Animal Husbandry I - Animal Anatomy And Physiology 100 Hours Certificate Course

Ex Tax: £295.00

Technical data

How Do Our Tuition Fees Compare?:

Course Start:

Begin your course at anytime.

None - Our course levels are an indication of the depth of learning you should receive. They do not describe the level of difficulty.

Course Prerequisite:

Endorsed Qualification from TQUK - Training Qualifications UK, an Ofqual Approved Awarding Organisation - Completed written assignments, plus final exam (N.B. Some courses have Final Project alternative).

Course Qualification (Study Option A):

Certificate of Attainment from ADL - Completed written assignments only - no final exam.

Course Qualification (Study Option B):

Comparative Credits Information:

UK Course Credits: 10 - U.S. Credit Hours: 3 - when compared to regulated courses.

Course Duration and Deadlines:

100 hours approx. Course hours given are a guide only. Work at your own pace with no assignment deadlines or completion date. You are in control!

Personal tutor/mentor support from industry relevant professionals throughout your whole course. Mentors are contactable by e-mail, telephone and through the online classroom. They provide assistance with your course material, plus discuss, explain and give advice when needed.

Study Support:
Suitability for Self Employment and Small Businesses:

Our courses are ideal for sole traders and small business owners and their staff. Customer confidence in what you can do will determine how successful you are in getting clients. Completing one or more of our courses for the service you have to offer, will give you the tools to grow your business.

Recognition of Your Course By Employers:

We aim to achieve the correct balance between your qualification being recognised and providing you with the in-depth learning, to empower you to succeed. Select study option A when enrolling, so an employer can check the status of the awarding organisation for your qualification on the Ofqual Register.

Recognition of Your Course By Universities:

Previous students have used their qualification to get into university. However each one will have its own entrance criteria and acceptance may also depend on your other qualifications and experience.

Designing Your Own Qualification:

Bundle up your choice of related courses to form your own qualification. Choose from a Diploma (6 courses), Advanced Diploma (8 courses) and Higher Advanced Diploma (12 courses).

How Can I Enrol?:

Online via eCommerce, by completing our Online Application Form, or by calling us on +44 (0) 1227 789 649. Lines open 9am till 5pm Monday to Friday, excluding Bank Holidays and between Christmas and New Year.
How Can I Get a Pro-forma Invoice for my Employer?

Contact us with details and we will email your employer an invoice. We will need: employer's name, address, telephone number, email address and contact name. We will also require your name, telephone number, email address, date of birth and the course and code you wish to enrol for.

Animal Husbandry course online - Home Study - Distance Learning. Working with animals? Get back to basics! Gain a thorough foundation knowledge of animal anatomy and physiology.

This is essential for careers requiring good animal care and management. An excellent starting point for working with animals in any situation (farms, pets, zoos, wildlife, animal protection). Learn at your own pace through distance learning.

Learning Goals: Animal Anatomy And Physiology (Animal Husbandry I ) BAG101

- Differentiate and describe the basic structure and function of cells and tissues of animals.
- Explain the digestive system, in terms of both structure and function, of animals.
- Explain the circulatory systems, in terms of both structure and function, of animals.
- Explain the urinary system, in terms of structure and function, of animals.
- Explain the nervous system, in terms of structure and function, of animals.
- Explain the respiratory system, in terms of structure and function, of animals.
- Explain the reproductive system, including structure and function, of animals.
- Explain the skeletal system, in terms of structure and function of animals.
- Explain the biological mechanisms underlying the growth and development of specified animal species.
- Explain the endocrine system, in terms of structure and function, of animals.
• Explain the muscular system, including the structure, function, and meat quality of animals.
• Explain the differences between various types of farm animals, in terms of structure and function.
• Explain the nature of animals in the primary production industry, with specific reference to your locality.

Lesson Structure: Animal Anatomy and Physiology (Animal Husbandry I)

There are eleven lessons in this course

1 Introduction to cells & tissues;
• Livestock classes
• Livestock products
• Interrelationship between crops and livestock
• Cells and tissues
• Special properties of cells
• Osmosis
• Nutrient waste

2 The Digestive System;
• Digestive system
• Mouth
• Tongue
• Teeth
• Oesophagus
• Simple stomach
• Small intestine
• Large intestine
• Ruminant stomach
• Accessory organs of the digestive system
• Digestion, absorption and utilisation in the simple stomach
• Enzymes
• Breakdown by microorganisms
• Digestion, absorption and utilisation in the ruminant stomach
• Mechanical action
• Action of micro-organisms
• Utilisation of the end products of digestion

3 The Circulatory System;
• Circulatory system
• Composition of blood
• Functions of blood
• Clotting mechanism
• Immunity
• Blood vessels
• Arteries, veins, capillaries
• Physiology of the circulatory system
• Rates of heart beats
• Spleen
• Lympathic system
• Circulatory networks

4 The Urinary System;
• Anatomy of the urinary system,
• Kidneys ureter, bladder
• physiology of urinary system
• Excretion in different animals.

5 The Nervous System;
• Central and peripheral nervous system
• Main parts of the nervous system
• Neurones, sensory neurones, motor neurones
• Central nervous system
• The brain
• Spinal cord
• Peripheral nervous system
• Cranial nerves
• Spinal nerves
• Autonomic nervous system
• Reflex actions
• Endocrine system
• Structure and function of the ear: Hearing
• Structure and function of the eye: The iris
• Structure and function of the nose.

6 Respiration;

• Anatomy of respiration
  • Trachea
  • Bronchial tree
  • Lungs
• Physiology of respiration
• Gaseous exchange Rate and depth of breathing.

7 The Reproductive System;

• Anatomy of the male reproductive system: testes, accessory organs, penis,
  physiology of male reproductive system, hormone production, sperm production,
  erection, ejaculation, fertility problems in males, Venereal diseases
• Other diseases
  • Injury,
  • Physical immaturity Emotional immaturity
• Nutrition
  • Poor handling
• Anatomy of female reproductive system, ovaries, fallopian tubes, uterus, cervix,
  physiology of the female reproductive system, ovulation, oestrus cycle, fertility
  problems, difficulties conceiving,
• Venereal and other diseases
• Physical abnormalities
• Nutrition
  • Inability to carry a foetus to full term
• Pregnancy and parturition
  • Fertilisation
  • Pregnancy
  • Parturition
  • Birth process
  • Difficult births
• Structure of the mammary glands
• Secretion of milk
• Milk ejection
• Reproduction data for cows, sows and ewes.
8 **Muscles & Meat**;

- Muscles and meat
- Smooth muscle
- Striated voluntary muscle
- Cardiac muscle
- Structure of meat
- Dressing out percentage
- Composition of the beef animal
- Meat quality and tenderness
- Juiciness, flavour, cuts and joints of meat.

9 **The Skeleton**;

- Bones
- How bones are formed
- Anatomy of bones
- Fractures and fracture healing
- Five types of bone
- Joints of bone
- The skeleton
- Dentition
- The dental formula
- Cattle, dental formula of an ox and cow
- Eruption of permanent teeth
- Pigs

10 **Animal Growth, Development, and the Endocrine System**;

- Growth and development
- Growth curve
- Prenatal growth
- Post-natal growth
- Fat
- Factors which affect the size of newborns
- Factors affecting post-natal growth
- Early maturing
- Compensatory growth
- Endocrine system
- Pituitary gland
- Thyroid
- Parathyroid
• Thymus
• Adrenal bodies
• Pancreas
• Testes
• Ovaries
• Pineal body
• Mucous membrane of the stomach

11 Comparing Different Animals:

• Poultry
• Digestion
• Gullet
• Crop
• Proventriculus
• Gizzard
• Intestine
• Caecum
• Rectum
• Incubating eggs
• Natural incubation
• Symptoms of a broody hen
• Fish

Practicals:

• Identify parts of an animal cell on an unlabelled diagram.
• Describe the major features of a living animal cell, including structure and function.
• Describe one example, of cell interaction in live animals.
• Describe the cell functions for three different types of cells in animals.
• Differentiate between the cellular composition, using illustrations, of animal tissues.
• Explain the functions of four different animal tissue types.
• Describe the processes of nutrient and waste exchange in animal cells.
• Label a diagram of the digestive system of three different animals.
• Describe the processes occurring in digestion, in each section of the digestive system.
• Compare the digestive systems of different farm animals.
• Describe the action of enzymes and micro-organisms in animal digestion.
- Explain the role of accessory organs, including: *the liver *the pancreas.
- Explain the components of blood in animals.
- Explain the biological functions of blood in animals.
- Label on unlabelled illustrations, the parts of the circulatory system in a chosen farm animal.
- Explain the structure of an artery by illustrating and labeling a diagram of its five layers.
- Distinguish the characteristics of the various types of blood vessels in animals.
- Explain the role of the lymphatic system in a specified farm animal.
- Dissect an animal heart, and identify the parts of the heart on a photograph or the dissection.
- Label on an unlabelled diagram, the parts of the urinary system of an animal.
- Explain the role of the urinary system farm animals, including comments on urinary malfunction.

The term anatomy refers to the science that deals with the form and structure of animals. Physiology deals with the study of functions of the animal body or any of its parts. A thorough knowledge of the structure of an animal imparts a lot of information about the various functions it is capable of performing. This course is intended to give an overview of both the anatomy and physiology of many animals. It can be used as an introductory course to further studies; to help you understand how to diagnose disease or determine if an animal has sustained an injury; to help understand the physical capabilities or limitations of particular species; to understand what happens in the nutrition and growth processes; and to assist you to get better performance from your animals.

Your learning experience with ADL will not only depend on the quality of the course, but also the quality of the person teaching it. This course is taught by Vicky Protopapadaki and your course fee includes unlimited tutorial support throughout. Here are Vicky’s credentials:
Vicky Protopapadaki


Vicky’s passion for animals led her to obtain her MSc in Applied Animal Behaviour and Animal Welfare, despite her having a background in business and management. Apart from her personal experience with animals, she volunteers at various animal shelters around Greece and has done research on feline behaviour at the University of Prince Edward Island in Canada and on primate behaviour at Edinburgh Zoo. She is currently researching PhD opportunities in the field of animal ethics and studying entrepreneurship for the purpose of creating her own charity for animal protection in Greece.

---

Excerpt from the Course

THE COMPOSITION OF BLOOD

Blood is a connective tissue that transports substances throughout the body. The following components of blood can be identified:

Plasma

This is a straw coloured fluid containing 90% water and 10% solids. The solids are:

- Proteins: Serum albumin, Fibrinogen (concerned with blood clotting)
- Globulin (deals with disease immunity)
- Hormones
- Lipids or fats
- Cholesterol
- Enzymes
- Inorganic chemicals: these are the ions of salts and acids, some of which are essential in cell metabolism and others which act as buffers, reducing strong acids and alkalis
to weaker acids/alkalis and neutral salts.

- **Nitrogenous compounds**: amino acids, urea, uric acid and ammonium salts.

**Red Blood Cells**

The red blood cells are called *erythrocytes*, and there are five million in a single millilitre of blood. They are dish-shaped discs (concave on either side) which specialise in transporting oxygen. Oxygen is bound to haemoglobin so it can be carried in the blood. Haemoglobin also gives blood its characteristic red colour. Red blood cells are produced in the marrow of bones and they have a life span of three to four months. After that they disintegrate and the pigments produced by their destruction are excreted in bile.

**Blood Platelets**

These are small irregular shaped fragments of *protoplasm* which are formed in the marrow of bones and which play an important role in the clotting of blood and the prevention of blood-loss from a wound. They do this by sticking to each other and to the walls of blood vessels at the place of an injury. Platelets also release a substance called serotonin, which causes the blood vessels in the area to constrict in order to produce a drop in blood pressure.

**White Blood Cells**

These are called *leucocytes* and there are between 4000 and 11000 per ml of blood. There are various types of leucocytes of different shapes and sizes. They play an extremely important part in the defence mechanism of the body. They can form barriers against disease and can also engulf harmful material such as bacteria. They play a role in the formation of antibodies and in the immunity mechanism of the body. They are formed in the bone marrow and in the lymph tissues, the spleen, the tonsils and lymph nodes.

**THE FUNCTIONS OF THE BLOOD**

The main functions of the blood are as follows:

1. Transport nutrients from the digestive tract to the body tissues and organs
1. Transport oxygen from the lungs to the tissues and to carry carbon dioxide from the tissues back to the lungs
1. Carry waste products from the tissues to the kidneys
1. Transport hormones from the endocrine glands
1. Regulate the body temperature by transporting heat from the deeper organs in the body up to the surface at the skin

1. Maintain the water balance of the body

1. Maintain the pH (acidity/alkalinity) balance of the tissues and organs

1. Prevent too much blood loss by clotting factors

1. Provide immunity

**Clotting Mechanism (coagulation)**

When a blood vessel is injured, a substance called *thromboplastin* is released which is converted to active thrombin.

Thrombin reacts with fibrinogen in blood plasma, forming a substance called fibrin. Fibrin is in the form of fine, thread-like filaments which wrap around the red blood cells, the white blood cells and the platelets to form a clot which stops further bleeding.

**Immunity**

Immunity is the most important innate defence mechanism of the animal. It develops when the animal is exposed to the invasion of any foreign protein or protein-like substance. Such foreign proteins are known as *antigens*.

Once inside the body, antigens eventually end up in the bloodstream where they produce poisons called toxins. Bacteria have proteins on their surfaces and so act as antigens.

The presence of antigens in the blood stimulates the production of antibodies which kill the invading antigens and sometimes destroy the toxins they have produced.

These antibodies are very specific, i.e. they act only against one particular antigen so that each disease stimulates its own antibodies. This fact is used in such precautions as vaccinations and immunisation.
Animal Health Ebook

A complete guide to caring for animals, designed for anyone involved in their day to day care, including farmers, pet owners and students.

Animal Health

By the Staff of ACS Distance Learning

Animal Health eBook course online. Animal welfare and wellbeing has become increasingly important in recent times and is a major social issue in developed countries.

“For the past 10,000 years, people all over the world have domesticated animals for various purposes. Some animals such as dogs and cats were domesticated as pets to provide company to humans. Livestock animals such as cattle and sheep were kept to provide products such as meat, wool or milk, or kept as working animals. No matter what the reason, animals and humans have been connected over an extended period of time.

Optimum health is essential to the wellbeing and longevity of all animals. It is the responsibility animal owners to ensure the welfare of the animals within their care. As part of the general care of animals, we need to be able to identify diseases. The first step in recognising diseases in animals is to understand when an animal is unwell. This generally requires three things: information on the history of the animal, a physical
examination and specialized testing to identify the cause of the illness."

CONTENTS

Preface

Introduction

Understanding Animal Health Issues

Preventing Disease and Injury

Inspecting for Health

Differential Diagnosis

Some Common Illnesses in Animals