



QQI

Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

Special Purpose Specification NFQ Level 6

Surface Supplied Diving Operations

1. Certificate Details

Title	Surface Supplied Diving Operations
Teideal as Gaeilge	TBC
Award Type	Special Purpose
Code	TBC
Level	6
Credit Value	15
Purpose	The purpose of this award is to enable the learner to acquire the relevant knowledge, skills and competence to effectively and safely carry out a range of specialist work in a variety of contexts as a surface supplied diver using initiative and independence while functioning as a team member, in accordance with current regulations and legislation.
Statements of Knowledge, Skill and Competence	Learners will be able to:
Knowledge	
<i>Breadth</i>	Demonstrate specialised knowledge of the surface supplied diving industry and specific knowledge of relevant dive theory, principles and practices.
<i>Kind</i>	Demonstrate knowledge of relevant theoretical concepts and abstract thinking with a firm grasp of the significant underpinning theory relevant to the surface supplied diving industry.
Know How & Skill	
<i>Range</i>	Utilise a comprehensive range of specialised skills and tools when in a variety of underwater environments.

Selectivity

Apply theoretical concepts and technical skills to formulate responses to well-defined abstract problems in a surface supplied diving setting.

Competence

Context

Operate safely and effectively in a range of challenging underwater environments in accordance with current regulations and legislation, consistent with operational best practice and apply appropriate control measures to manage risk.

Role

Contribute effectively, both individually as a diver and as a dive team member, to underwater operations in a range of challenging environments. Have regard for operational protocols, own safety and dive team safety.

Learning to Learn

Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs.

Insight

Reflect on operational experiences to inform future performance and professional development.

The learning outcomes associated with this award are outlined in the associated Component Specifications.

Access

To access programmes leading to this special purpose award, the learner should have completed a programme leading to the Commercial SCUBA Diving Operations special purpose award or have achieved a comparable skill level through a formal qualification or relevant life and work experience.

In addition, learners will be required to hold a valid certificate of medical fitness to dive by an HSA approved medical practitioner (or equivalent certificate) and meet any additional access requirements as outlined in each component specification for this award.

Transfer

Achievement of this award will enable the learner to transfer to other appropriate programmes leading to awards at the same level of the National Framework of Qualifications.

Progression

Achievement of this award will enable the learner to progress to other appropriate programmes leading to awards at the next or higher levels of the National Framework of Qualifications.

Progression Awards

Learners who successfully complete this award may progress to a range of different awards.

Grading

Pass

Merit

Distinction

The grade achieved will be determined by the grades achieved on the components

2. Certificate Requirements

The total credit value required for this certificate is 15. This will be achieved by completing:

Award Code	Title	Level	Credit Value
All of the following component(s)			
TBC	Surface Supplied Diving	6	15

3. Supporting Documentation

1. Professional Diver's Handbook – (John Bevan ISBN9780950824260)
2. Relevant Occupational Diving Manual –
3. US Navy Dive Tables – (Best Publishing & other sources)
4. Enriched Air Tables – (Best Publishing & other sources)
5. Current national legislation, regulations and code of practice relevant to commercial diving
6. The International Diving Schools Association Diving Standards (<http://www.idsaworldwide.org/>)

4. Specific Validation Requirements

1. Appropriate insurance to cover all risks
2. All boats used must be licence accordingly and operated by suitably qualified persons.
3. Surface Supplied diving equipment including underwater communication systems.
4. Suitable diving platform for work in open water environment
5. Access to suitable sheltered body of water with depths up to 50 metres
6. Compression chamber and qualified personnel on site of diving operations
7. First aid equipment and therapeutic oxygen delivery systems onsite
8. Suitable range of tools and work pieces for use underwater
9. Underwater camera system with surface monitoring station to record diver performance
10. High and low pressure breathing air compressors (air quality to meet EN12021:2014)
11. A space suitably equipped for the repair and maintenance of commercial diving equipment.
12. Appropriately qualified commercial/occupational and certified diving instructors with adequate experience in teaching and commercial diving operations.

5. 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 QQI 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.

6. 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

Draft for Consultation
Guide to Level

Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialised knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant underpinning theory
Know How & Skill	Range	Demonstrate a comprehensive range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs
	Insight	Express an internalised, personal world view, reflecting engagement with others.

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



Component Specification NFQ Level 6

Surface Supplied Diving

1. Component Details

Title	Surface Supplied Diving
Teideal as Gaeilge	TBC
Award Type	Minor
Code	TBC
Level	6
Credit Value	15
Purpose	<p>The purpose of this award is to equip the learner with the knowledge, skill and competence to dive effectively and safely in an occupational setting to 50m using surface supplied diving equipment and to 50m in a compression chamber. The learner will have a working knowledge of typical surface supply diving tasks including rigging, underwater search methods, visual inspection, lift bag use, hand tool and power tool use, use of water-lift and airlifts and jetting equipment, cutting equipment and underwater construction techniques.</p>
Learning Outcomes	<p>Learners will be able to:</p> <ol style="list-style-type: none"> 1 Analyse the duties of employers and employees engaged in surface supplied diving as specified in current health and safety legislation and related diving regulations and codes of practice. 2 Assess the use of and safety requirements for pneumatic and hydraulic power tools; high pressure (HP) and low pressure (LP) waterjets, airlifts and water lifts; bolt guns; cutting equipment; underwater dry and wet welding; underwater explosives and underwater construction techniques and the dangers of diving in polluted waters. 3 Explain the function and operation of surface supplied equipment and of low and high pressure compressors. 4 Utilise surface decompression tables to calculate the decompression stops required for single and multiple dives.

Skill

- 5 Utilise diver communication systems as they apply to surface supplied operations safely and efficiently, by sending and receiving lifeline and hardwire signals and surface crane signals.
- 6 Demonstrate appropriate use of dive suits, full face masks, bandmasks, demand and freeflow helmets.
- 7 Dive in nil visibility, moderate currents and varying bottom conditions.
- 8 Maintain a personal diver's log to agreed industry norms
- 9 Complete a simple task at 40m depth using a two-compartment chamber under supervision
- 10 Carry out the procedures necessary to deal with emergencies including buoyant ascents, loss of breathing supply, loss of communications, trapped umbilical, broken faceplate and free ascent, both as a diver and a member of the surface team. Act as both in water and surface standby diver.
- 11 Demonstrate ability to perform underwater work to include tying knots; using two different seabed searches; producing a report based on an underwater inspection, measurement or survey; using a lifting bag to move an object; using hand tools.

Competence

- 12 Act as a member of the surface team by dressing and undressing a diver, tending a diver using umbilical, acting as panel operator and carrying out pre and post dive equipment checks.
- 13 Complete a range of underwater tasks safely and efficiently using a power tool, low pressure waterjet, airlift and thermal arc cutting equipment.
- 14 Carry out user maintenance of surface supplied diving equipment including charging all types of diving cylinder
- 15 Complete in-water decompression stops for a simulated dive for 25 minutes at 30 metres.
- 16 Complete surface decompression stops for a simulated dive of 50 minutes at 30 metres, using air and oxygen.
- 17 Dive safely and competently in open water to include the following minimum times to a maximum depth of 50 meters using a range of helmets, band masks and commonly used surface supplied equipment to a maximum depth of 50 metres having gained the following experience:
 - Depth 0-9m; total bottom time (TBT) 650 minutes; minimum of 5 dives and minimum bottom time (MBT) per dive of 30 minutes
 - Depth 10-19m; TBT 300 minutes; minimum of 5 dives and MBT per dive of 20 minutes
 - Depth 20-30m; TBT 200 minutes; minimum of 4 dives and MBT per dive of 20 minutes
 - Depth 30-40m: TBT 50min; minimum of 2 dives and a MBT per dive of 20 minutes

- Depth 40-50m; TBT 50min; minimum of 2 dives and a MBT per dive of 15 minutes

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.

Skill Demonstration

70%

Assignments	20%
Learner Record	10%

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.

This assessment must be passed in order to achieve the award

Learner Record

A self-reported record by an individual in which he/she describes learning experiences, activities, responses, skill acquired etc.

This assessment must be passed in order to achieve the award

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.

This assessment must be passed in order to achieve the award

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

1. Appropriate insurance to cover all risks

2. All boats used must be licence accordingly and operated by suitably qualified persons.
3. Commercial scuba diving equipment including two types of surface supplied systems and underwater communication systems
4. Suitable diving platform for work in open water environment
5. Access to suitable sheltered body of water with depths up to 50 metres
6. Compression chamber and qualified personnel on site of diving operations
7. First aid equipment and therapeutic oxygen delivery systems onsite
8. Suitable range of tools and work pieces for use underwater
9. Underwater camera system with surface monitoring station to record diver performance
10. Suitable vessel for powerboat skills training
11. High pressure breathing air compressor (air quality to meet EN12021:2014)
12. A space suitably equipped for the repair and maintenance of commercial diving equipment.
13. Appropriately qualified commercial/occupational and certified diving instructors with adequate experience in teaching and commercial diving operations.
14. This component can only be validated within a programme for the overall Special Purpose award, i.e. validation on a component basis is not available.

Supporting Documentation

1. Professional Diver's Handbook – (John Bevan ISBN9780950824260)
2. Relevant Occupational Diving Manual –
3. US Navy Dive Tables – (Best Publishing & other sources)
4. Enriched Air Tables – (Best Publishing & other sources)
5. Current national legislation, regulations and code of practice relevant to commercial diving
6. The International Diving Schools Association Diving Standards (<http://www.idsaworldwide.org/>)

Access

To access programmes leading to this this special purpose award, the learner must have completed the Occupational SCUBA Diving special purpose award or have achieved a comparable skill level through a formal qualification or relevant life and work experience.

A valid certificate of medical fitness to dive by an HSA approved medical practitioner (or equivalent certificate)

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.qli.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

Draft for Consultation

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 comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialised knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas
Know How & Skill	Range	Demonstrate a comprehensive range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to take responsibility for own learning within a managed environment.
	Insight	Express an internalised, personal world view, reflecting engagement with others.

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