

## Professional Diploma in Agriculture/Agribusiness Course Syllabus

	<b>Year 1</b>	<b>ECTS</b>	<b>SEMESTER</b>	<b>Periods per Week</b>
<b>Compulsory Modules</b>				
<i>English for Agriculture / Agribusiness</i>		5	A	2.5
<i>Basic Chemistry and Biochemistry</i>		5	A	2.5
<i>Cell Biology</i>		5	A	2.5
<i>Agricultural Engineering, Health &amp; Safety</i>		10	A	5.0
<i>Sustainable Agriculture and Good Agricultural Practices</i>		5	A	2.5
<i>Soil and Water Science</i>		5	B	2.5
<i>Common Agriculture Policy and EU Funding</i>		5	B	2.5
<b>Optional Modules</b>				
<i>Ruminant Husbandry</i>		10	B	5.0
<i>Monogastric Animal Husbandry</i>		10	B	5.0
<i>Plant Physiology</i>		10	B	5.0
<i>Principles of Horticulture</i>		10	B	5.0
<b>Year 2</b>				
<b>Compulsory Modules</b>				
<i>Practical Experience (I)</i>		10	A	5.0
<i>Practical Experience (II)</i>		10	B	5.0
<i>Advanced Agribusiness</i>		10	B	5.0
<b>Optional Modules</b>				
<b>HORTICULTURE SPECIALIZATION</b>				
<i>Crop Protection</i>		10	A	5.0
<i>Introduction to Landscaping and Amenity Horticulture</i>		5	A	2.5
<i>Ornamental Crop Production</i>		5	A	2.5
<i>Fruit Production and Orchards Management</i>		5	B	2.5
<i>Vegetable Production</i>		5	B	2.5
<b>HYDROPONICS</b>				
<i>Crop Protection</i>		10	A	5.0
<i>Ornamental Crop Production</i>		5	A	2.5
<i>Introduction to Hydroponics</i>		5	A	2.5
<i>Vegetable Production</i>		5	B	2.5
<i>Advanced Hydroponics</i>		5	B	2.5

#### VITICULTURE AND OENOLOGY

<i>Crop Protection</i>	10	A	5.0
<i>Viticulture and Introduction to Oenology</i>	10	A	5.0
<i>Advanced Oenology, wine tasting and other spirits</i>	10	B	5.0

#### FORESTRY

<i>Crop Protection</i>	10	A	5.0
<i>Introduction to Landscaping and Amenity Horticulture</i>	5	A	2.5
<i>Ornamental Crop Production</i>	5	A	2.5
<i>Forestry</i>	10	B	5

#### LANDSCAPING

<i>Crop Protection</i>	10	A	5.0
<i>Introduction to Landscaping and Amenity Horticulture</i>	5	A	2.5
<i>Ornamental Crop Production</i>	5	A	2.5
<i>Advanced Landscaping</i>	10	B	5.0

#### ANIMAL HUSBANDRY

<i>Animal Breeding and Genetics</i>	5	A	2.5
<i>Animal Nutrition</i>	5	A	2.5
<i>Bovine husbandry</i>	5	A	2.5
<i>Sheep and Goat Production</i>	5	A	2.5
<i>Swine Production</i>	5	B	2.5
<i>Poultry Production</i>	5	B	2.5

#### DAIRY PROCESSING

<i>Animal Breeding and Genetics</i>	5	A	2.5
<i>Animal Nutrition</i>	5	A	2.5
<i>Bovine Husbandry</i>	5	A	2.5
<i>Sheep and Goat Production</i>	5	A	2.5
<i>Dairy Processing</i>	10	B	5.0

#### INTEGRATED AGRICULTURE

<i>Animal Breeding and Genetics</i>	5	A	2.5
<i>Animal Nutrition</i>	5	A	2.5
<i>Bovine Husbandry</i>	5	A	2.5
<i>Sheep and Goat Production</i>	5	A	2.5
<i>Field crop production</i>	10	B	5.0

**AQUACULTURE**

<i>Animal Breeding and Genetics</i>	5	A	2.5
<i>Animal Nutrition</i>	5	A	2.5
<i>Aquatic and Marine Biology</i>	5	A	2.5
<i>Advanced Aquaculture</i>	10	B	5.0

**VETERINARY NURSING AND PET GROOMING**

<i>Animal Breeding and Genetics</i>	5	A	2.5
<i>Animal Nutrition</i>	5	A	2.5
<i>Veterinary nursing</i>	10	A	5.0
<i>Pet Grooming</i>	10	B	5.0

## Module Content

### **English for Agriculture and Agribusiness**

This is an integrated skills course which has been designed to help students build upon their existing competence in English. In this module students will continue to develop proficiency in all areas of the language reading, writing, listening and speaking.

### **Basic Chemistry and Biochemistry**

This module aims to develop a broad understanding of Chemistry and Biochemistry as well as to give students the basic understanding of how matter acts and more specifically life functions. Additionally, it provides an understanding of chemistry and more specifically biochemistry in the production processes of all agricultural fields of knowledge.

### **Cell Biology**

This module aims to develop a good understanding of the cellular biology of life as well as to provide an understanding of the evolution of life on earth, and the basic structures and functions of animal and plant cells. The module will help students develop the basic scientific knowledge for the continuing acquisition of information in all other subjects involving plants and animals in agricultural sciences.

### **Agricultural Engineering, Health and safety**

The aim of this module is to provide students with basic knowledge of the technology, the machinery and the engineering used in agriculture. Additionally, Health and safety practises are also emphasised to allow students to understand the dangers in the industry of agriculture, take appropriate precautions and measures and it allows general understanding of electrical connections and knowledge for the safe use.

### **Sustainable Agriculture and good agricultural practises**

This module aims to develop a broad understanding of the farm business management and the agribusiness industry in general and specifically with sustainable agricultural methods as well as to identify other forms of production such as super intensive systems as well as permaculture practises.

### **Soil and water science**

This module aims to explore the principles of soil and water science with specific focus on the relationship between soil properties and plant growth and development. The module will examine the significance of the soil as a finite resource and appreciate its' role in the global ecosystem as well as practical and analytical skills will be developed to technical reports.

### **Common Agricultural Policy and EU Funding**

This module aims to fully understand the past, current and future EU policies concerning the Common Agricultural Policy (CAP) and to evaluate the need for funding in your proposed business as well as how to obtain it. Additionally, students will be able to understand the documents required for EU funding.

### **Ruminant Physiology and Introduction to Husbandry**

The aim of the current module is to provide students with a strong basic knowledge of Ruminants and their importance. Additionally, the module aims to develop a comprehensive and balanced overview of ruminant physiology and husbandry in contemporary society. The students will be able to develop basic scientific knowledge of ruminants and the related industries of meat, milk and dairy production.

### **Monogastric Animal Physiology and Basic Husbandry**

This module aims to develop a broad understanding of the evolution of life on earth, and the basic structure and functions of animals used in food production and recreation apart from ruminants. Additionally, this module provides a thorough grounding in the structure and function of animal body systems by taking an integrated approach to the basics of anatomy and physiology.

### **Plant Physiology**

This module aims to provide students with the essential knowledge of plant biology, physiology and classifications. The relationships between the main environmental factors (water, light, carbon dioxide and nutrient) are discussed on how they affect growth and development in individual plants and in crops.

### **Principles of Horticulture**

The aim of the current module is to provide students with a basis on all crops grown in horticulture and the basic understanding of fruit production and orchards management. Additionally, it provides a basic knowledge of amenity horticulture and landscaping.

### **Advanced Agribusiness**

This module aims to examine the structure and organization of the agricultural industry and discusses basic micro and macroeconomics principles as they apply to agriculture as well as it examines the fundamentals and applications of agribusiness showing how products go from their source to the consumer by highlighting the many steps in this process.

### **Crop Protection**

This module is designed for students following anything to do with both agriculture and horticulture specialisations that deal with crop production. Additionally, it allows students to understand the principles of crop protection from weeds, pests and diseases in all crops grown in agriculture and horticulture.

### **Introduction to Landscaping and Amenity Horticulture**

This module is designed for students learning the basics of landscaping design and development specifically for Mediterranean semi-arid regions. Correct design, planting, irrigation systems, soil additions, lawns and aggregate installation are discussed.

### **Ornamental Crop Production**

This module will enable students to gain a good understanding in the field of ornamental crop production in Horticulture. Ornamental crops are very diverse and include trees, shrubs and flowering plants grown outdoors, Houseplants grown in protected greenhouses and cut flowers which are both grown extensively and intensively.

### **Fruit Production and Orchards Management**

This module is designed for students learning general tree husbandry such as orchard planning, grafting, cuttings and seeds for propagation, pruning, fertiliser applications and irrigation systems. In addition, pest, diseases and weed control is also discussed with special consideration to biological production.

### **Vegetable production**

This module is designed for students understanding the principles of crop production both in the field and in greenhouses. Several crops such as potatoes, cucumbers, tomatoes leafy vegetables and brassicas are discussed in detail to allow students to understand the general idea of horticultural vegetable production.

### **Introduction to Hydroponics**

This module provides the basic principles of soilless cultures and hydroponic crop production as well as students will be able to identify the major production areas and the crops grown in hydroponic systems in Cyprus, the EU, and around the world.

### **Advanced Hydroponics**

This module provides an understanding of all hydroponic systems used around the world as well as a thorough understanding of specific crop production in hydroponic cultures. Additionally, evaluation of the advantages of hydroponic systems over conventional cultivation and advanced principles of plant nutrition are discussed.

### **Viticulture and Introduction to Oenology**

This module provides a fully understanding of the concept of viticulture and vineyard management according to the desired final product as well as varieties cultivated around the world and in Cyprus, Appellations of Origin and Terroirs are discussed.

### **Advanced oenology, wine tasting and other Spirits**

This module provides an understanding of microbiology of wine, wine aging and bottling technologies. In addition, wine marketing strategies and explanation on some other important spirits are discussed.

### **Forestry**

This module provides a general knowledge on arboriculture and Forestry as well as an understanding of woodland habitat management, forest surveys and sampling and ecological importance of forestry.

### **Advanced Landscaping**

This module provides a fully understanding of the importance of landscaping in modern societies and the different types of gardens around the world and how climate affects design. The understanding of design and implementation of irrigation systems in landscaping are discussed.

### **Field crop Production**

The aim of the current module is to provide students with a good knowledge on all crops grown in agriculture. This is a specific module designed for the farm management specialisation and to identify correct practices in the use of machinery, choice of crops, planting techniques, pest, diseases and weed problems, harvesting and post harvesting techniques.

### **Animal Breeding and Genetics**

This module aims to develop a broad understanding and comprehensive study of the biology and genetics involved in all aspects of animal breeding supported with extensive illustrations and hands on experiences. Students will also identify the importance of breeding and how can be applied to practical animal management and production.

### **Animal Nutrition**

This module aims to explore the biological and biochemical principles which underline animal nutrition and further develop scientific knowledge as a basis for the continuing acquisition of information. The module will develop a critical interest in current applied research in animal nutrition and how this may be applied to practical animal management and production.

### **Bovine husbandry**

This module aims to develop a broad understanding of the Dairy/Beef Cattle industry and production in Cyprus and internationally. Additionally, it aims to integrate and apply scientific principles of genetics and environmental physiology to cattle production and combine science and practical work in planning beef and dairy cattle production systems.

### **Sheep and Goat Production**

This module aims to develop a broad understanding of the Sheep and Goat industry and production in Cyprus and internationally. Additionally, it aims to integrate and apply scientific principles of genetics and environmental physiology to sheep production and combine science and practical work in planning sheep/goat dairy and meat production systems.

### **Swine Production**

This module aims to develop a broad understanding of the Pig industry and pig production in Cyprus and internationally. Additionally, it aims to integrate and apply scientific principles of genetics and environmental physiology to swine production and combine science and practical work in planning swine production systems.

### **Poultry Production**

This module is designed for students learning to manage poultry on a small or large scale, for production of eggs, meat or young birds. It provides an understanding of breeds, nutrition, disease, layers, broilers, incubation, brooding, record-keeping, economics and marketing in poultry production.

### **Dairy Processing**

This module is designed for students learning the full range of by-products of milk, cheese types around the world and their production, the full microbiology and morphology of cheese milk and the cheese ripening techniques.

### **Aquatic and Marine Biology**

This module is designed for students to understand the life in marine and freshwater environments through an ecological approach, the aquatic plant biology and taxonomy as well as to acquire knowledge in aquatic invertebrate animal biology and physiology.

### **Advanced Aquaculture**

This module is designed for students to understand the aquaculture systems and technologies in aquatic organisms' production as well as the processes to ensure good water quality in all stages of production and the importance of filtration in aquaculture systems.

### **Veterinary Nursing**

This module provides a fully understanding of the basics of canine and feline anatomy and physiology as well as students will be able to learn about the animal handling and behaviour, clinical procedures and to undertake correct practises as a surgical assistant.

### **Pet Grooming**

This module provides an understanding of the pet grooming principles and practises, the handling of different feline and canine breeds. Students will be able to understand the fur and coat of pets as well as nail maintenance and the conditioning of other animals.

### **Practical experience (I) and (II)**

These modules are designed for students to undertake a yearlong placement in a single or multiple workplace, where the student under guidance from the supervisor and industry professionals will develop into practise, the scientific and practical knowledge as well as the common skills acquired during the course.