



Specific Purpose Specification

Level 5

CNC Machine Setting and Operations

5S2853

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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. 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.

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 (www.nqai.ie)

4. FETAC Awards

FETAC makes four types of awards: major, minor, special purpose and supplemental.

A **major award** is the principal class of award made at each level. It represents a significant volume of learning outcomes. A major award will prepare learners for employment, participation in society and community and access to higher levels of education and training.

A **Certificate** will be awarded to all learners who successfully complete the major award requirements at levels 1-5 and an **Advanced Certificate** will be awarded at level 6.

All major awards comprise a combination of minor and/or special purpose awards. The learner must successfully achieve all the stated requirements in order to achieve the major award.

Learners may accumulate the appropriate minor and special purpose awards over time to achieve the major award.

A **minor award** is an award that is derived from and must link to, at least one major, special purpose or supplemental award. Minor awards are smaller than their parent award(s). Achievement of a minor award provides for recognition of learning that has relevance and value in its own right. A minor award is referred to as a **Component**.

A **Component Certificate** will be awarded to all learners who successfully complete one or more components (i.e. minor awards) but not the full or particular requirement for the Certificate.

A **special purpose award** is made for specific and relatively narrow purposes. All special purpose awards comprise one or more components. The learner must successfully achieve all the stated requirements in order to achieve the special purpose award.

A **Specific Purpose Certificate** will be awarded to all learners who successfully complete the award requirements.

A **supplemental award** is an award which recognises learning which involves updating/up-skilling and/or continuing education and training with specific regard to occupations. All supplemental awards comprise one or more components. The learner must successfully achieve all the stated requirements in order to achieve the supplemental award.

A **Supplemental Certificate** will be awarded to learners who successfully complete the award requirements.

5. 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).

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.

6. Navigating the Certificate Specification

Section 7 of this Certificate Specification outlines the details and requirements for this award.. The details and requirements for the associated **components** can be found at www.fetac.ie.

7. Certificate Details

Title	CNC Machine Setting and Operations
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Award Type	Special Purpose
Code	5S2853
Level	5
Credit Value	30
Purpose	The purpose of this award is to enable the learner to safely operate and set a Computer Numerical Controlled (CNC) Milling machine and CNC Lathe to manufacture the required parts within the established parameters to include time, surface texture and dimensional accuracy.
Statements of Knowledge, Skill and Competence	Learners will be able to:
Knowledge <i>Breadth</i>	Demonstrate understanding of a broad range of the main features of both a CNC Milling Machine and CNC Lathe to include the main console controls, axis configurations, methods of tool changing programming techniques, thread cutting and tool mounting.
Know How & Skill <i>Range</i>	Demonstrate a broad range of skills and tools in the use of a CNC Milling Machine and CNC Lathe to include the use of part programming functions, the correct starting and termination functions, using a tool library, producing parts, mounting and positioning work pieces and applying programs.
Competence <i>Context</i>	Demonstrate good practice in using the main consoles to input information, correctly starting and terminating formats, employing risk reduction measures for the use of both machines and setting up, monitoring and maintaining typical types of both machines. The learning outcomes associated with this award are outlined in the associated Component Specifications.
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	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

8. Certificate Requirements

The total credit value required for this certificate is 30. This will be achieved by completing:

Award Code	Title	Level	Credit Value
All of the following component(s)			
5N2850	CNC Milling Setting and Operations	5	15
5N2851	CNC Turning Setting and Operations	5	15

9. Supporting Documentation

1. CNC Manufacturers operating manual(s) and procedures
2. Safety and Health at Work Act 2005

10. Specific Validation Requirements

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

1. CNC milling machine
2. CNC lathe
3. CNC laser cutting machine
4. CNC router
5. Tooling package for CNC milling, turning and routing