THOMPSON RIVERS UNIVERSITY | Veterinary Technology

2ND YEAR STUDENT LEARNING CAPABILITIES BY FEBRUARY

For Practicums: 3 Weeks each held in February and May

ANESTHESIA

1. **Premed/Drugs**
   a. Understand the common premeds and effects on the body including contraindications
   b. Understand the need for anticholinergics
   c. At home sedatives like Gabapentin and Trazadone

2. **Induction**
   a. Understand the types of induction drugs available including:
      a. Propofol
      b. Alfaxalone
      c. Ketamine, Ketamine/benzodiazepine, Ketamine/propofol
      d. Neurolept-analgesics
   b. Understand indications for mask induction and chamber induction – no longer performed routinely at TRU
   c. Know how to intubate a dog and cat
   d. Transitioning on to inhalant anesthetics

3. **Maintenance**
   a. Maintain an animal once induced with
      i. Injectable drugs
      ii. Gaseous anesthetics using Isoflurane
   b. Monitor an animal under anesthesia, including several parameters to determine anesthetic stages and planes & know when the Veterinarian needs to be informed

4. **Recovery**
   a. Recognize when to extubate patient
   b. Understand the need for ongoing post anesthesia monitoring

5. **Equipment Care & Maintenance**
   a. Endotracheal tubes
   b. Rebreathing bags and circuits
   c. Anesthetic machines

DENTISTRY

1. Know the dentition for the dog & cat
2. Identify, use and care of basic hand instruments
3. Use an ultrasonic scaler and a simple dental unit
4. Perform dental radiography using a digital dental x-ray unit
5. Understand the principles of simple extractions
6. Understand periodontal disease, its progression and its treatment
7. Know how to perform a complete dental cleaning on a dog or cat
8. Be able to give the client basic education on teeth health care

LABORATORY ANIMALS

1. Know how to pick up, handle & restrain rats & mice
2. Perform a PE, including sexing the animals
3. Know how to obtain a blood sample from each species
4. Understand the basic concepts of anesthesia for rats & mice
5. Understand nutritional & husbandry needs for rats & mice
6. Know basic concepts of quality control/biohazard containment associated with lab animals in research.

THOMPSON RIVERS UNIVERSITY | Veterinary Technology

2ND YEAR STUDENT LEARNING CAPABILITIES BY FEBRUARY

For Practicums: 3 Weeks each held in February and May

ANIMAL DISEASES

1. Be able to recognize common diseases in small and large animals
2. Be able to give basic advice on the disease, its communicability and methods of prevention

SMALL ANIMAL CARE

1. Perform physical exam, TPR & know normal ranges for these parameters
2. General bathing / grooming procedures
3. Basic eye care / ear cleaning
4. Administration of IV, IM, Sub Q, P/O medications
5. Enemas
6. Anal gland expression
7. Perform basic bandage techniques
8. Collect various samples - blood, urine, fecal
9. Perform basic limb stabilization techniques including:
    a. Thomas Splint – discussed only – no demo
    b. Metasplint
    c. Robert-Jones bandage – discussed only – no demo
        i. Care for a traumatized animal including instillation of jugular or extremity catheter & know fluid requirements for these animals
        ii. Cytocentesis & urinary catheterization (female & male dog & cat)
10. Nutritional needs for various types of patients
11. Understand the principles of enteral nutrition and techniques
12. Animal restraint including muzzles/cat bags
13. Apply basic physiotherapy techniques
14. Manage and deliver nursing care to pediatric and geriatric patients

LARGE ANIMAL CARE

1. Perform basic restraint procedures in cattle, sheep, goats, horses, & poultry
2. Clean hooves & perform routine hoof trimming on small ruminants & horses
3. Perform IV, Sub Q & IM injections
4. Collect blood samples
5. Basic nutrition, genetics, vaccination protocols & large animal husbandry
6. Knots
7. Basic familiarity of L.A. instruments
8. Bandaging
9. Reproductive behavior, parturition and neonatal care

PHARMACOLOGY

1. Be familiar with the various types of drugs used in a Veterinary practice & understand their possible side effects/consequences including:
    a. antibiotics
    b. cardiovascular drugs
    c. G/I drugs
    d. Anti-inflammatory drugs
        i. Steroids
        ii. Non steroidal
    e. Narcotics & the Narcotic & Control Drug Act
2. Understand how to properly label/dispense medication

THOMPSON RIVERS UNIVERSITY | Veterinary Technology

2ND YEAR STUDENT LEARNING CAPABILITIES BY FEBRUARY

For Practicums: 3 Weeks each held in February and May

LAB PROCEDURES

1. Microbiology
   a. streak plates
   b. Do grams stain
   c. Do basic ID of organism
2. CBC
   a. Perform White Blood cell estimate on blood film
   b. Do differential & ID toxic cells
   c. Assess RBC morphology
   d. Do a complete CBC including PCV, TSP
3. Urinalysis
   a. Do basic Dip stick procedures
   b. Examine urine sediment for casts, WBC, bacteria, renal cells, crystals
4. Clinical Chemistries
   a. Understand the concept of quality control
   b. Understand the methodology of and "trouble-shoot" dry serum chemistry techniques (we use Idexx equipment in the laboratory at TRU)
5. Parasitology
   a. Perform fecal analysis for common mammals & ID common parasites
   b. Perform Heart worm tests (Knotts)
   c. Know life cycles of common mammalian parasites
   d. Understand the various types of parasiticides available
6. Understand the concept of ELISA tests and how to perform them

OFFICE/COMMUNICATION SKILLS

1. Be confident in Microsoft Word and Power Point
2. Students have been trained in the basic functions of a Veterinary Software package - Cornerstone
3. Know how to prepare and write a proper business letter
4. Know how to communicate with clients, including telephone skills
5. Know how to prepare a CV, and conduct an interview for employment
6. Know proper medical terminology
7. Maintain client medical files
8. Understand the concept of client confidentiality & proper record keeping
9. Understand and support human animal relationships, including pet loss and grief
10. Conduct oneself in a professional and ethical manner

RADIOLOGY

1. Prepare & position small animal patients for routine radiographic exposures including:
   a. Extremities
   b. Spine & skull
   c. Chest/abdomen
   d. Dentistry
2. Understand the concepts of MAS & KVP & their effect on the radiograph
3. Understand and follow the principals of radiation safety
4. Recognize and correct artifacts
5. Process films via automated and digital techniques
6. Trouble shoot radiographs and correct exposure factors
7. Perform maintenance on accessory radiographic equipment, i.e. screens
8. Perform safety checks on accessory radiographic equipment

THOMPSON RIVERS UNIVERSITY | Veterinary Technology

2ND YEAR STUDENT LEARNING CAPABILITIES BY FEBRUARY

For Practicums: 3 Weeks each held in February and May

SURGICAL ASSISTANCE

1. Know how to prepare surgical packs
2. Know the basic instruments in a surgical pack
3. Understand the concept of sterility
4. Know how to:
   a. prep an animal for basic surgical situations
   b. perform a routine scrub on oneself, gown and glove
   c. surgically drape a patient
   d. pass and use surgical instruments
   e. clean & handle surgical instruments
5. Know the basic types of sutures & suture patterns and how to place skin sutures
6. Know how to assist in a surgical operation
7. Use a gravity displacement autoclave
8. Use a simple IV infusion pump and administer IV fluids
9. Know how to perform identification techniques such as ear tattoos and microchip placement.

COMPANION ANIMAL BEHAVIOR

1. Recognize normal behavior in dogs and cats and to a lesser extend horses and birds.
2. Interpret and apply learning behavior theory including classical and operant conditioning
3. Demonstrate positive, animal friendly management/restraint and training of animals
4. Identify common behavior concerns and problems in dogs and cats and describe/apply sound, basic behavior modification and training techniques to address those concerns
5. Assist clients and others in acquiring current knowledge about pet behavior, and determining/attaining realistic behavior goals to facilitate positive pet-people relationships.

BACKGROUND COURSES

1. Anatomy of Domestic Animals – several species examined
2. Immunology
   a. Theory of vaccinations – Future Trend
   b. Concepts of antigen/antibody interactions
   c. Lab Tests – external lab – PCR, Titers, IFA
   d. Lab Tests – SNAP Tests (in-house) Elisa
   e. Inflammatory process and the body's immune mechanism
3. Math
   a. Drug Calculations
   b. Anesthetic flow rates
   c. Basic Statistical Data
   d. Concentration / Volume Problems
   e. Constant rate infusions of fluids and drugs
4. English
   a. Writing a formal and informal report, including feasibility study
   b. Write memos, reports and letters
5. WHMIS - have written & passed WHMIS exam