



MCAST

Malta College of Arts, Science & Technology

MQF Level 2

AG2-01-19
AG2-01-19G

Foundation Certificate in Horticulture and Animal Care

Course Specification

Course Description

This course is intended for students in possession of the School Leaving Certificate. It is designed to equip students with a range of basic skills and competences enabling them to become competent in various land-based activities involved in the agriculture industry.

The programme includes a significant amount of vocational practice that will provide a clear idea of the nature of the trade or vocation that the student may wish to follow in future.

Students will have the opportunity to have hands-on experience with farm animals, exotic animals and plants. Special focus will be given to soil management, establishing crops, animal management, livestock nutrition and farm maintenance.

Programme Learning Outcomes

At the end of the programme the students are able to

- 1. Undertake different agricultural methods and understand the principles of health and safety.*
- 2. Understand procedures and explore measures to improve agricultural skills.*
- 3. Use and apply correctly various agricultural equipment.*
- 4. Understand and apply different technical skills relating to the care of animals as well as crops.*

Entry Requirements

- Finished Compulsory Education; or
- MCAST Introductory Certificate

Other Entry Requirements

- Initial Assessment Tests
- Applicants with SEC/O-Level passes at Grades 6 or 7 in at least two subjects from Maltese, English Language and Mathematics or “Secondary School Certificate and Profile” (SSC&P) at Level 1 or 2 will be exempted from the Initial Assessment Tests and will start directly at Level 2.

Current Approved Programme Structure

Unit Title	ECVET
Fundamentals of Animal and Fish Science	6
Animal, Fish Nutrition and Management	6
Fundamentals of Plant and Soil Science	6
Applied Horticulture	6
Mathematics	6
English	6
Malti	6
Information Technology	6
Individual and Social Responsibility	6
Science	6
Total ECVET	60

Unit: Fundamentals of Animal and Fish Science

Unit level (MQF): 2

Credits : 6

Unit description

The aim of this unit is to introduce learners to the basics of animal and fish science, which are necessary to understand concepts of biology, genetics, breeding principles and nutrition.

Learners will learn to identify and name animals and fish, which are common in Maltese agribusiness, in English, Maltese and Latin.

Learners will be acquainted with the basic anatomy with special emphasis on reproductive organs, digestive organs and organs important for production and animal or fish performances. Learners will also learn about animal and fish feed and water requirements, as well as those for accommodation and care.

This unit will introduce learners to the main phases of the reproductive cycle of the most common animals and fish.

In addition, learners will get essential information about animal health care, animal nursing and welfare, relationships between animals, plant production and the environment.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Understand the basic principles of animal and fish taxonomy and related terminology.*
2. *Understand the basic animal and fish anatomy.*
3. *Understand the basic principles of animal and fish nutrition.*
4. *Explain the animal and fish reproductive cycle.*
5. *Know care and nursing measures for the most common animals and fish.*

Unit: Animal, Fish Nutrition and Management

Unit level (MQF): 2

Credits : 6

Unit description

In this unit, learners will be introduced to different animal and fish feeds according to their nutritional value, that is. energy, proteins, fibres, macro- and micro-elements. This knowledge will be connected to animal and fish feed intake requirements and nutritional elements according to particular species, age, reproduction phase and condition. Special attention will be given to the needs of fish and young animals. Learners will also learn about different forms of meals as well as blending different feedstuffs.

In this vocationally oriented unit learners will become familiar with the feeding and watering tools and equipment, and the way to use them in a safe and efficient way. In addition, using previous knowledge gained from other units, learners will learn to plan animal housing on a small scale. In connection to this, they will be acquainted with typical housings, armatures and materials used in animal breeding and aquaculture.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Know the nutritional values of different types of animal feed and meals.*
2. *Recognise the nutritional needs of different types of animals.*
3. *Describe the working principles of feeding and watering equipment.*
4. *Identify different types of common rabbit, birds and pet fish housings.*
5. *Understand simple building and construction plans for animal accommodation units.*

Unit: Fundamentals of Plant and Soil Science

Unit level (MQF): 2

Credits : 6

Unit description

Horticulture is one of the most prevailing agribusiness sectors in Mediterranean countries. It is based on growing fruit, vegetables, grapevine, olives, and similar varieties. In some countries, agribusiness makes relatively high share of a country's GDP and, in some cases, the products are recognised as national brands.

This unit will start with an introduction and description of the main plants and their identification in the plant kingdom. Learners will become familiar with the terminology used in Maltese, English and Latin in order to be able to communicate internationally. In addition, the unit will give learners a general overview of plant morphology, biology, and physiology, to introduce learners to the basic terms used for the main horticultural varieties.

Learners will become familiar with the most important factors in plant production, environmental conditions and soil. Therefore, learners will be given an overview of the physical properties, composition, fertility, formation and erosion of common soil types. In addition, learners will be given a basic knowledge about photosynthesis and various plant propagation methods. Learners will also understand how environmental factors affect plants and how important it is for plants to have the appropriate environment to grow in. In addition, learners will be given an overview about general plant care and the techniques used. In addition, learners will be given an overview of general plant care techniques.

Learning Outcomes

On completion of this unit learners should be able to:

- 1. Understand the basic principles of plant taxonomy and related terminology.*
- 2. Explain the morphology of different plants.*
- 3. Understand the basic principles of plant physiology, reproduction and propagation.*
- 4. Understand the basic principles of soil fertility and erosion.*
- 5. Outline the main properties of the most common soil types including physical properties, composition and formation.*

Unit: Applied Horticulture

Unit level (MQF): 2

Credits : 6

Unit description

Learners will be introduced to the most common horticultural plants with special regard to different propagation methods such as grafting and budding). Learners will learn how to apply general knowledge about plants in the horticultural business. Moreover, the requirements and rules for pruning and/or disbudding will be considered. Great attention will be devoted to the nutritional requirements, such as fertilizers and soil nutrients, plant requirements for pest protection and pathogens. In addition, learners will be presented with the cultivation requirements, harvesting and storage. Moreover, learners will learn about different types of soil and other media for growing plants. They will also be introduced to soil analysis and interpretation of its results.

This unit will enable learners to use basic tools and equipment safely and effectively as well as enabling them to deal with basic management in horticultural production such as calculating optimal nutrients and water intake.

Learning Outcomes

On completion of this unit learners should be able to:

1. *Use a variety of sexual and asexual techniques to propagate a range of plants.*
2. *Follow instructions to prune a range of trees under supervision.*
3. *Select the main factors needed for appropriate plant care.*
4. *Describe different media and the different roles they play in mixes.*
5. *Use tools and equipment safely to undertake a range of horticultural tasks.*