

Course discipline/number/title: VT 1810: Parasitology

A. CATALOG DESCRIPTION

1. Credits: 2
2. Hours/Week: 1 lecture, 2 lab
3. Prerequisites (Course discipline/number): BIOL 1220, VT 1220, VT 1510, VT 1900, VT 2020, VT 2910
4. Other requirements: To enroll in the course a grade of C or better is required for previously required courses.
5. MnTC Goals (if any): NA

B. COURSE DESCRIPTION: This course will introduce the student to the clinical laboratory, microscopes and other equipment. Basic laboratory procedures will be emphasized. Fecal identification techniques, life cycles, nomenclature, modes of transmission, geographical distribution and diseases associated with external parasites of small animals, horses and cattle will be discussed. Internal parasites of domestic animals will be taught and identified in this course. Attendance is required for successful completion of the course. To enroll in the course an overall grade of C or better is required for previously required courses.

C. DATE LAST REVISED (Month, year): November, 2022

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Health and safety in the laboratory
2. Maintenance and use of microscope
3. Preparation and preservation of laboratory samples
4. Laboratory equipment maintenance and care
5. Classes of parasites
6. Sample collection
7. Gross examination
8. Laboratory records and quality control
9. Diagnostic procedures
10. Parasitology and public health

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Identify safety and quality control techniques in the laboratory setting.
2. Demonstrate proper use and maintenance of the microscope and laboratory equipment.
3. Lists scientific and common names of parasites.
4. Define and describe lifecycles of various external parasites.
5. Describe clinical signs associated with each parasite.
6. Describe how to identify a parasite infestation.
7. Define treatments and control of external parasite infestations.
8. Define treatments and control of internal parasite infestations.
9. Identify classifications of parasites.
10. Apply client education techniques in relationship to parasitology.
11. Prepare materials for fecal examination.
12. Explain basic principles of lab safety.
13. Perform identification techniques for external parasites including mites, lice, fleas, flies, and ticks.
14. Perform identification techniques for internal parasites including fecal floatation, fecal sedimentation, direct smears, and centrifugation with floatation.
15. Perform coprologic tests.
16. Perform examination of skin scrapings.
17. Perform various laboratory techniques for identification of external and internal parasites.
18. Identify common parasitic forms of nematodes, trematodes, cestodes, and protozoa.
19. Prepare materials and perform blood tests for heartworm.
20. Perform antibody and antigen tests for heartworm, feline leukemia and feline immunodeficiency virus.

F. LEARNING OUTCOMES (MNTC): NA

- G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include any of the following:
1. Laboratory reports and/or quizzes
  2. Examinations
  3. Laboratory practical tests
  4. Course assignments
  5. Projects
- H. RCTC CORE OUTCOME(S). This course contributes to meeting the following RCTC Core Outcome(s):  
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.
- I. SPECIAL INFORMATION (if any):  
The initial lab session explains and familiarizes the student with general safety hazards and safety equipment to the lab. During the pre- lab discussion, the hazardous characteristics of any materials used during a lab are discussed. In addition, if the lab involves any potentially infectious or zoonotic material, the students will be instructed on the proper use and disposal. The instructor will direct all students to where necessary protective equipment while working with any hazardous chemicals. A copy of Material Safety Data Sheets for chemicals used is available in the lab.