



QQI

Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

Component Specification NFQ Level 5

Hairdressing Science 5N3346

1. Component Details

Title	Hairdressing Science
Teideal as Gaeilge	Eolaíocht na Gruagaireachta
Award Type	Minor
Code	5N3346
Level	5
Credit Value	15
Purpose	The purpose of this award is to equip learners with an understanding of the scientific principles underlying hairdressing and to encourage learners to develop safe and hygienic salon work practices.
Learning Outcomes	Learners will be able to: <ol style="list-style-type: none">1 Discuss the structure of atoms, molecules, ions, elements and compounds2 Illustrate the action of the shampoo molecules to include the hydrophobic tail and hydrophilic head3 Discuss the growth cycle of the hair to include anagen, catagen, telogen and the average growth rate4 Explain the properties of hair to include elasticity, tensile strength, porosity, texture and hygroscopic5 Explain the importance of protection for hairdresser and client when using chemicals

- 6 Illustrate the structure of the cranium to include the bones, muscles, nerves and blood supply of the head and face
- 7 Outline the pH scale and its importance in hairdressing to include acids, alkaline and the acid mantle of the skin
- 8 Examine the structure of protein to include keratin, peptide bonds, hydrogen bonds, polypeptide chains and disulphide bonds
- 9 Illustrate the importance of hydrogen peroxide in the hairdressing industry to include oxidation, percentage strength, volume strength, health, safety and storage
- 10 Illustrate the need for good salon ventilation
- 11 Analyse the chemical differences between azo, nitro and para dyes
- 12 Explore the ingredients in perm lotion and neutraliser and the effect these chemicals can have on the scalp and hair shaft
- 13 Describe the safety procedures when working with electrical equipment and chemicals in a hairdressing context
- 14 Investigate the difference between a surface conditioner and a penetrating conditioner
- 15 Examine the structure and function of the skin and hair, to include the structure of the hair follicle, papilla and follicle appendages
- 16 Examine light and its effect on colour to include artificial and white light
- 17 Explore various categories of cosmetic hair colour and their effect on the hair structure to include vegetable dye, metallic dye, synthetic organic dyes, temporary, semi, quasi, permanent and bleach with due regard for health and safety responsibilities
- 18 Examine permanent wave lotion and its chemical action on the structure of the hair to include acid wave lotion, alkaline lotion, exothermic lotion and chemical straighteners
- 19 Investigate different forms of sterilisation of pathogenic and non-pathogenic organisms to include micro-organisms, i.e. fungi, bacteria, viruses, infectious, non-infectious and animal parasites

- 20 Investigate the respiratory, circulatory, lymphatic and digestive systems with regard to how these systems might influence the growth of the hair and skin
- 21 Investigate disorders of the hair shaft to include cause and treatment.

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.

Skills Demonstration	40%
Examination - Theory	60%

Description

Skills Demonstration

A skills demonstration is used to assess a wide range of practical based learning outcomes including practical skills and knowledge. A skills demonstration will require the learner to complete a task or series of tasks that demonstrate a range of skills.

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

The provider must have all of the following in place to offer this award:-

	1. Access to a microscope
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

