

**GURUKASHI UNIVERSITY**

**TALWANDI SABO**



**COURSE CURRICULUM**

**UNIVERSITY COLLEGE OF AGRICULTURE**

**DIPLOMA IN LIVESTOCK AND VETERINARY  
SCIENCES**

**(APPLICABLE FROM 2015-16 SESSION)**

**COURSE CURRICULUM:- DIPLOMA IN LIVESTOCK AND VETERINARY SCIENCES**

**GURU KASHI UNIVERSITY**  
**UNIVERSITY COLLEGE OF AGRICULTURE**  
**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Animal Husbandry (510101)**

**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; Routine farm practices;
- Record keeping and responsibilities of veterinary inspector/para-veterinarian, waste management, Branding techniques in animals.
- Biosecurity methods at livestock farm.

**Elementary Livestock Handling (510102)**

**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;
- Colours and markings of animals; Dentition Hoof trimming in bovine;
- Prevention of cruelty to animals. Preparing animals for show/animal fair.

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**Elementary Animal Nutrition (510103)**

**Credits: 3**

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

- Principles of animal nutrition;
- Digestive system;
- Nutritional importance of carbohydrates, lipids proteins, vitamins, minerals and water;
- Common feeds and fodders;
- Scientific feeding and feeding scheduled for different categories of livestock;
- Anti nutritional factors;
- Feed additives;
- Hay and Silage making Precautions in the storage of feed and fodder.
- Utilization of Agro-bye products

**Elementary Anatomy and Physiology of Animals (510104)**

**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.

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**Elementary Animal Husbandry Lab (510105)**

**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 ( 510106)**

**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.

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**Elementary Animal Nutrition Lab (510107)**

**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.

**Basic Computer Applications Lab (510108)**

**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.

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**Elementary Anatomy and Physiology of Animals Lab (510109)**

**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 Hb, TLC, DLC PCV, ESR.
- Physical and chemical examination of urine.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Pharmacology (510201)**

**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 (510202)**

**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 rations;
- Introduction to common poultry diseases;
- Vaccination;
- Introduction to Quail, Emu and Turkey farming.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Animal Husbandry Extension (510203)**

**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.

**Elementary Animal Reproduction (510204)**

**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.



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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Andrology and Artificial Insemination ( 510205)**

**Credits: 2**

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

- Study of male genitalia and gonads;
- Methods of semen collection and storage;
- Handling of fresh/frozen semen;
- Artificial insemination;
- Diseases transmitted through semen.

**Elementary Veterinary Epidemiology and Public Health (510206)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Pharmacology Lab (510207)**

**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

**Elementary Poultry Science Lab (510208)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Animal Husbandry Extension Lab (510209)**

**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 (510210)**

**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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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary Andrology and Artificial Insemination Lab (510211)**

**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;
- Care, storage, sterilization of equipments and record keeping.

**Elementary Veterinary Epidemiology and Public Health Lab (510212)**

**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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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary preventive veterinary medicine (510301)**

**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 (510302)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Veterinary Hospital Maintenance (510303 )**

**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.

**Elementary Veterinary Medicine ( 510304)**

**Credits: 3**

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

- Introduction to diseases of digestive, respiratory musculo-skeletal, urinary and nervous system;
- Mastitis;
- Milk fever; Ketosis; Haemoglobinuria;
- Deficiency diseases caused by minerals and Vitamins deficiencies .

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elements of Wound care and Management (510305)**

**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 (510306)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elementary preventive veterinary medicine Lab ( 510307)**

**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;
- Cyanide toxicity etc;
- Vaccination for different diseases in animals.

**Elementary Parasitology Lab ( 510308)**

**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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**Diploma in Livestock & Veterinary Science (course code:510)**

**Veterinary Hospital Maintenance Lab (510309 )**

**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 (510310)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Elements of Wound care and Management Lab (510311)**

**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.

**Basic Clinical Pathology and Laboratory techniques Lab (510312)**

**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.

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**Diploma in Livestock & Veterinary Science (course code:510)**

**Training on Animal Farm Management (510401)**

**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 (510402)**

**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.

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**Training on Lab Techniques (510403)**

**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.

**Training on Artificial Insemination (510404)**

**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.