diversity within a particular area by determining the alpha value; within-habitat diversity
- 20 Measure the diversity that exists between ecosystems by determining the beta value between-habitat diversity
- 21 Measure the total diversity for different ecosystems within a region by determining the gamma value; geographical diversity

- 22 Analyse the use of new technology to measure and monitor Biodiversity
- 23 Identify the main concerns in the management of harvested resources
- 24 Investigate the effect of unregulated hunting in a range of global ecosystems
- 25 Evaluate the social benefits of biodiversity including research and education, bionics, leisure, culture and aesthetics
- 26 Evaluate a range of methods used to determine species-level biodiversity; including species richness method, simpson index and shannon index
- 27 Evaluate the implications of population growth and resource consumption
- 28 Evaluate the effect of climate change on biodiversity
- 29 Interpret biodiversity action plans
- 30 Evaluate specific plant and animal protection strategies used in Ireland
- 31 Recommend on ways of maintaining native biodiversity in production landscapes.

Assessment

General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See **Policies and Criteria for Validation of Programmes**. Assessment should be undertaken consistently and reflect current assessment guidelines. See www.qqi.ie.

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the **minimum intended programme learning outcomes**.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at www.qqi.ie.

Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QQI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes **must** be assessed and achieved in accordance with the **minimum intended module learning outcomes** set out in the validated programme.

Assignment	40%
Learner Record	20%
Examination - Theory	40%

Description

Assignment

An assignment is an exercise carried out in response to a brief with specific guidelines as to what should be included. An assignment is usually of short duration and may be carried out over a specified period of time.

Learner Record

A learner record is the learner's self-reported and self-reflective record in which he/she describes specific learning experiences, activities, responses and skills acquired.

Examination - Theory

An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions.

A theory-based examination assesses the ability to recall, apply and understand specific theory and knowledge.

Recognition of Prior Learning (RPL)

To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to **QQI's Statutory Guidelines for Quality Assurance**, the **Policies and Criteria for Validation of Programmes** and the **Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training** available at www.qqi.ie

Grading

Pass	50% - 64%
Merit	65% - 79%
Distinction	80% - 100%

Specific Validation Requirements

There are no specific validation requirements for this award

Supporting Documentation

None

Access

To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.

Transfer

Successful completion of this component award enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement.

2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an

award. Providers offering programmes leading to QQI awards **must** have their programme(s) validated in accordance with current validation policy (see www.qqi.ie).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of **learning outcomes** i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5) Advanced Certificate (Level 6)
Supplemental Award	Supplemental Specification	Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

3. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

Table 1: FET Credit Values

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	
2	30	5	10	
3	60	10	5,20	>5 and <60
4	90	10	5,15,20	>5 and <90
5	120	15	5,10,30	>5 and <120
6	120	15	5,10,30	>5 and <120

Guide to Level

Learning outcomes at this level include a broad range of skills that require some theoretical understanding. The outcomes may relate to engaging in a specific activity, with the capacity to use the instruments and techniques relating to an occupation. They are associated with work being undertaken independently, subject to general direction.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Broad range of knowledge
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas. Some underpinning theory
Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems
Competence	Context	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts
	Role	Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups
	Learning to Learn	Learn to take responsibility for own learning within a managed environment
	Insight	Assume full responsibility for consistency of self- understanding and behaviour

Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI