A. **Course Description**
   - **Credits:** 3.00
   - **Lecture Hours/Week:** 0.00
   - **Lab Hours/Week:** 3.00
   - **OJT Hours/Week:** 0
   - **Prerequisites:** None
   - **Corequisites:** None
   - **MnTC Goals:** None

As an in-depth study of clinical laboratory procedures, students practice sample collection and handling for hematology, parasitology, blood chemistries, urinalysis, microbiology, cytology and serology. Emphasis is placed on the usefulness of these diagnostic techniques in the context of the animal's overall veterinary care. This course includes discussion of various diseases and disorders evaluated by laboratory testing. Zoonotic disease prevention and biosecurity-safety measures are also covered.

Prerequisites: VTEC 1110

B. **Course Effective Dates:** 8/21/17 – Present

C. **Outline of Major Content Areas**
   As noted on course syllabus

D. **Learning Outcomes**
   1. Compare the roles of the platelets, the RBCs, and the various plasma proteins and types of WBCs. in maintaining health.
   2. Demonstrate ability to recognize accurate versus erroneous results to provide maximum diagnostic benefit, given the characteristics of a patient and specimen collected.
   3. Describe the process of blood typing and blood transfusion.
   4. Describe the process, equipment, and sample handling involved in biopsies of various tissues.
   5. Describe the variety of laboratory testing involved in veterinary medicine and the quality control measures involved with each.
   6. Differentiate between normal and abnormal microscopic appearance of WBCs, RBCs, and platelets.
   7. Discuss zoonotic diseases related to the handling of laboratory specimens.
8. Distinguish laboratory artifacts from true abnormalities and describe the possible causes of these artifacts.
9. Explain how to perform common coagulation tests: buccal bleeding time, ACT, PT, PTT, fibrinogen assay.
10. Explain how to perform urethral catheterization.
11. Identify common animal diseases associated with the various body systems, describing diagnostic testing available for each.
12. Identify common bacterial animal pathogens using commercially available media and reagents.
13. Identify the cells in each stage of hematopoiesis for white blood cells, red blood cells, and platelets.
14. Outline biosecurity-safety safety and security measures that can be employed to protect oneself from zoonotic diseases.
15. Perform a complete and accurate CBC manually and compare values to CBC analyzer.
16. Perform common biochemical and antibiotic sensitivity tests on bacterial specimens.
17. Perform complete urinalyses, including the determination of the physical properties, chemical properties, and sediments.
18. Perform fecal direct smears, floats, centrifugation, and identification accurately.
19. Perform routine complete blood counts, including WBCs with differentials, RBCs, reticulocyte counts, and platelets, and report your findings using correct medical terminology and units.
20. Perform venipunctures on dogs and cats and utilize appropriate collection tubes and supplies.
21. Prepare specimens of blood, urine, other body fluids, and tissue for the appropriate diagnostic analysis.
22. Record medical information pertaining to laboratory test results neatly and accurately.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

F. Learner Outcomes Assessment
   As noted on course syllabus

G. Special Information
   None noted