

**GURU KASHI UNIVERSITY**  
**UNIVERSITY COLLEGE OF AGRICULTURE (Code:5)**  
**Diploma in Veterinary Sciences and Animal Health Technology (Code:515)**

**Elementary Animal Husbandry (515101)**

**Credits: 4**

**L T P**  
**4 0 0**

- Common breeds of Cattle, Buffalo, Sheep, Goat, Pig, Horse;
- Animal production systems; Principles of housing for farm animals;
- Routine management practices for various categories of livestock (calves, heifers, pregnant and lactating animals etc.) and sick animals;
- Introduction to methods of castration;
- Milking techniques and clean milk production;
- Sanitation and hygiene practices;
- Record keeping and responsibilities of veterinary inspector/para-veterinarian, waste management, Branding techniques in animals.
- Biosecurity methods at livestock farm.
- General practices- grooming, exercising, dehorning.
- Identification of animals.

**Elementary Livestock Handling (515102)**

**Credits: 3**

**L T P**  
**3 0 0**

- An overview of animal behaviour, Common tools used for animal control;
- Methods of restraint and handling of animals and casting.
- Colours and markings of animals;
- Dentition and Hoof trimming in bovine;
- Prevention of cruelty to animals.
- Preparing animals for show/animal fair.
- Basics of cattle judging.
- Transportation of animals.

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**Elementary Animal Nutrition (515103)**

**Credits: 3**

**L T P**  
**3 0 0**

- Principles of animal nutrition;
- Digestive system;
- Nutritional importance of carbohydrate, lipid, protein, vitamins, minerals and water;
- Common feed and fodder;
- Scientific feeding and feeding scheduled for different categories of livestock;
- Anti nutritional factors;
- Feed additives;
- Preparation of Hay and Silage.
- Precautions in the storage of feed and fodder.
- Utilization of Agro-by products.
- Absorption of Carbohydrate, protein and fat.
- Physiological role of different vitamin in animal body.
- Physiological role of different minerals in animal body.

**Elementary Anatomy and Physiology of Animals (515104)**

**Credits: 3**

**L T P**  
**3 0 0**

- Introduction to anatomy and physiology of musculoskeletal, digestive, cardiovascular, respiratory, nervous, excretory, male and female reproductive and endocrine system;
- mammary glands of domestic animals;
- Body cavities and its related organs.
- Basic physiological parameters of domestic animals.
- Milk secretion mechanism.
- Blood functions.

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**Elementary Animal Husbandry Lab (515105)**

**Credits: 2**

**L T P**  
**0 0 4**

- Body parts of various livestock species;
- Routine dairy farm operations;
- Identification of different breeds;
- Identification techniques; Calf management and disbudding.
- Housing patterns;
- Cleaning and disinfection of dairy farm;
- Recording of basic physiological parameters in different livestock species.

**Elementary Livestock Handling Lab (515106)**

**Credits: 1**

**L T P**  
**0 0 2**

- Dentition;
- Colours; Markings;
- Identification method/techniques
- Hoof Trimming
- Restraint and handling of animals, Preparing animals for show/animal fair.

**Elementary Animal Nutrition Lab (515107)**

**Credits: 1**

**L T P**  
**0 0 2**

- Identification and classification of feed and fodder;
- Sampling and preparation of feed.
- Preparation of hay and silage;
- Upgradation of roughages;
- Preparation of concentrate.

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**Basic Computer Applications Lab (515108)**

**Credits: 2**

**L T P**  
**0 0 4**

- Knowledge about the computer accessories.
- Use computer in handling and presenting veterinary and livestock data.
- Working in Windows operating system.
- Working with MS Word, Spreadsheet using MS Excel, Graphics and MS Power Point. Internet and World Wide Web, E-mail and internet service, Computer viruses. antivirus.

**Elementary Anatomy and Physiology of Animals Lab (515109)**

**Credits: 1**

**L T P**  
**0 0 2**

- Topographic anatomy and localization of various organs and body systems in domestic animals;
- Recording of normal physiological parameters;
- Examination of normal blood for Hemoglobin, Total Leucocyte Count, Differential Leucocyte Count, Packed Cell Volume, Erythrocyte Sedimentation Rate.
- Physical and chemical analysis of urine.

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**Elementary Pharmacology (515201)**

**Credits: 3**

**L T P**  
**3 0 0**

- Introduction to Pharmacology, Nature and sources of drugs;
- Routes of drug administration Dosage forms;
- Pharmaceutical processes;
- Handling of hazardous substances;
- Common antiseptics and disinfectants;
- Weights and measures;
- Pharmacy calculations;
- Classification of important drugs;
- Important Indigenous drugs.

**Elementary Poultry Science (515202)**

**Credits: 2**

**L T P**  
**2 0 0**

- Common breeds/strains of poultry;
- Different housing/rearing systems;
- Management of layer and broiler farm; Brooding;
- Hatchery routines;
- Cleaning of poultry sheds and litter management;
- Bio-security;
- Feeding and poultry ration;
- Introduction to common poultry diseases;
- Vaccination;
- Introduction to Quail, Emu and Turkey farming.
- Incubation and hatching
- Project report for a poultry farm of 1000 birds.

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**Elementary Animal Husbandry Extension (515203)**

**Credits: 3**

**L T P**  
**3 0 0**

- Extension in rural welfare;
- Community development and rural sociology;
- Principles and objectives of veterinary and animal husbandry extension Qualities of extension worker;
- Extension, teaching method:
- Extension and training programmes.
- Duties of veterinary inspector/ para-veterinarian; Role of media and communication tools.
- Constraints to extension services.
- Classification of audio-visual aids.
- Preparation of extension materials.

**Elementary Animal Reproduction (515204)**

**Credits: 3**

**L T P**  
**3 0 0**

- Female genitalia;
- Estrous cycle;
- Methods of heat detection;
- Gestation in domestic animals Methods of pregnancy diagnosis;
- Abortion in domestic animals;
- Types of infertility in farm animals Sexual health and herd health programme;
- Parturition;
- Care and management of dam and new born calf ,Introduction to parturient problems in dairy animals.
- Reproduction process and various stages of offspring.
- Breeding methods.

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**Elementary Andrology and Artificial Insemination (515205)**

**Credits: 2**

**L T P**  
**2 0 0**

- Study of male genitalia and gonads;
- Methods of semen collection and storage and semen evaluation.
- Handling of fresh/frozen semen and preservation.
- Artificial insemination;
- Diseases transmitted through semen.
- Deep freezing
- Selection, training and management of breeding bull.
- Factors affecting quality and quantity of semen.

**Elementary Veterinary Epidemiology and Public Health (515206)**

**Credits: 2**

**L T P**  
**2 0 0**

- Introduction to epidemiology, surveillance and monitoring of common seasonal diseases;
- Public health considerations Common zoonoses and their management;
- Disposal of cadaver;
- Concept of contagious, notifiable diseases and outbreaks.

**Elementary Pharmacology Lab (515207)**

**Credits: 1**

**L T P**  
**0 0 2**

- Basic equipments;
- Fundamental techniques in pharmacy;
- Dispensing and labelling of drugs;
- Preparation of solutions, ointments, lotions, tinctures, liniments, mixtures, electuaries etc

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**Elementary Poultry Science Lab (515208)**

**Credits: 1**

**L T P**  
**0 0 2**

- Hatchery operations;
- Hand of birds;
- Vaccination of birds;
- Practical feeding, watering cleaning of poultry sheds;
- Debeaking;
- Assisting in Opening bird for post mortem and morbid material collection, preservation and dispatch for laboratory diagnosis.

**Elementary Animal Husbandry Extension Lab (515209)**

**Credits: 1**

**L T P**  
**0 0 2**

- Audio-visual aids; awareness campaigns;
- Mass media; Preparation of charts, leaflet, pamphlet poster, flash cards etc
- Presentations by students

**Elementary Animal Reproduction Lab (515210)**

**Credits: 1**

**L T P**  
**0 0 2**

- Study of female genitalia of domestic animals;
- Heat detection;
- Rectal palpation for artificial insemination, care of instruments for gynaecological procedures; Record keeping.

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**Elementary Andrology and Artificial Insemination Lab (515211)**

**Credits: 1**

**L T P**  
**0 0 2**

- Breeding bull management;
- Exercise and physical examination of breeding bulls;
- Preputial washings;
- Preparation of artificial vagina;
- Preparation of dummy/bull;
- Handling of fresh and frozen semen Artificial insemination;
- Artificial Insemination.
- Care, storage, sterilization of equipments and record keeping.

**Elementary Veterinary Epidemiology and Public Health Lab (515212)**

**Credits: 1**

**L T P**  
**0 0 2**

- Attending to an outbreak of disease and assisting veterinarian in collection of material in outbreak of disease;
- Disposal of infectious material.

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**Elementary preventive veterinary medicine (515301)**

**Credits: 3**

**L T P**  
**3 0 0**

- Introduction to common diseases of livestock;
- Hemorrhagic Septicaemia, Brucellosis, Tuberculosis, Foot and Mouth Disease, Rabies, Johne's disease, Glanders, Classical Swine Fever, etc.
- Insecticide toxicities, Preventive health measures for bacterial viral and parasitic diseases in various species.

**Elementary Parasitology (515302)**

**Credits: 3**

**L T P**  
**3 0 0**

- Introduction to common parasites i.e. protozoa, trematodes, cestodes, nematodes and arthropods in livestock;
- Economic importance of parasitic diseases of livestock.

**Veterinary Hospital Maintenance (515303)**

**Credits: 2**

**L T P**  
**2 0 0**

Maintenance of case record; Basic accounting; Preparation of bills and maintenance of consumable and nonconsumable stock of hospital; Preparation of animals for surgical operation; Care and maintenance of surgical and anesthetic equipments; Assisting veterinary surgeon in post operative care; Sterilization of operation theatre; Surgical pack and surgical instruments; Types of suture materials.

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**Elementary Veterinary Medicine (515304)**

**Credits: 3**

**L T P**  
**3 0 0**

- Introduction to diseases of digestive, respiratory musculo-skeletal, urinary and nervous system;
- Mastitis;
- Milk fever; Ketosis; PPH and Downer Cow Syndrome.
- Deficiency diseases caused by minerals and Vitamins deficiencies .
- Toxicities such as selenium ,molybdenum, fluoride etc.

**Elements of Wound care and Management (515305)**

**Credits: 3**

**L T P**  
**3 0 0**

- Wound causes, classification;
- Types of wound dressings;
- Basic concepts of Abscess, Ulcer, Haematoma, Cyst, Tumour and Hernia;
- Clinical use of antiseptics, fly repellents, anti maggot etc.;
- First aid in sick animals including fracture cases.
- Management of bloat;
- Hoof care.

**Basic Clinical Pathology and Laboratory techniques (515306)**

**Credits: 3**

**L T P**  
**3 0 0**

- Handling of laboratory equipment, glassware and chemicals;
- Cleaning and sterilizing of laboratory wares;
- Basic microscopy principles;
- Blood collection techniques;
- Use of anticoagulants;
- Serum and plasma separation;
- Urine collection, preservation and common physical and chemical tests;
- Collection, preservation and dispatch of tissues for histopathology.
- Post –mortem examination (Basics).

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**Procurement handling and testing of milk (515307)**

**Credits: 2**

**L T P**  
**2 0 0**

- History of dairy development in India. Three tier structure of dairy cooperatives.
- An introduction to Indian dairy industry with special reference to dairy sector in Punjab.
- Milk definition, its composition, factors affecting the quality of milk and standards. Milk collection systems and its handling (transportation, reception and storage).
- Platform tests for quality analysis of milk. Important sanitary and hygienic practices for milk handling.
- Cleaning and its importance. Introduction to common detergents and sanitary agents. Milk pricing system and its concept.

**Elementary preventive veterinary medicine Lab (515308)**

**Credits: 2**

**L T P**  
**0 0 4**

- Nursing care and client education in control and prevention of prevalent diseases. Testing of animals for TB/JD and Brucellosis
- Testing of fodder samples for nitrate and cyanide toxicity etc;
- Vaccination for different diseases in animals.

**Elementary Parasitology Lab (515309)**

**Credits: 1**

**L T P**  
**0 0 2**

- Demonstration of endo and ecto parasites;
- Demonstration of eggs/oocysts of parasites.
- Preparation of blood smears and common staining techniques for demonstration of blood protozoa.
- Procedure for collection and dispatch of clinical samples (blood, faecal & skin scrapping) to parasitological laboratory.
- Testing of Faecal samples.

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**Veterinary Hospital Maintenance Lab (515310)**

**Credits: 1**

**L T P**  
**0 0 2**

Maintenance of case records; Maintenance of stock register; Administration of drugs; Handling and care of instruments and equipments; Preparation of surgical pack; Sterilization of surgical instruments; Preparation of animals for surgical procedure; Assisting veterinary surgeon in post operative care; Sterilization of operation theatre; Handling of biomedical waste.

**Elementary Veterinary Medicine Lab (515311)**

**Credits: 2**

**L T P**  
**0 0 4**

- Signs of healthy and diseased animals;
- Medication methods of drenching, dipping, bathing, spray;
- First aid in animals; Recording of temperature pulse, respiration rate;
- Mucus membranes in healthy and diseased animals; Intravenous intramuscular, subcutaneous, oral and topical routes of drug administration. Collection of milk sample;
- Recording of ruminal motility; collection of ruminal liquor, passing of stomach tube.

**Elements of Wound care and Management Lab (515312)**

**Credits: 1**

**L T P**  
**0 0 2**

- Handling of animals;
- Dressing of aseptic, infected and maggot wounds;
- Use of sling;
- Dressings and bandages of surgical wounds; First aid in traumatized animals.

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**Basic Clinical Pathology and Laboratory techniques Lab (515313)**

**Credits: 1**

**L T P**  
**0 0 2**

- Blood collection, Smear making and staining;
- Basic microscopy; Complete blood count; Urine examination;
- Basic staining; Opening of carcass, preservation and transportation of body fluids and tissues; Procedures for different stains.

**Procurement, handling and testing of the milk Lab (515314)**

**Credits: 1**

**L T P**  
**0 0 2**

- Milk testing. Physico-chemical and organoleptic test, compositional test, MBRT and adulteration test.
- Introduction to the automatic milk collection system. Bulk milk chiller and common analytical equipments at milk collection society chilling centre.
- Visit to the milk collection society at village level (to get first hand information about the maintenance of the financial balance sheet at society level bouns calculation, maintenance of the membership register, individual ledger and cash book).
- Visit to the milk reception dock at chilling centre/or dairy plant.

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**Training on Animal Farm Management (515401)**

**Credits: 6**

**L T P**  
**0 0 12**

- Handling, management practices of Dairy farm, Stud Farm, Poultry Farm, Piggery Farm, Sheep and Goat farm, Routine farm operations including vaccination etc. Communicating with farmers;
- Use of audio and visual aids for training of farmers;
- Organizing meetings etc;
- Extension programmes;  
Animalwelfare camps.

**Training on Clinical Practices (515402)**

**Credits: 6**

**L T P**  
**0 0 12**

- Handling and dealing with sick animals, Record keeping;
- Medication;
- Post operative management of surgical patients;
- Care of pregnant animals;
- Vaccination;
- Preparation of solutions, lotions, tinctures, ointments, mixtures (carminatives, laxatives. purgatives, febrifuge etc.), Electuaries etc.

**Training on Lab Techniques (515403)**

**Credits: 6**

**L T P**  
**0 0 12**

- Handling of laboratory equipment;
- Methods for sending various samples to laboratory for examination;
- Blood smear preparation;
- Staining;
- Complete blood count
- ; Serum and plasma separation;
- Preservation of serum, plasma and tissues;
- Urine examination;
- Preparation of smears for faecal examination.

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**Training on Artificial Insemination (515404)**

**Credits: 6**

**L T P**  
**0 0 12**

- Management of breeding bull;
- preparation of dummy;
- Artificial vagina preparation;
- preparation of extenders;
- Handling of chilled and frozen semen;
- Storage of semen;
- Handling of liquid nitrogen including its containers;
- Artificial insemination;
- Record keeping.