Dearbhú Cáilíochta agus Cáilíochtaí Éireann
Quality and Qualifications Ireland

Component Specification

Animal Production Science

NFQ Level 5

5N2351

1. Component Details

Title	Animal Production Science
Teideal as Gaeilge	Eolaíocht Táirgeadh Ainmhithe
Award Class	Minor
Code	5N2351
Level	5
Credit Value	10
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to apply scientific principles to the production and management of farm animals.
Learning Outcomes	Learners will be able to:

1 Describe legal and ethical animal welfare and food assurance requirements including freedoms, environmental conditions, protection during transport, food assurance and the effects of animal production on the environment

2 Explain the behavioral characteristics of animals to be considered when working close to animals, controlling and handling animals, loading animals or designing facilities for animals

3 Apply knowledge of animal anatomy and physiology to animal production systems including classifying animals, effects of skeletal structure and body systems on production and effects of genetics on animal production and efficiency

4 Describe the effect of feeding on the development of the young ruminants digestive system

5 Outline the principles and role of milk production including importance in Irish agriculture, breeds, milk production systems, stocking rates, quality milk production, feeding, investment and returns

6 Outline the principles and role of lamb production including importance in Irish agriculture, distribution of production, breeds and crosses, lamb production systems, lamb growth rates, stocking rates, investment and returns

7 Outline the principles and role of beef production including importance in Irish agriculture, distribution of production, breeds and crosses, beef production systems, beef growth rates and feed efficiency ratios, investment and returns

8 Outline the principles and role of pork and bacon production including importance in Irish agriculture, breeds and crosses, types of production units, pig growth rates and feed efficiency ratios, investment and returns

9 Outline the principles and role of poultry meat and egg production including importance in Irish agriculture, range of poultry meat products, types of poultry meat and egg production units, feed efficiency ratios, investment and returns

10 Apply principles of animal nutrition to growth, development, reproduction and production of animals including nutritional needs and feed utilization, feed ingredients and nutrient value, feed additives and growth stimulants and comparison of digestive systems of monogastrics and ruminants

11 Apply principles of animal reproduction to evaluation, selection and breeding of farm animals including male and female reproductive systems and scientific principles in the selection and breeding of farm animals.

Assessment

General Information

Details of FET assessment requirements are set out in Assessment Guidelines for Providers.

All FET 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 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 FETAC's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. See current FET validation guidelines at www.qqi.ie.

All learning outcomes **must** be assessed and achieved

Examination - Theory	60%
Examination - Practical	40%

Description

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 to assess learning outcomes 1 - 11.

Examination - Practical

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 practical examination assesses specified practical skills demonstrated in a set period of time under restricted conditions.

The assessor will devise a practical examination based on 8 practical tasks listed below.

List of Tasks

For each of tasks 1-5, the learner will be required to correctly identify items presented from a range of samples and outline their nutrient values.

1 One forage sample (selected from grass, hay, haylage, silage or straw)

2 One cereal sample (selected from wheat, oats, barley, maize or sorghum)

3 One protein feed sample (selected from rape seed meal, soya bean meal, sunflower meal, palm kernal meal, peas or beans)

4 One by-products sample (selected from brewers/distillers grains, soya bean hulls, citrus pulp, maize gluten, corn distillers grains)

5 One sample of a root crop (selected from fodder beet, swedes or potato)

For each of tasks 6-8, the learner will be required to correctly identify on a live animal or from a detailed anatomical picture the component part and it¿s function

6. Five components of a ruminant digestive system

7. Five components of a male or female reproductive system

8. Five specified external component parts of an animal body

Recognition of Prior Learning (RPL)

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 www.fetac.ie for further information and registration details.

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.
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