

Course Code: VTT 114**Course Title:** Clinical Pathology I**Department:** Allied Health**Effective Date:** Summer 2026**PCS Code:** 1.2 - Occupational/Technical Instruction**CIP Code:** 01.8301**Repeatability:** 0

Credit Hours

Catalog Notation: 1-3-2**Credit Hour Distribution:**

Lecture: 1

Lab: 3

Clinical: 0

Total: 2

General Course Information

Catalog Description

Introduction to veterinary clinical pathology, including theory and techniques of hematology, parasitology, and clinical chemistries. Emphasis will be placed on identification, analysis, and evaluation of clinical samples.

General Course Objectives

Introduce veterinary technology students to the common laboratory procedures performed in an animal hospital. Emphasis is placed on the tests the graduate technician will have to perform in the workplace. The major focus of this course is hematology. Accuracy and reproducibility of results is stressed. An introduction is given on fecal preparation and slide reading and Blood Chemistry Analysis.

Minimum Placement Levels

English	Reading	Math
Placement out of ENG 099	Placement out of CCS 099	Placement out of MAT 072

Prerequisites

Concurrent enrollment in VTT 110, VTT 113, VTT 116, and VTT 119

Admission into the Veterinary Technology program

Methods of Evaluation

2-4 lecture quizzes, 2-3 comprehensive objective examinations, 8-12 small online quizzes, 2-4 lab quizzes, 2-4 comprehensive lab practicals, and 3-4 in-class projects.

Instructional Materials and Additional Supplies

VTT 114 Course Manual

Veterinary Technicians Handbook Of Laboratory Procedures, Brianne Bellwood and Melissa Andrasik-Catton. Publisher: Wiley Blackwell. 2nd Edition. ISBN: 9781119672616

Laboratory Urinalysis and Hematology for the Small Animal Practitioner, Carolyn A. Sink and Bernard F. Feldman. Publisher: Teton NewMedia. ISBN: 9781893441101

Lab coat or scrub top

Course Content

General Learning Outcomes (GLOs)

- Communication: Students will demonstrate the ability to read, write, listen, and speak effectively.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction to Microscopy	1. Follow instructions on use and setup of the microscope.	1	1	0
Hematology	1. Demonstrate a working knowledge of the CBC (complete blood count). 2. Develop habits which produce accurate results on normal samples. 3. Recognize normal and abnormal test results and the potential implications for the patient. 4. Demonstrate knowledge of the CBC: purpose of test and information gained from the test; hemoglobin; hematocrit; WBC (white blood cell count); RBC (red blood cell count); and differential smear. 5. Identify the cells which will be seen on a differential smear such as WBC, RBC, and platelets. 6. Demonstrate knowledge of the five types of WBCs and the terminology as seen on the differential. 7. Demonstrate knowledge to critically evaluate the RBC on the differential and use the correct medical terminology. 8. Apply knowledge of identification of platelets to count and report on the numbers seen; attention is given to size and distribution. 9. Discuss errors made while collecting blood samples, serum vs. plasma, and the difference between each and the different techniques to obtain each. 10. Use automated hematology machine to determine certain parameters.	7	37	0
Fecal Examination	1. Identify parasite ova using fecal flotation. 2. Use sanitary technique and demonstrate accuracy during evaluation of the gross fecal sample. 3. Demonstrate proper collection of the fecal sample including types of containers to use, amount needed, preservation of the sample, and client instructions. 4. Perform gross fecal exam including color, consistency, and presence of foreign objects or adult parasites. 5. Demonstrate proper microscopic fecal sample exam including variety of procedures used, solutions and equipment available, and ova identification using common names for the parasites with emphasis on small animal parasites.	3	6	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Blood Chemistries	1. List types of test used for each organ system. 2. Explain at a very basic level how blood chemistry analyzers work and the impact of hemolyzed, lipemic, or icteric samples on the accuracy of the results, the need for quality control checks, and the importance of accurate reproducible results. 3. Identify normal and abnormal results from chemistry analyzer reports.	2.5	1	0
Blood Collection and Sample Preparation	1. Explain examples of the relationship between a quality sample and accurate reproducible test results. 2. Identify errors in sample collection procedures that impact sample quality. 3. Explain step by step instructions for obtaining, processing, and storing a quality sample, including relevant information about equipment to be used.	1.5	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	45	0