



## **Component Specification**

### **180° Excavator Operations Quarrying**

**Level 5**

**5N0055**

## 1. Introduction

The Further Education and Training Awards Council is the single national awarding body in further education and training in Ireland. It is responsible for determining the standards for named awards at levels 1 to 6 on the National Framework of Qualifications. All named awards are devised in line with the National Qualifications Authority of Ireland's determinations and guidelines.

## 2. The National Framework of Qualifications

The National Framework of Qualifications comprises 10 levels ranging from initial learning (level 1) to the most advanced levels of learning (level 10).

At each level there are one or more award types. An award type is a grouping of awards that share similar features. The National Qualifications Authority of Ireland has determined Award Type Descriptors for each award type. See [www.nqai.ie](http://www.nqai.ie). The Award Type Descriptor identifies the key strands and sub-strands of knowledge, skill and competence for that award type.

## 3. 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.

<b>Strand</b>	<b>Sub-strand</b>	<b>Nature of learning</b>
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 ([www.nqai.ie](http://www.nqai.ie))*

#### **4. Award Specifications**

FETAC determines the standards for all awards in partnership with relevant stakeholders. This award was developed in line with the Council policy on Standards Development published in September 2005.

Standards are published in the form of Award Specifications. A Specification is devised in respect of each named award. Each Specification provides a comprehensive description of the features, characteristics and standards of the award.

A **Certificate Specification** is published for each named **major award**.

A **Component Specification** is published for each named **minor award**. Please note that each component (i.e. minor award) is associated with one or more Certificates (i.e. major, special purpose or supplemental award). See [www.fetac.ie](http://www.fetac.ie).

A **Specific Purpose Specification** is published for each **special purpose award**.

A **Supplemental Specification** is published for each **supplemental award**.

Standards 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 that award.

Learning outcomes for all awards (i.e. major, special purpose, supplemental awards) are contained within the associated Component Specifications.

## 5. Component Details

<b>Title</b>	180° Excavator Operations Quarrying
<b>Teideal as Gaeilge</b>	Oibriú Scafall Soghluaiste Túir
<b>Award Type</b>	Minor
<b>Code</b>	5N0055
<b>Level</b>	5
<b>Credit Value</b>	5
<b>Purpose</b>	The purpose of this award is to equip the learner with the relevant knowledge, skill and competence independently, safely, effectively and efficiently operate a 180° excavator in a quarry environment.
<b>Learning Outcomes</b>	<p>Learners will be able to:</p> <ol style="list-style-type: none"><li>1 Describe the duties and responsibilities of 180° excavator operators, under current relevant legislation</li><li>2 State the precautions that must be in place when working in the vicinity of quarry faces, overhead power lines, and other proximity hazards, as per codes of practice and guidelines</li><li>3 Describe the safe techniques for lifting loads, as per manufacturers instructions and legislation</li><li>4 Describe the main components and attachments of a 180° excavator, including the correct and safe procedures for using attachments</li><li>5 Explain the correct procedure for placing a 180° excavator on and off a transporter</li><li>6 Demonstrate the correct procedure for positioning and setting up the excavator and the loading vehicle, whilst ensuring loaded vehicle is loaded evenly and not overloaded, and contact with the vehicle being loaded is avoided, except where unavoidable</li><li>7 Demonstrate the correct and safe method of traveling , positioning and setting-up a 180° excavator to excavate, taking into account ground type and conditions whilst avoiding restrictions, obstacles and hazards</li><li>8 Carry out routine pre-start and post-start inspections, shut-down, and securing procedures of a 180° excavator</li><li>9 Carry out inspection of work area to ensure area is clear of hazards prior to excavating</li></ol>

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- 10 Demonstrate approved systems of communication, as per legislation and industry best practice
- 11 Demonstrate ability to excavate a trench in layers to given tolerances, keeping excavated material clear of trench and reinstating the excavated area to its original contours
- 12 Demonstrate ability to correctly clean sides of excavations
- 13 Demonstrate the correct procedure for traveling a 180° excavator on a public roadway as per legislation
- 14 Demonstrate ability to travel safely and correctly on inclines whilst maintaining full control of the excavator
- 15 Ensure the boom and dipper arm extension is locked when using the front loader
- 16 Demonstrate the correct method of mounting and dismounting a 180° excavator
- 17 Demonstrate essential observation skills when operating a 180° excavator
- 18 Demonstrate ability to use the back hoe bucket (sideswiping only)
- 19 Demonstrate ability to use the applicable functions of the clamshell bucket appropriately
- 20 Demonstrate ability to remove existing bucket and re-fit a replacement bucket using correct procedures
- 21 Use the steering, braking and hydraulic controls correctly

## Assessment

### General Information

Details of FETAC's assessment requirements are set out in [Assessment Guidelines for Providers](#).

All FETAC assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence.

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 FETAC's Provider Guidelines for Programme Validation.](#)

## 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 FETAC's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. [See FETAC's Provider Guidelines for Programme Validation.](#)

All learning outcomes **must** be assessed.

Skills Demonstration 70%

Examination - Theory 30%

## 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.*

The assessor will devise a skill demonstration based on learning outcomes 6-21. The learner must successfully complete a minimum of 6 tasks based on the learning outcomes. The skills demonstration will be terminated if learner actions result in potentially unsafe practice. In this case the learner will fail to meet the standard.

Weighting Factor

0 marks for not completing the task to a satisfactory standard

3 marks for completing each task satisfactorily.

5 marks for completing each task satisfactorily and exceeding the criteria for the task.

Overall Marks: 70

### 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.*

The assessor will devise a theory based examination based on learning outcomes 1-5. The examination will consist of 30 short-answer

questions. The learner must achieve at least 21 correct questions to pass the assessment. This assessment must be passed to achieve the award.

Weighting Factor: 1 marks per question

Overall Marks: 30

<b>Recognition of Prior Learning (RPL)</b>	Learners may be assessed on the basis of their prior knowledge and experience. Providers must be specifically quality assured to assess learners by this means. To do so they must complete B10, see Provider's Quality Assurance Guidelines and be included on the Register of RPL approved providers. See RPL Guidelines at <a href="http://www.fetac.ie">www.fetac.ie</a> for further information and registration details.						
<b>Grading</b>	<table><tr><td>Pass</td><td>50% - 64%</td></tr><tr><td>Merit</td><td>65% - 79%</td></tr><tr><td>Distinction</td><td>80% - 100%</td></tr></table>	Pass	50% - 64%	Merit	65% - 79%	Distinction	80% - 100%
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<b>Specific Validation Requirements</b>	<p>Any provider wishing to offer a programme leading to this award must ensure that the programme is operated in accordance with the current quarrying regulations.</p> <p>The provider must also ensure that the specialist material resources (plant, equipment etc.) required to run the programme are in place. See <a href="http://www.fetac.ie">www.fetac.ie</a> for a list of these requirements.</p>						
<b>Supporting Documentation</b>	<ol style="list-style-type: none"><li>1 Current HSA statutory regulations, codes of practice and guidelines</li><li>2 Manufacturer's machine operating instructions</li></ol>						
<b>Access</b>	<p>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.</p>						
<b>Transfer</b>	<p>Successful completion of this component enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement</p>						