

## PURDUE UNIVERSITY COLLEGE OF VETERINARY MEDICINE

Veterinary Nursing Distance Learning Fall 2025 version

# Parasitology Mentorship



VM 21400

Criteria Logbook

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## Clinical Mentorship Tasks

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## **Clinical Mentorship Projects**

9. Fecal exam project

## ALL SKILLS MUST BE DEMONSTRATED ON LIVE ANIMALS. Models or cadavers are not acceptable.

## Student Information

## **Contact Information**

Questions regarding the overall Clinical Mentorship process should be directed to-

Jennifer Smith, BS, RVT, LATG

Clinical Mentorship Coordinator

jpope@purdue.edu

Questions regarding this mentorship (tasks, due dates, etc.) should be directed to the instructor for this mentorship course.

#### **Animal Use Guidelines**

The student shall abide by the following guidelines when performing mentorship tasks:

- 1. All animals used for demonstration of mentorship skills must be appropriated restrained by another person, for the safety of the patient and the student.
- 2. A mentorship task may be performed only once on a single animal.
- 3. A student may perform a maximum of ten (10) minimally invasive tasks (denoted by one asterisk) on a single animal within a 24-hour period.
- 4. A student may perform a maximum of three (3) moderately invasive tasks (denoted by two asterisks) on a single animal within a 24-hour period.
- 5. When combining tasks, a student may perform a maximum of five (5) minimally and three (3) moderately invasive tasks on a single animal within a 24-hour period.
- 6. Tasks denoted with no asterisks do not involve live animal use.

For example, a student might perform the following tasks on an animal in a single day-

- Restrain a dog in sternal recumbency\*
- Restrain a dog in lateral recumbency\*
- Restrain a dog for cephalic venipuncture\*
- Restrain a dog for saphenous venipuncture\*
- Restrain a dog for jugular venipuncture\*
- Administer subcutaneous injection\*\*
- Administer intramuscular injection\*\*
- Intravenous cephalic injection canine\*\*

## Failure to comply with the Animal Use Guidelines may result in failure of the Clinical Mentorship.

Ensuring the welfare and safety of animals during handling and restraint is paramount. Proper techniques must be employed to minimize stress and prevent injury. This involves understanding the normal behavior of the animal, using humane methods, and applying the least amount of restraint necessary to achieve the desired outcome. Training in these techniques is essential for all personnel involved in animal care. The use of physical, mechanical, or pharmaceutical restraints should be carefully considered and monitored to ensure they are appropriate and effective.

With this in mind, the student is expected to utilize Fear Free® techniques for animal handling and restraint, as well as ensure that all patients are handled and restrained appropriately when they perform skills. Failure to do so will result in consequences ranging from loss of points or repeating the task, up to failure of the course and / or dismissal from the program.

By adhering to these principles, we can promote the health and well-being of animals while ensuring a safe environment for both patients and veterinary personnel.

## Selecting the Clinical Mentorship Site – Facility Requirements

You must visit the Clinical Mentorship Site and determine if the following supplies and equipment are readily available to you for use during your Clinical Mentorship. The mentorship supervisor will verify the availability of required items by completing the Mentorship and Facility Requirement Agreement.

#### The veterinary care facility must be equipped with the following equipment:

- Centrifuge (must spin at 1200-1500 rpm and fit the 15 ml centrifuge tubes)
- 15ml centrifuge tubes
- Flea comb
- Heartworm antigen diagnostic test (type used in the practice must be ran in house)
- Microscope with 10X, 40X, 100X

## In addition, the following disposable items must be available:

- Latex gloves (non-sterile)
- Sterile cotton-tipped applicators
- Sterile saline
- Microscope slides
- Cover slips
- Fecal flotation solution (type used in the practice)
- Cheesecloth or gauze
- Small paper cups
- Wax pencil or crayon
- Disposable plastic pipettes
- White paper towel
- 2% formalin or 10% formalin to dilute to 2%
- New Methylene Blue stain \*Diff Quik Stain is NOT acceptable or equivalent\*
- EDTA blood tubes

#### Introduction to Essential Tasks and Criteria

#### Before starting each task-

- 1. Read the Goal, Description, Criteria, and Materials to be Submitted for Evaluation and Verification. Understand what is expected for each task.
- 2. Make sure that all equipment and supplies needed to complete the task are available. Pay particular attention to the details of what needs to be documented and submitted.
- 3. Make sure to obtain appropriate permissions where necessary. Please inform the facility's owner/manager of activities. A good relationship with the veterinarian in charge is key to having a positive Clinical Mentorship experience.

#### After performing each task-

- 1. Label all items submitted so that the materials submitted for evaluation and validation at Purdue are identified as the student's submission.
- 2. Label all videos posted to Brightspace with the task number.
- 3. Submit materials by the deadlines listed in the course syllabus

## **Introduction to Special Projects**

Certain mentorships will have required projects to complete in addition to the required tasks. Written projects should be typed, and checked for correct grammar and spelling. Photos should be embedded into the related written documents.

#### Before starting each project-

- 1. Read through the project in its entirety. This will give you a description of the project and what is needed to complete it successfully.
- 2. Determine what materials, if any, need to be submitted for completion of the project.
- 3. Most projects will come with a list of questions/points that need to be addressed and included in the written document.
- 4. If video is required for a project, it should be noted on the videotape verbally that this is for the project and not another required task. Some projects may require a verbal narration of a student doing something. Each individual project will define if that is a necessary requirement for that project.

## 1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES

**Goal:** Ensure that the student will have access to all equipment and supplies necessary to complete the skills in this course.

**Description:** The student will provide a narrated video showing equipment and supplies specific to this mentorship, to verify that required items are available to them and adequate for completion of tasks in their facility.

#### Criteria:

- The student introduced the video and showed their face clearly.
- The student walked through the facility and showed the following clearly:
  - VNDL-provided sign informing clients that students may be involved in patient care (it should be displayed in an area that is visible to clients). (CRITICAL)
  - o 15 ml centrifuge tubes (CRITICAL)
  - Centrifuge must reach 1200-1500 rpm and fit the 15 ml centrifuge tubes (CRITICAL)
  - Heartworm antigen diagnostic test (must be ran in-house cannot send out) (CRITICAL)
  - o Microscope with 10X, 40X, 100X (CRITICAL)
  - Fecal flotation solution (type used in the practice (CRITICAL)
  - Cheesecloth or gauze (CRITICAL)
  - o 2% formalin or 10% formalin to dilute to 2% (CRITICAL)
  - New Methylene Blue stain \*Diff Quik Stain is NOT accepted\* (CRITICAL)

#### Number of Times Task Needs to be Successfully Performed: 1

- 1. Task Verification Form for Video Verification of Required Equipment and Supplies, signed by the Clinical Mentorship supervisor.
- 2. One video showing the student as they introduced themselves and walked through the facility, showing the listed items clearly. The student narrated the video live as they showed items.

Student Name:	
Supervisor Name:	_ RVT, CVT, LVT, LVMT, DVM, VMD
I verify that the student will have access to the items shown, for tasks	in this course.
Signature of Clinical Mentorship Supervisor	

## 2. PERFORM DIRECT WET MOUNT HEARTWORK DIAGNOSTIC TEST

Goal: To successfully set up a direct blood smear heartworm diagnostic test and interpret the result.

**Description:** The student will perform a direct blood smear heartworm diagnostic test and interpret the result.

#### Criteria:

- The student placed a drop of anticoagulated blood and one drop of saline to dilute the blood in the center of a microscope slide. (CRITICAL)
- The student placed a cover slip over the drop of blood. (CRITICAL)
- The student placed the slide on a microscope and examined the area of the slide at 10X power, and recorded any microfilariae (they would be moving) found in the sample, verbally stating the result if positive or no microfilaria seen. (CRITICAL)

#### Number of Times Task Needs to be Successfully Performed: 1

- 1. Task verification form for Perform Direct Blood Smear Heartworm Diagnostic Test task, signed by the Clinical Mentorship supervisor.
- 2. A video that clearly shows the student performing a direct blood smear heartworm diagnostic test as defined in the above criteria for this task. The student will narrate to explain each step of the test.

Student Name:	
Supervisor Name:	_ RVT, CVT, LVT, LVMT, DVM, VMD
I verify that the student performed these tasks under my supervision.	
Signature of Clinical Mentorship Supervisor:	

## 3. PERFORM HEARTWORM ELISA DIAGNOSTIC TEST

Goal: To successfully set up a heartworm ELISA diagnostic test and interpret the result.

**Description:** The student will perform a heartworm ELISA diagnostic test according to the clinic SOP for heartworm testing.

#### Criteria:

- The student performed heartworm ELISA diagnostic testing according to the clinic SOP for heartworm testing. (CRITICAL)
- The student verbally described each step as it was performed. (CRITICAL)
- The student correctly interpreted the result of the heartworm test, as well as stating the result (heartworm antigen detected or not detected). Please give full interpretation if using ELISA vector test i.e. IDEXX 4DxPlus. (CRITICAL)

Number of Times Task Needs to be Successfully Performed: 2

- Task verification form for Perform Heartworm ELISA Diagnostic Test task, signed by the Clinical Mentorship supervisor.
- A video that clearly shows the student performing a heartworm ELISA diagnostic test as defined in the above criteria for this task, including all steps in the clinic SOP. The student will narrate to explain each step of the test.
- Written clinic standard operating procedure (SOP) for heartworm antigen diagnostic testing.
- If a commercially prepared heartworm antigen testing kit is used, provide the following information: Product name, Manufacturer, Copy of manufacturer's instructions for performing the test.

Student Name:	
Supervisor Name:	_ RVT, CVT, LVT, LVMT, DVM, VMD
Date:	
Date:	
I verify that the student performed these tasks under my supervision.	
Signature of Clinical Mentorshin Supervisor:	

## 4. PERFORM MODIFIED KNOTT'S HEARTWORM DIAGNOSTIC TEST

Goal: To successfully set up a Modified Knott's heartworm diagnostic test and interpret the result.

**Description:** The student will perform a Modified Knott's heartworm diagnostic test and interpret the result.

#### Criteria:

- The student used a 15ml centrifuge tube and added 10ml of 2% formalin to 1ml of anticoagulated blood (or 5mL of 2% formalin to 0.5mL anticoagulated blood). 10% buffered formalin may be diluted with water to make a 2% solution. (CRITICAL)
- The student capped the centrifuge tube and inverted it several times to thoroughly mix
- The student placed the tube in the centrifuge and spun the mixture for 5 minutes at 1000–1500 rpm. (CRITICAL)
- The student slowly poured the supernatant from the tube without disturbing the sediment layer at the bottom.
- The student used a pipet to add a drop of new methylene blue stain to the sediment, then used the pipette to mix the stain with the sediment. (CRITICAL)
- The student used a pipet to transfer a drop of the sediment-stain mixture to a microscope slide. The student placed a cover slip over the sediment-stain mixture.
- The student placed the slide on a microscope and examined the area of the slide at 10X power, and recorded any microfilariae (they would be stationary) found in the sample, verbally stating the result and what you're looking for/purpose of test (why do you need to know how to distinguish between the two types of microfilaria?). 40x power should be used to differentiate from Dipetalonema and Dirofilaria immitis.
  - If your test is no microfilaria seen, then verbally state how you would distinguish between the two types of microfilaria. (CRITICAL)

Number of Times Task Needs to be Successfully Performed: 1

- 1. Task verification form for Perform Heartworm Modified Knott's Diagnostic Test task, signed by the Clinical Mentorship supervisor.
- 2. A video that clearly shows the student performing a Modified Knott's heartworm diagnostic test. The student will narrate to explain each step of the test.

Student Name:	
Supervisor Name:	_ RVT, CVT, LVT, LVMT, DVM, VMD
I verify that the student performed these tasks under my supervision.	
Signature of Clinical Mentorship Supervisor:	

## PERFORM VISUAL EXAM FOR EXTERNAL PARASITES

Goal: To successfully perform a visual inspection to check for the presence of external parasites.

**Description:** The student will perform a visual inspection for the presence of external parasites, including a visual inspection as well as the use of a flea comb and a white paper test.

#### Criteria:

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- The student thoroughly inspected the animal from head to tail including ears, ventrum and perianal area, looking for the presence of external parasites fleas, ticks, ear mites. (CRITICAL)
- The student parted the hair on the animal in several places in order to directly observe the skin for evidence of external parasites or flea allergy dermatitis (CRITICAL)
- The student examined the ears for evidence of external parasites (CRITICAL)
- The student properly used a flea comb on the hair of the animal
- The student placed the material collected with the flea comb onto a moist white paper towel to examine it for evidence of flea "dirt". (CRITICAL)
- The student verbally stated all observations during the exam including how to differentiate between flea "dirt" and regular dirt debris even if no debris was present. (CRITICAL)

Number of Times Task Needs to be Successfully Performed: 4 (2 dog, 2 cat)

- 1. Task Verification form for Perform Visual Exam for External Parasites task, signed by the Clinical Mentorship supervisor.
- 2. One video that clearly shows the student performing a visual exam for external parasites from head to tail, properly demonstrating the use of a flea comb, and describing how to distinguish flea dirt from regular dirt.

Student Name.		
Supervisor Name:	RVT, C	CVT, LVT, LVMT, DVM, VMD
Patient Name:	Date:	dog / cat
Patient Name:	Date:	dog / cat
Patient Name:	Date:	dog / cat
Patient Name:	Date:	dog / cat
I verify that the student performed these task	s under my supervision.	
Signature of Clinical Mentorship Supervisor:		

## 6. PERFORM AND READ DIRECT FECAL SMEAR

**Goal:** To successfully set up a direct fecal smear and examine the slide under the microscope for the presence of parasitic material.

**Description:** The student will take a very small amount of feces and mix it with a drop of saline or water on a microscope slide. The student will then place the slide on a microscope and examine it for parasitic material.

#### Criteria:

- The student placed a drop of saline on a microscope slide (CRITICAL)
- The student added a tiny amount of feces to the slide (CRITICAL)
- The student thoroughly mixed the feces and saline with an applicator stick or toothpick to form a homogenous emulsion that was sufficiently thin to see newspaper print through (CRITICAL)
- The student placed a cover slip over the smear
- The student placed the slide on a microscope and examined the area of the slide under the
  coverslip at 10X power, and noted and recorded any parasitic material found in the sample,
  verbally stating the result including at least Genus of organism if positive. 100x should be used if
  suspicious of Giardia or other protozoa. (CRITICAL)

Number of Times Task Needs to be Successfully Performed: 3 (any species)

- 1. Task Verification Form for Perform and Read Direct Fecal Smear skill, signed by the Clinical Mentorship supervisor.
- 2. A video that clearly shows the student performing and reading a direct smear as defined in the above criteria for this task.

Student Name:		
Supervisor Name:	RVT, C	VT, LVT, LVMT, DVM, VMD
Patient Name:	Date:	dog / cat
Patient Name:	Date:	dog / cat
Patient Name:	Date:	dog / cat
I verify that the student performed the	se tasks under my supervision.	
Signature of Clinical Mentorship Super	visor:	

## 7. PERFORM AND READ FECAL FLOTATION

**Goal:** To successfully set up a **standing and centrifugal fecal flotation of the same fecal sample**. The student will interpret the test correctly and compare results by microscopic evaluation.

**Description:** The student will mix an appropriate amount of feces in fecal solution, perform a standing and centrifugal flotation of the same sample and read the slide and correctly interpret the results and compare techniques.

#### Criteria:

- Mix approx. 1-2 grams of feces with approx. 15-20 mL flotation solution in a Dixie cup or other container using a tongue blade. Stating what type of flotation solution was used. (CRITICAL)
- The student mixed the feces into solution with an applicator stick (or equivalent) until no large fecal particles remained and strained it through a cheesecloth. (CRITICAL)
- The student filled the tube even with the top or with slight reverse meniscus (convex)
- The student applied a coverslip to top of tube and gently "seat" it with finger pressure (CRITICAL)
- Centrifugal: The tube was carefully placed into centrifuge using a proper balance tube opposite (performing centrifugal sample) and spun at 1200-1500 rpm for minimum 5 minutes (CRITICAL)
- **Standing:** When performing standing flotation the tube sat undisturbed in it's upright position for a minimum 10 minutes **(CRITICAL)**
- Gently remove coverslip straight up and place on microscope slide for both standing and centrifugal samples. Examine for parasite eggs, etc. under 10X objective and protozoa and visualize egg details for identification under 40X. (critical)
- Report what is found for both standing and centrifugal samples with Genus and species where applicable as rare, few, moderate, many. If no parasites are seen, report as "No Parasites Seen". (CRITICAL)

Note: A swinging bucket centrifuge works best. But if you are using an angle head centrifuge, fill the tubes to within a centimeter of the top and spin them. Then place them in a rack, fill them to the top with flotation solution by gently running it down the inside edge, add a coverslip, let stand for ten minutes, and then read.

**Number of Times Task Needs to be Successfully Performed:** 15 standing and centrifuge (6 dog, 6 cat, 3 other)

**Note:** Of the 30 tests run, you will need to submit photo proof of 3 positive results. The positive results can be from any of the samples collected (dog, cat, or other). Examples of species that are 'other' include horse, cow, sheep, goat, pig, exotic (e.g. small mammal, reptile, bird). You do <u>not</u> need one positive result from each species listed, only 3 positive results total. The requirement is still to run a standing and a centrifugal fecal on the same sample for each patient you log.

## 7. PERFORM AND READ FECAL FLOTATION (CONTINUED)

## **Standing Flotation**

## **Centrifugal Fecal**

Species	Date	Results (Genus, species, & amt or NOPS)	Species	Date	Results (Genus, species, & amt or NOPS)
Dog #1			Dog #1		
Dog #2			Dog #2		
Dog #3			Dog #3		
Dog #4			Dog #4		
Dog #5			Dog #5		
Dog #6			Dog #6		
Cat #1			Cat #1		
Cat #1			Cat #1		
Cat #2			Cat #2		
Cat #3			Cat #3		
Cat #4			Cat #4		
Cat #5			Cat #5		
Cat #6			Cat #6		
Other #1 *indicate specific species* Species:			Other #1 *indicate specific species* Species:		
Other #2*indicate specific species* Species:			Other #2*indicate specific species* Species:		
Other #3*indicate specific species* Species:			Other #3*indicate specific species* Species:		

## 7. PERFORM AND READ FECAL FLOTATION (CONTINUED)

- 1. Task Verification Form for Perform & Read Fecal Flotation skill, signed by the Clinical Mentorship supervisor.
- 2. A video that clearly shows the student performing and reading a <u>standing and centrifugal fecal</u> <u>flotation on the same sample</u> comparing results as defined in the above criteria for this task.
- 3. Submit <u>three</u> different images of positive results with correct identification including genus/species.

Student Name:	
Supervisor Name:	_ RVT, CVT, LVT, LVMT, DVM, VMC
I verify that the student performed these tasks under my supervision.	
Signature of Clinical Mentorship Supervisor:	

## 8. PERFORM AND READ FECAL SEDIMENTATION

**Goal:** To successfully set up a fecal sedimentation and examine the slide under a microscope for the presence of parasitic material.

**Description:** The student will mix a small amount of feces with saline or water, place the mixture into a centrifuge tube, pour off the liquid after centrifugation, and examine the sediment on a microscope slide under a microscope.

#### Criteria:

- The student placed about 1 teaspoon of feces into a paper cup and mixed with 15-20mL of saline or water (CRITICAL)
- The student thoroughly mixed the feces into a homogenous mixture with an applicator stick or equivalent
- The student poured the mixture through cheesecloth or gauze into a 15 ml centrifuge tube filling about <1cm from the top (CRITICAL)
- The student placed the tube and appropriate balance in the centrifuge and spun the mixture for 5 minutes at 1200-1500 rpm (CRITICAL)
- The student slowly poured the supernatant from the tube without disturbing the sediment layer on the bottom
- The student used a pipette to transfer a small amount of the fine sediment to a microscope slide
- The student placed the slide on a microscope and examined the area of the slide under the cover slip at 10x power. (CRITICAL)
  - Results verbally stated and recorded any parasitic material as no ova or parasites seen (NOPS) or with Genus and species of organism if positive. 40x power should be used to help visualize details for identification. (CRITICAL)

Number of Times Task Needs to be Successfully Performed: 3 (any species)

- 1. Task verification form for Perform and Read a Fecal Sedimentation task, signed by the Clinical Mentorship supervisor.
- 2. A video that clearly shows the student performing and reading a fecal sedimentation as defined in the above criteria for this task.

# 8. PERFORM AND READ FECAL SEDIMENTATION (CONTINUED)

Student Name:		
Supervisor Name:		_ RVT, CVT, LVT, LVMT, DVM, VMD
Patient Name:	Date:	
Patient Name:	Date:	
Patient Name:	Date:	
I verify that the student performed the	ese tasks under my supervision.	
Signature of Clinical Mentorship Supe	ervisor:	

## 9. FECAL EXAM PROJECT

This project is designed to help recognize the importance of client education and clinic procedures. The student will submit a written paper addressing the following:

- 1. The clinic's protocol for instructing clients how to obtain a stool sample from their pet and bring it to the clinic. (critical)
  - a. Describe changes that you would make in this instruction protocol, and why the changes should be made. (critical)
- 2. Does the mentorship site use fecal loops for collection of fecal samples? In what situations are they used? What alternative methods might be employed? Give advantages and disadvantages of using fecal loops. (critical)
- 3. It is just before closing, and a client calls who has just collected a stool sample and would like it to be checked for parasites. What instructions would you give this client? (critical)
- 4. Clinics current practices on fecals such as frequency, type of analysis (standing float or centrifugation), type of solution used and client education (does the veterinarian or veterinary nurse discuss recommendations with client) (critical)
  - Any recommendations on changes and why such as changes in frequency of performing fecal screenings or type of solution used and why you would use a different solution. (critical)
  - b. Did you see a difference in results with standing vs centrifugal fecals when comparing techniques? (critical)

The paper should be typed, and will be checked for grammar and spelling.