

Clinical Pathology Mentorship

VM 22700

Criteria Logbook Spring 2026

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Clinical Mentorship Tasks

1. Video Verification of Required Equipment and Supplies
2. Microscope Use, Care, and Cleaning
3. Blood Film Preparation and Staining
4. Blood Collection, Serum and Plasma Preparation, PCV/TP, Automated Hematology Panel (CBC), and Automated Chemistry Panel ††
5. Coagulation ††
6. Urinalysis
7. Differential Count (Normal and Abnormal)
8. Crossmatch
9. Canine Vaginal Cytology ††
10. Ear Cytology †

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

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 appropriately 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 dagger symbol) (†) 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 dagger symbols) (††) 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 dagger symbols 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:

Microscope and Related Supplies

- Binocular
- 10X oculars
- Objectives
- 10X (low power)
- 40-50X (high dry power)
- 100X (oil immersion)
- Mechanical stage
- Functional and properly aligned condenser and diaphragm
- Light source of at least 20 watts
- Immersion oil
- Lens paper
- Lens cleaning solution

***NOTE:** All parts of the microscope should be clean, functional, properly adjusted and aligned. We highly recommend, if the microscope has not been professionally serviced within the last six (6) months and/or is in a questionable state of repair, it be professionally serviced. Microscopes which are in a state of disrepair, out of adjustment, or dirty internally or externally will create difficulties for the student in providing accurate results.

Urinalysis Instruments and Supplies

- Centrifuge appropriate for tubes and centrifuging urine
- Conical centrifuge tubes
- Urine chemistry test strips (minimum tests: pH, glucose, ketones, bilirubin, blood, protein)
- Frosted or non frosted end glass microscope slides
- Coverslips
- Stain (optional) NMB or Sedi (type) stain
- Disposable pipettes
- Refractometer (with total protein and specific gravity scales)
- Test tube rack

Hematology Instruments and Supplies

- Automated hematology analyzer with appropriate supplies capable of providing:
 - Red blood cell counts
 - White blood cell counts + individual cell or composite differential
 - Platelet counts
 - Hematocrit
 - Hemoglobin (may be stand-alone instrument or a function of the automated hematology or chemistry analyzer)

- Microhematocrit (PCV) centrifuge
- Microhematocrit (PCV) tubes, plain
- Microhematocrit tube clay sealant
- Microhematocrit reader
- Refractometer (with total protein and specific gravity scales)
- Frosted or non-frosted end glass microscope slides
- Quick stain (ex. Diff-Quik®)
- EDTA blood collection tubes (appropriate for patient size)
- Laboratory wipes
- Small, plain test tubes
- Hand tally (single-digit and/or multi-key differential counter) optional

Clinical Chemistry Instruments and Supplies

- Automated chemistry analyzer with appropriate supplies capable of providing:
 - BUN, glucose, and common enzymes
- Serum blood collection tubes (appropriate for patient size)
- Anticoagulated blood collection tubes (appropriate for patient size)
- Centrifuge appropriate for the serum and plasma blood collection tubes

Coagulation Instruments and Supplies

- Equipment, supplies and materials to perform **ONE** of the following tests:
 - Buccal bleeding time
 - Lancet
 - Timer
 - Filter or blotting paper
 - Roll gauze
 - Activated clotting time (ACT) (automated OR ACT tube test)
 - Automated ACT or ACT test tubes (White Top Tubes WTT acceptable)
 - Thermostatically-controlled water bath or heating block OR Digital thermometer
 - Timer
 - Automated Prothrombin time (PT)
 - Automated Activated Partial Thromboplastin Time (APTT)
 - Fibrinogen Assay (automated OR heat precipitation)
 - Automated fibrinogen and/or thermostatically controlled heating block or water bath
 - Refractometer
 - Timer
 - Microhematocrit tube centrifuge
 - Microhematocrit tubes
 - Microhematocrit tube sealant

Crossmatch Instruments and Supplies

- Commercially available **crossmatch** kit (ex. RapidVet®-H companion animal crossmatch or Alvedia crossmatch - **must be a crossmatch kit, not a “blood type” kit**)
OR
- Traditional crossmatch:

- Phosphate-buffered saline (PBS, 0.9% Sodium Chloride)
- Plastic, conical bottom, 12-mL tubes
- EDTA blood collection tubes
- Plain, red-top tubes (Note: serum separator tubes are not appropriate for this procedure)
- Centrifuge
- Disposable pipettes
- Frosted or non-frosted end glass microscope slides
- Coverslips
- Microscope (see previous requirements)
- Thermostatically controlled heating block or water bath (optional)

Cytology Instruments and Supplies

- Sterile, 6” cotton-tip swabs
- Non-sterile, 6” cotton-tip swabs
- Quick Stain (ex. Diff-Quik®)
- Frosted or non frosted end glass microscope slides
- Sterile saline 0.9%
- Sterile vaginal speculum (*optional*; if used, the speculum must be the appropriate size for the patient)
- Sterile lubricant
- Mild non-irritating soap for vaginal cytology patient prep (*optional*)

Information on Patient Requirements

It is essential that the student perform the designated tasks on the same sample, when specified, so that related values may be verified when the submission is evaluated.

- Urinalysis: one patient, any species
- Hematology: one patient, any species
- Normal differential: one patient, any species
- Clinical chemistry: one patient, any species
- Abnormal differential: Written Report
- Coagulation: appropriate patient for the test performed
- Crossmatch: one canine donor and one canine recipient
- Vaginal cytology: one female canine patient (intact female preferred)
- Ear cytology: one patient, any species, **with ear pathology**.
 - **Do NOT use patients that have been treated in the past 48 hours with topical ear medication**

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. **No edited versions of the Task Verification Form (TVF) will be accepted. All submissions must be original and unaltered.**
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

ALL SKILLS IN THIS COURSE REQUIRE ACCESS TO SPECIFIC LABORATORY EQUIPMENT AND SUPPLIES. THIS TASK MUST BE COMPLETED AND APPROVED BEFORE ANY OTHER TASKS MAY BE ATTEMPTED.

Goal: To verify that the student has personal access to all laboratory equipment and supplies required to successfully complete all clinical pathology mentorship tasks in VM22700. This task ensures that the mentorship site is appropriately equipped **before** the student begins any hands-on laboratory procedures.

Description: The student will record one **continuous, live-narrated video** walking through their approved clinical mentorship facility visually verifying the availability of all required laboratory equipment and supplies

Criteria: Read Carefully

- Every required item is clearly visible and must be shown on camera
- Every required item must be verbally identified and stated out loud
- When multiple acceptable testing options exist, you must state out loud which method you will use
- Supervising mentor must be physically present and actively supervising the student for the entire task

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL:**

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. “Clinical Pathology VM22700, Task 1 - Video Verification of Required Equipment and Supplies”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES (continued pg. 2)

- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

REQUIRED EQUIPMENT & SUPPLIES

All items must be shown on camera and verbally identified out loud. Items may be shown in any order. **ALL items must be included.**

The student walked through the facility and showed the following clearly:

A. Facility Signage (CRITICAL)

The student must show and state out loud:

- VTDL-provided sign informing clients that students may be involved in patient care
(Must be displayed in an area that is visible to clients)

B. Personal Protective Equipment (CRITICAL)

The student must show and state out loud:

- Exam gloves available in the facility

C. Microscope and Related Supplies (CRITICAL)

The student must show and state out loud:

- Binocular microscope (state make and model)
- Glass microscope slides (frosted or non-frosted)
- Coverslips
- Immersion oil
- Lens paper or lens tissue
- Lens cleaning solution (optional)

D. Refractometer (CRITICAL)

The student must show and state out loud:

- Refractometer with **both** total protein (TP) and specific gravity (SG) scales
- Hold the refractometer up to the camera
- Eyepiece facing the camera lens
- Keep steady for at least 5 seconds so BOTH scales are clearly visible on video

E. Centrifuges (CRITICAL)

The student must show and state out loud:

- Centrifuge used for Urinalysis
- State the typical RPM and time used in your clinic for URINE
- Centrifuge used for Serum/plasma separation
- State the typical RPM and time used in your clinic for BLOOD
- Microhematocrit (PCV) centrifuge

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES

(continued pg. 3)

- State the typical RPM and time used in your clinic for HEMATOCRIT (PCV)

If a dedicated Microhematocrit (PCV) centrifuge is NOT available:

- The student must clearly explain how PCV will be performed
- Must show the alternate centrifuge and required inserts or adapters
- Must explain out loud how microhematocrit tubes will be secured and spun safely

IMPORTANT: Reported RPM and time should reflect the clinic's typical protocol; exact values may vary by clinic and are not graded for correctness.

F. Clinical Chemistry Instruments and Supplies (CRITICAL)

The student must show and state out loud:

- Automated chemistry analyzer (**state make and model**) capable of providing:
 - BUN, glucose, and common enzymes (e.g. ALT, and/or ALP, etc.)
- Consumables for that analyzer (clips, reagent packs or cartridges)
- Where consumables are stored (e.g., freezer, refrigerator, cabinet)
- Whether the analyzer uses serum, plasma, or both
- Show Serum Separator Tubes or heparin blood collection tubes
- Show any specific blood collection tubes required for that analyzer

G. Urinalysis Supplies (CRITICAL)

The student must show and state out loud:

- Conical centrifuge tubes **OR** White top tubes
- Disposable pipettes
- Test tube rack
- Optional- urine sediment stain (NMB or Sedi-Stain)

(Microscope slides and coverslips were verified in Section C – do not need to show again)

The student must declare and state out loud which UA chemistry method will be used in this course.

- Manual
- Automated Analyzer

For Manual UA Strip:

The student must show and state out loud:

- Urine chemistry test strips (minimum tests: pH, glucose, ketones, bilirubin, blood, protein)

For Automated UA Strip:

The student must show and state out loud:

- Automated urine chemistry strip reader
- State make and model
- Test strips or cartridges for that analyzer
- Any additional required supplies

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES (continued pg. 4)

H. Hematology Supplies (**CRITICAL**)

The student must show and state out loud:

- Automated hematology analyzer capable of providing:
 - RBC count
 - WBC count with differential
 - Platelet count
 - Hematocrit
 - Hemoglobin
- State make and model
- EDTA blood collection tubes (appropriate sizes)
- Microhematocrit tubes
- Microhematocrit tube sealant (clay)
- Hematocrit/PCV reader (card or circular)
- Diff-Quik® or equivalent stain
- Hand tally counter (single-digit and/or multi-key differential counter) **OR** other cell counter

I. Cytology Supplies (**CRITICAL**)

The student must show and state out loud:

- Sterile, 6” cotton-tip applicators (CTA)
- Non-sterile, 6” cotton-tip applicators (CTA)
- Diff-Quik® or equivalent stain
- Sterile saline 0.9%
- Sterile vaginal speculum (optional)
- Sterile lubricant

J. Coagulation Instruments and Supplies (**CRITICAL**)

The student must show and state out loud which coagulation method will be used in this course.

IMPORTANT: If coagulation supplies are not currently available in the clinic, the student must declare and state out loud the chosen test and explain how access to that test will be obtained prior to completing the coagulation task.

Acceptable options include (**check ONE**):

- Buccal mucosal bleeding time
- ACT tubes or Red Top Tubes
- Automated PT/APTT analyzer
- Fibrinogen testing supplies

1. VIDEO VERIFICATION OF REQUIRED EQUIPMENT AND SUPPLIES (continued pg. 5)

K. Crossmatch Supplies (*CRITICAL*)

The student must show and state out loud which crossmatch method will be used in this course.

IMPORTANT: If crossmatch supplies are not currently available in the clinic, the student must declare and state out loud the chosen test and explain how access to that test will be obtained prior to completing the crossmatch task.

Acceptable options include (*check ONE*):

- Commercially available **crossmatch** kit
 - Must be a crossmatch kit, not a blood typing kit
 - State manufacturer and kit name
 - ex. RapidVet®-H companion animal crossmatch or Alvedia crossmatch
- Traditional crossmatch

MATERIALS SUBMITTED FOR EVALUATION AND VERIFICATION:

Students must submit **both** of the following:

- Task 1 Verification Form (TVF)**
 - Signed and dated by the Clinical Mentorship Supervisor
 - Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task1_TVF*
 - No edited or altered, or incomplete versions of the TVF will be accepted
- Task 1 Video Recording**
 - One continuous video (multiple video clips not accepted)
 - Includes student and mentor introductions
 - Includes live narration throughout (no voiceovers)

All required elements must be present for Task 1 to be approved. Tasks that do not meet the requirements outlined above will be returned for correction according to course submission policies.

Date: _____

Student Name: _____

I verify that the student performed this task under my active and continuous supervision and that the student will have access to the items shown, for tasks in this course.

Supervisor Name: _____ (*circle one*) RVT, CVT, LVT, LVMT, DVM, VMD

Signature of Clinical Mentorship Supervisor: _____

2. MICROSCOPE USE, CARE, AND CLEANING

IMPORTANT – READ IN FULL: This task is a required competency task. It must be completed and approved before beginning Tasks 6, 7, 9, 10. Partial completion does not meet competency requirements. A functional and properly equipped microscope required for all subsequent clinical pathology tasks.

Goal: To accurately identify microscope components, demonstrate correct microscope use while viewing a slide at multiple magnifications, and properly clean and store the microscope according to laboratory standards.

Description: The student will record one **continuous, live-narrated video** identifying microscope components and explain the function of each component using correct terminology, demonstrate microscope setup and use from low power through oil immersion, and demonstrate correct microscope cleaning and storage procedures.

Criteria: Read Carefully

- Every required step must be shown on camera with live narration
- The student states out loud what is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The camera must continuously follow the student’s hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL:**

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. “Clinical Pathology VM22700, Task 2 - Microscope Care, Use, and Cleaning”)

2. MICROSCOPE USE, CARE, AND CLEANING (continued pg. 2)

- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, doing steps out of order, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

ACCEPTABLE MICROSCOPE SETUPS

- Binocular
- Trinocular
- Microscope with external monitor

If an external monitor is used:

- The student must demonstrate microscope setup and use exactly as if the monitor were not present, including interpupillary distance and ocular focus ring (if equipped)
- The monitor may be used to show the microscopic field instead of holding the camera to the eyepiece
- The image must be stable, in focus, and visible for the required time at each objective

REQUIRED SUPPLIES

- Microscope
- Glass slide with specimen
- Immersion oil
- Kimwipes or lens paper **ONLY**
- Approved lens cleaner (optional)

UNACCEPTABLE: paper towels, tissues, gauze, alcohol wipes, or cloths/towels

PART A: MICROSCOPE IDENTIFICATION (ALL CRITICAL)

ALL STEPS LISTED BELOW ARE CRITICAL AND MUST BE PERFORMED.

The student must say out loud every step as it is performed. Pointing to or naming a component without explaining its function is insufficient. If any item is not clearly shown and explained the task will be marked Not Complete and result in resubmission.

The student must accurately identify, point to, demonstrate, and explain the function of each item listed below using correct terminology:

1. Microscope Identification

- Manufacturer (make)
- Model

2. Ocular System

- Ocular lenses (state magnification)
- Interpupillary distance adjustment - must demonstrate
- Ocular Focus adjustment ring (if equipped)

3. Objective System

- Nosepiece/Turret - must rotate and demonstrate

2. MICROSCOPE USE, CARE, AND CLEANING (continued pg. 3)

4. Objectives and magnifications

- 4x (scanning, if equipped)
- 10x Low power
- 40x (high dry)
- 100x (oil immersion)
- Any additional objectives (if present)

5. Focusing System

- Coarse focus knob – must demonstrate
- Fine focus knob - must demonstrate

6. Stage and Mechanical Controls

- Stage
- Mechanical stage controls:
- Left /right movement - must demonstrate
 - Forward/back movement - must demonstrate

7. Condenser & Light Control

- Condenser
- Condenser Vertical adjustment - must demonstrate
- Iris diaphragm/horizontal control lever - must demonstrate
- Rheostat/Light source location
- On/off switch - must demonstrate

8. Structure

- Arm
- Base

PART B - MICROSCOPE USE & SLIDE EXAMINATION (ALL CRITICAL)

ALL STEPS LISTED BELOW ARE CRITICAL AND MUST BE PERFORMED.

Each step must be demonstrated and narrated. Skipping steps, changing the order, or failing to clearly demonstrate and explain any step will be marked Not Complete and result in resubmission.

Before starting the student must:

- **Confirm the lowest power objective (4x) is fully engaged and locked into position**
- **Place the slide correctly on the stage**
(Slide secured in the stage holder and centered over the light opening so it can be moved using the mechanical stage controls)
- **Adjust interpupillary distance**
(Move the oculars together or apart until one clear circular field is seen)
- **Adjust ocular focus ring (if so equipped)**
(Rotate the ocular focus ring to bring the image into sharp focus for that eye)

STEP 1: 4x Examination

- **Focus the image clearly**
(Use appropriate focus controls for this objective)

2. MICROSCOPE USE, CARE, AND CLEANING (continued pg. 4)

- **Evaluate illumination and adjust if needed**
(Condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective. If no adjustment is needed, the student must state that illumination is appropriate.)
- **Show the microscopic field to the camera**
(Through the eyepiece or using an external monitor)
- **Hold the field steady and visible for 5 seconds**

STEP 2: 10x Examination

- **Rotate to the 10x objective**
- **Focus the image clearly**
(Use appropriate focus controls for this objective)
- **Evaluate illumination and adjust if needed (condenser, iris diaphragm, rheostat)**
(Condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective. If no adjustment is needed, the student must state that illumination is appropriate.)
- **Show the microscopic field to the camera**
(Through the eyepiece or using an external monitor)
- **Hold the field steady and visible for 5 seconds**

STEP 3: 40x Examination

- **Rotate to the 40x objective**
- **Focus the image clearly**
(Use appropriate focus controls for this objective)
- **Evaluate illumination and adjust if needed (condenser, iris diaphragm, rheostat)**
(Condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective. If no adjustment is needed, the student must state that illumination is appropriate.)
- **Show the microscopic field to the camera**
(Through the eyepiece or using an external monitor)
- **Hold the field steady and visible for 5 seconds**

STEP 4: Transition to 100x oil immersion

- **Rotate the nosepiece halfway between 40x and 100x**
(Slide and stage remain in place)
- **Apply one drop of immersion oil to the slide**
(The stage must NOT be lowered or raised)
- **Rotate the nosepiece until the 100x objective clicks into place**
(Ensure the objective enters the oil)

STEP 5: 100x Examination

- **Focus the image clearly**
(Use fine focus only)
- **Evaluate illumination and adjust if needed (condenser, iris diaphragm, rheostat)**
(Condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective. If no adjustment is needed, the student must state that illumination is appropriate.)
- **Show the microscopic field to the camera**
(Through the eyepiece or using an external monitor)
- **Hold the field steady and visible for 5 seconds**

2. MICROSCOPE USE, CARE, AND CLEANING (continued pg. 5)

IMPORTANT: The following actions are NOT permitted during 100x oil immersion. If any of these actions occur, the task will be returned as “Not Complete” and must be re-recorded and resubmitted demonstrating the correct technique.

- Lowering or raising the stage
- Using the coarse focus knob
- Applying oil after the 100x objective is fully rotated into place
- Rotating away from the slide and then back into the oil immersion objective

PART C: MICROSCOPE CLEANING & STORAGE (ALL CRITICAL)

ALL STEPS LISTED BELOW ARE CRITICAL AND MUST BE PERFORMED IN ORDER.

Cleaning performed out of order, with incorrect materials, or without explanation will be marked **Not Complete** and result in resubmission.

Before Cleaning

- The student gathered correct cleaning materials
(*Kimwipes or lens paper ONLY; lens cleaner optional*)
- Paper towels, tissues, gauze, alcohol wipes, or cloths/towels are **NOT** permitted

Step 1. Clean ocular lenses

- Use Kimwipes or lens paper only
- State out loud what is being cleaned

Step 2. Clean Objectives (In Order)

- Clean the oil immersion (100x) objective **FIRST**
- State out loud why the oil immersion objective must be cleaned first
(**DO NOT** reuse the wipe to clean any other parts on the microscope)
- Use a new Kimwipe or lens paper
- Clean remaining objectives

Step 3. Clean Stage

- Make sure no oil or debris remains on the surface
- State out loud what is being cleaned

Step 4. Clean Light Source

- Light source housing
(exterior housing only, do not disassemble)
- State out loud what is being cleaned

Step 5. Storage

- Rotate nosepiece to 4x objective
- Turn off the light

2. MICROSCOPE USE, CARE, AND CLEANING (continued pg. 6)

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
- Practice attempts are not recorded or submitted
- Mentor initials verify completion of practice

Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will be returned.

1. Task 2 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task2_TVF*
- No edited or altered, or incomplete versions of the TVF will be accepted

2. Task 2 Video Recording

- One continuous unedited video (NO pausing during recording is permitted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Four (4) labeled microscopic images

- One each at: 4x, 10x, 40x, and 100x
- Objective labeled directly on the image (in a contrasting font color)
- Clear and in focus

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (**circle one**) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

3. BLOOD FILM PREPARATION AND STAINING

Note: Task 3 must be successfully completed and approved before the student may begin Task 7 - DIFFERENTIAL COUNT (NORMAL AND ABNORMAL).

Goal: To prepare and properly stain a diagnostic quality blood film suitable for differential counting and microscopic evaluation of cells including WBCs, RBCs, platelets and identification of any blood borne pathogens.

Description: The student prepares a quality blood film from fresh EDTA-anticoagulated blood. The film is then stained with a quick stain to allow proper differentiation and identification of the cells and their components. The final slide is labeled, properly dried, and free of artifacts that would interfere with microscopic evaluation.

Criteria: Read Carefully

- Every required step must be shown on camera with live narration
- The student states out loud what is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL:**

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. "Clinical Pathology VM22700, Task 3 - Blood Film and Staining")
- Date of recording (month, day and year)

3. BLOOD FILM PREPARATION AND STAINING (continued pg. 2)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All required items are visible on camera:

- Fresh blood in an EDTA tube
- Microhematocrit (PCV) tubes, plain
- Glass microscope slides (Frosted or non-frosted end)
- Diff-Quik® or equivalent stain
- EDTA blood collection tubes (appropriate for patient size)
- Water (for rinse)
- Laboratory wipes or bibulous paper
- Wax pencil or permanent marker for labeling
- Clothes pin or similar clip (optional)

ALL STEPS LISTED BELOW ARE CRITICAL AND MUST BE PERFORMED

Each step must be demonstrated and narrated. Skipping steps or failing to clearly demonstrate and explain any step will be marked Not Complete and result in resubmission.

STEP 1: Sample Preparation

- **Blood sample suitability is stated**
(Student states that the sample is fresh, EDTA-anticoagulated, and clot-free)
- **EDTA tube is mixed**
(EDTA tube is gently inverted 6–8 times immediately prior to use)

STEP 2: Blood Film Preparation

- **Blood is obtained directly from the EDTA tube**
(The blood used to create the smear is taken directly from the EDTA tube)
- **Blood transfer device is appropriate**
(A capillary tube, small pipette, or another appropriate collection device is used to transfer a small, controlled drop of blood)
- **Blood drop is placed on slide**
(A small, controlled drop of blood is placed approximately 1 cm from the end of a clean microscope slide)
- **Base slide is positioned correctly**
(Base slide rests flat on the tabletop with the frosted end toward the student)

3. BLOOD FILM PREPARATION AND STAINING (continued pg. 3)

- **Spreader slide angle is set**
(Spreader slide is held at an angle of 30–45° while resting on the slide surface)
- **Blood is allowed to spread along spreader edge**
(Spreader slide is drawn backward into the drop until blood spreads evenly along the entire edge)
- **Blood film is created with a single smooth motion**
(Spreader slide is pushed forward in **one continuous, even motion** without hesitation or stopping)
- **Blood film length is appropriate**
(Blood film measures $\frac{1}{2}$ – $\frac{2}{3}$ the length of the slide)
- **Blood film width is appropriate**
(Blood film is slightly narrower than the width of the slide)
- **Feathered edge is acceptable**
(Feathered edge is smooth and intact, without tails, ridges, streaks, holes, or abrupt endings)
- **Macroscopic quality is confirmed**
(Visible transition from thick body to thin feathered edge is present)
- **Slide surface is not wiped after smear creation**
(The smear surface is not wiped after the blood film is made; any wiping of the smear surface is unacceptable and requires the smear to be repeated)
- **Unacceptable smears are discarded correctly**
(If a smear is unacceptable, a new smear is created using a new clean slide; previously used smear surfaces are not modified, wiped, or reused)
- **Clean slide is used for each smear attempt**
(A new, clean microscope slide is used for each blood film attempt; reusing, washing, or wiping slides results in automatic resubmission)
- **Multiple blood films are produced**
(At least 3–5 blood films from the same sample are made to demonstrate repeatability and technique consistency)
- **Slide is shown for evaluation**
(Student holds the slide steady to the camera for a minimum of 5 seconds)

STEP 3: Staining and Drying

- **Blood film is air dried**
(Slide is allowed to air dry completely before staining by gently waving the slide in the air)
- **Slide is stained using ONE of the listed methods**
(The student clearly states out loud whether the Dip Method or the Soak Method will be used before staining begins)

Dip Method (if selected)

- **Dip staining method is performed using fresh Diff-Quik® or equivalent**
(The slide is held vertically and dipped into each stain: fixative, eosin/red, and thiazine/blue for approximately ten (10) one-second dips per stain)

Soak Method (if selected)

- **Soak staining method is performed using fresh Diff-Quik® or equivalent**
(The slide is placed into each stain: fixative, eosin/red, and thiazine/blue for approximately ten (10) seconds per stain)

3. BLOOD FILM PREPARATION AND STAINING (continued pg. 4)

- **Only one staining method is used**
(Both staining methods are acceptable; however, only one method may be used for the entire staining process)
- **Slide is rinsed properly**
(Water is applied to the back of the slide only; avoid direct rinsing of the smear surface, as this impacts the quality of the smear)
- **Slide is dried**
(Stained slide is allowed to air dry vertically with the frosted end up or blotted dry with bibulous paper)

STEP 4: Labeling

- **Slide is labeled correctly**
(Frosted end is labeled with **patient ID, species, specimen type, and date**)
- **Labeling is shown on camera**
(Labeling is clearly visible on video)
- **Only one blood film is selected for submission**
(One blood film is selected as the final submission; the selected smear must meet all quality criteria)

3. BLOOD FILM PREPARATION AND STAINING (continued pg. 5)

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
- Practice attempts are not recorded or submitted
- Mentor initials verify completion of practice

Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will not be graded and require resubmission.

1. Task 3 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task3_TVF*
- No edited, altered or incomplete versions of the TVF will be accepted

2. Task 3 Video Recording

- One continuous UNEDITED video
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. ONE image only of the selected final blood film

- Slide must be stained
- Label must be written directly on the slide
- Screenshot permitted

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (**circle one**) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL

NOTE: Task 4 is composed of **FOUR** sub-tasks (A-D). **All sub-tasks must be performed simultaneously on a single sample collected from the same patient.**

Goal: To collect blood from a live patient via venipuncture, properly prepare serum and plasma samples, and accurately perform, read, and record the results of the following in-house laboratory tests: packed cell volume (PCV), total plasma protein (TP), an automated hematology panel (CBC), and an automated chemistry panel measuring BUN, glucose, and common enzymes.

Description: This task evaluates the ability to safely collect and process blood samples from a live patient and to perform common in-house hematology and chemistry testing using one patient and one blood collection event. The task assesses both technical skill and understanding, requiring clear verbal explanation of each step while it is being demonstrated on camera.

Any action that compromises sample integrity, patient safety, or test validity (including but not limited to using incorrect equipment, or bypassing required steps) will result in automatic task failure and require full resubmission.

Criteria: Read Carefully

- All sections of this task must be completed using blood collected from one live patient
 - Section A: Packed Cell Volume (PCV)
 - Section B: Total Protein (TP)
 - Section C: Automated Hematology Panel (CBC)
 - Section D: Automated Chemistry Panel
- Each section must be fully performed and demonstrated
- Every required step must be shown on camera with live narration
- The student states out loud what is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The supervising mentor is physically present and actively supervising for the entire task
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

Note: Sections may be completed in a logical clinical order. Certain procedures may be performed at the same time when appropriate (for example, performing PCV and TP while serum is clotting). The order of completion does not affect grading as long as all criteria are met.

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 2)

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. “Clinical Pathology VM22700, Task 4 - Blood Collection, PCV/TP, CBC and Chemistry.”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task.

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

- Automated hematology analyzer
- Automated chemistry analyzer and consumables and any specific blood collection tubes required
- Centrifuge used for Serum/plasma separation

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 3)

Supplies organized in a central area (continued)

- Refractometer
- Lens paper/KimWipes
- Microscope slides
- EDTA blood collection tubes
- Serum Separator Tubes (SST)
- Heparinized Blood Collection Tubes
- Microhematocrit tubes
- Microhematocrit tube sealant (clay)
- Hematocrit/PCV reader (card or circular)
- Needles (appropriate gauge for selected patient)
- Syringes (appropriate size for total blood volume)

PART A: BLOOD COLLECTION

1. SUPPLIES AND PREPARATION

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Supplies are organized in a central area**
(All required items are visible on camera)
- **Appropriate blood collection tubes are selected**
(At least one serum tube and one plasma tube are present)
- **Each blood tube is identified out loud**
(Tube type is stated)
- **Manufacturer's stated fill volume is stated out loud for each tube**
(Fill volume is stated in mL)
- **Fill line for each blood tube is shown on camera**
(The manufacturer's fill line on the tube label is clearly visible)
- **Appropriate syringe and needle are selected**
(Equipment is appropriate for species and patient size)
- **Empty blood collection tubes are shown to the camera**
(Tubes are empty and shown prior to collection, with labels facing away from the camera)
- **Total blood volume required is stated aloud**
(Approximate total volume needed to fill all tubes is stated)
- **Syringe size and needle size are stated out loud**
(Both syringe volume and needle gauge are stated)
- **Correct order of draw is stated out loud**
(Sequence is verbally explained before collection)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 4)

2. VENOUS BLOOD COLLECTION (LIVE PATIENT)

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Appropriate blood vessel is selected**
(Vessel selection is suitable for the species)
- **Venipuncture is performed on a live patient**
(Patient may be awake, sedated, or anesthetized)
- **Blood is collected without injury to the patient**
(No unsafe handling or excessive trauma is observed)

3. TUBE FILLING AND ORDER OF DRAW

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency. Tubes are filled in the correct order as defined for this course (SST, Green top, purple top).

- **Exam gloves are worn**
(Gloves are on during entire process)
- **One serum separator tube is filled to 90–100% capacity**
(Serum separator tube is used, if underfilled automatic resubmission)
- **Tube is filled using an appropriate technique**
(Needle removed from syringe OR appropriate needle attached before filling)
- **Fill level is clearly shown on camera**
(Tube label faces away from the camera)
- **One lithium heparin (green top) tube is filled to 90–100% capacity**
(Automatic resubmission if underfilled)
- **Tube is filled using an appropriate technique**
(Needle removed from syringe OR appropriate needle attached before filling)
- **Fill level is clearly shown on camera**
(Tube label faces away from the camera)
- **Tube is gently inverted**
(Shaking the tube will result in automatic resubmission)
- **One EDTA (purple top) tube is filled to 90–100% capacity**
(Automatic resubmission if underfilled)
- **Tube is filled using an appropriate technique**
(Needle removed from syringe OR appropriate needle attached before filling)
- **Fill level is clearly shown on camera**
(Tube label faces away from the camera)
- **Tube is gently inverted**
(Shaking the tube will result in automatic resubmission)
- **Tubes are labeled before centrifugation**
(Label includes patient name and date)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 5)

- **Labeling is shown clearly on camera**
(Label is legible and visible)

PART B: SERUM and PLASMA PREPARATION

Timing Note

Serum tubes must be allowed to clot before centrifugation, while plasma tubes may be centrifuged immediately after collection. While serum is clotting, other components of this task (including PCV and TP) may be performed. Serum should ideally clot for approximately 10 minutes prior to centrifugation. Minor variation may occur based on clinic workflow.

1. SERUM AND PLASMA CENTRIFUGATION

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Serum tube is placed upright in a holder**
(Tube remains undisturbed)
- **Serum tube is allowed to clot**
(Clotting time of 10-20 minutes is stated out loud)
- **Serum and plasma tubes are positioned upright in the centrifuge**
(Tubes are vertical within the holder)
- **Centrifuge is balanced**
(A matching tube of equal volume is placed directly opposite the sample tube)
- **Centrifuge lid is secured**
(Lid is fully closed)
- **Centrifuge settings for time and speed are stated out loud**
(Student verbalizes the settings for blood as stated in Task 1)

2. SAMPLE ASSESSMENT AFTER CENTRIFUGATION

The student must show and explain the following steps. All steps are **(CRITICAL)** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Tubes are carefully removed from the centrifuge**
(Tubes are removed upright without shaking or inversion)
- **Tube orientation is maintained**
(Tubes remain upright after removal; tubes are not inverted or mixed)
- **Sample layers are clearly visible**
(Serum and plasma are visibly separated from cellular components)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 6)

- **Serum and plasma are correctly identified and stated out loud**
(Serum and plasma are each verbally identified and correctly matched to their respective tubes on camera)
- **Samples are clearly shown on camera for 5 seconds**
(Tube label faces away from the camera)
- **Serum and plasma are visually assessed for hemolysis and lipemia**
(Samples are examined after centrifugation; presence or absence of hemolysis and lipemia is stated out loud)
- **Causes of hemolysis and lipemia are stated out loud**
(At least one cause of each is explained)

PART C: PACKED CELL VOLUME (PCV) and TOTAL PLASMA PROTEIN (TP)

Required Demonstration and Narration

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

1. PACKED CELL VOLUME (PCV)

- **Exam gloves are worn**
(Gloves are on during entire process)
- **EDTA tube is mixed**
(EDTA tube is gently inverted 6–8 times)
- **Two hematocrit tubes are filled directly from the EDTA tube**
(Both tubes are filled 2/3–3/4 full)
- **Outside of hematocrit tube is cleaned**
(Blood is removed from the exterior of the tube with appropriate wipe)
- **Hematocrit tube is sealed**
(One end is sealed with clay)
- **Both hematocrit tubes are loaded correctly into centrifuge**
(Sealed end is facing outward; incorrect orientation results in automatic resubmission)
- **Centrifuge is balanced**
(A second tube is placed opposite the sample tube)
- **Centrifuge lid is secured**
(Lid is fully closed)
- **Centrifuge speed and time are stated out loud**
(Settings used for blood are stated as defined in Task 1)
- **Hematocrit tubes are removed after centrifugation and shown to the camera**
(Tubes are held steady and clearly visible for at least 5 seconds)
- **Hematocrit tube layers are identified and stated out loud**
(Packed red blood cell layer, buffy coat, and plasma including the plasma meniscus are verbally identified and indicated on camera)
- **Plasma appearance is stated out loud**
(Plasma is described as clear, hemolyzed, lipemic, or icteric)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 7)

- **One hematocrit tube is positioned correctly on reader**
(Bottom of the red blood cell column is at 0 and plasma meniscus is at 100% line; incorrect alignment results in automatic resubmission)
- **PCV value is obtained**
(The reading is taken at the top of the RBC column, not including the buffy coat)
- **PCV value is read correctly and stated out loud using proper units**
(A numerical value is read at the intersection of the RBC/plasma interface and reported as a percent; incorrect reading results in automatic resubmission)
- **Reader is shown to camera**
(Hematocrit tube on reader is visible for at least 5 seconds)
- **PCV value is recorded**
(Value is documented. The reported value matches what is visible on the hematocrit reader within $\pm 1-2\%$)

2. TOTAL PROTEIN and REFRACTOMETER USE

Step 1. Check refractometer cleanliness

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Refractometer prism is shown clean and dry before use**
(*No residue or liquid is present*)
- If residue or liquid is present, clean before proceeding

Step 2. Check refractometer calibration

- **Exam gloves are worn**
(Gloves are on during entire process)
- **One drop of distilled water is placed on the prism**
(Only distilled water is used for calibration)
- **Cover plate is closed gently**
(The liquid spreads evenly across the prism)
- **Refractometer is oriented toward light**
(Instrument is positioned for reading)
- **Calibration reading is identified**
(Student states out loud the reading at the blue/white interface)
- **Calibration value is stated out loud**
(Student states that distilled water should read **1.000**)
- **Student explains out loud why calibration is important**
(Student states calibration ensures the USG results are accurate)
- **Refractometer is held to the camera for at least 5 seconds**
(The scale and blue/white line are clearly visible)

Important: If reading is not at 1.000, calibration MUST be performed before continuing. Calibration does NOT need to be shown on video.

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 8)

Step 3. Prism is cleaned before plasma is applied

(All distilled water is removed)

Step 4. TOTAL PROTEIN (TP)

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Hematocrit tube is scored above the buffy coat using the edge of a glass slide)**
(Score line is clearly above buffy coat)
- **Hematocrit tube is snapped cleanly above the buffy coat**
(Plasma is not contaminated with buffy coat, RBCs or glass shards)

Note: permitted methods to improve plasma flow:

- Plasma may be applied onto the prism using one of the following techniques:
 - Gentle tapping of the tube near the cover plate
 - Gentle air pressure applied to the tube using a pipette
 - Plasma drawn into an insulin syringe and a drop applied directly to the prism
- **Plasma is applied to prism using the non-broken end**
(Only the non-broken end of the tube is used to apply plasma to the prism)
- **Cover plate is closed gently**
(The liquid spreads evenly across the prism)
- **Refractometer is oriented toward light** (Instrument is positioned for reading)
- **A TP value is obtained and read at the blue/white interface**
(Student reads the value where the colors meet on the plasma or total protein scale)
- **TP result is stated out loud using proper units in g/dL**
(Student states numerical TP value)
- **Refractometer is held to the camera for at least 5 seconds**
(The scale and blue/white line are clearly visible)
- **Reported TP value matches the refractometer reading**
(The reported value matches what is visible on the refractometer scale within $\pm 0.1-0.2$ g/dL)
- **TP result is recorded**
(Value is documented; if no value is obtained or any required TP field is left blank, automatic resubmission required)

Step 5. Refractometer is cleaned after use

- (Prism and cover plate is left clean and dry)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 9)

PART D: AUTOMATED HEMATOLOGY PANEL (CBC)

Required Demonstration and Narration

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Analyzer make and model are identified out loud**
(Manufacturer and model are stated)
- **Quality control process is explained out loud during this task**
(In addition to the process, explain why a QC is performed on the machine)
- **Patient information is entered**
(Patient ID is entered into analyzer/software)
- **Appropriate CBC panel is selected**
(Correct test panel is chosen)
- **EDTA tube is mixed immediately before loading**
(Tube is gently inverted immediately prior to loading)
- **Sample is loaded correctly using the correct sample type**
(Sample is introduced per manufacturer protocol; incorrect sample type results in automatic resubmission)
- **Analyzer run is initiated**
(Run is started)
- **Analyzer runs without error**
(No error messages are present)
- **Results are reviewed and interpreted**
(Results are assessed for abnormalities)
- **Abnormal results are correctly identified and stated out loud**
(Results outside expected limits are verbally identified and are linked to a brief plausible clinical implication, such as inflammation, anemia, or dehydration)
- **If no abnormalities are present, results are stated as within expected limits**
(A clear statement is made that no abnormal values are present)
- **Clinical relevance is demonstrated even when results are normal**
(A brief explanation is provided indicating what the overall normal results suggest about the patient's status)
- **Numerical values for results within expected limits do not need to be stated aloud**
(Reading normal values verbatim is not required)
- **CBC results are documented**
(Printout or screenshot is submitted)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 10)

PART E: AUTOMATED CHEMISTRY PANEL

Required Demonstration and Narration

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Chemistry analyzer make and model are identified out loud**
(Manufacturer and model are stated)
- **Quality control process is explained out loud during this task**
(In addition to the process, explain why a QC is performed on the machine)
- **Correct sample type is prepared**
(Serum or heparinized plasma is prepared per analyzer requirements; incorrect sample type results in automatic resubmission)
- **Patient information is entered**
(Patient ID is entered into the analyzer)
- **Appropriate chemistry panel is selected**
(Correct panel is chosen)
- **Sample is loaded correctly using the correct sample type**
(Sample is introduced per manufacturer protocol)
- **Analyzer run is initiated**
(Run is started)
- **Analyzer runs without error**
(No error messages occur)
- **Results are reviewed and interpreted**
(Results are assessed for abnormalities)
- **Abnormal results are correctly identified and stated out loud**
(Results outside expected limits are verbally identified and are linked to a brief plausible clinical implication, such as kidney or liver disease)
- **If no abnormalities are present, results are stated as within expected limits**
(A clear statement is made that no abnormal values are present)
- **Clinical relevance is demonstrated even when results are normal**
(A brief explanation is provided indicating what the overall normal results suggest about the patient's status)
- **Numerical values for results within expected limits do not need to be stated aloud**
(Reading normal numbers is not required)
- **Chemistry results are documented**
(Printout or screenshot is submitted)

4. BLOOD COLLECTION, SERUM AND PLASMA PREPARATION, PCV/TP, AUTOMATED HEMATOLOGY PANEL (CBC), AND AUTOMATED CHEMISTRY PANEL (continued pg. 11)

Task 4 - Results Documentation

All values must be completed. Any missing or blank field will result in resubmission.

Date: _____ Patient ID/Name: _____ PCV (%): _____ Total Protein (g/dL): _____

Plasma Appearance: (check one): Clear Hemolyzed Lipemic Icteric

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
- Practice attempts are not recorded or submitted
- Mentor initials verifies completion of practice
- Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will not be graded and require resubmission.

1. Task 4 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task4_TVF*
- No edited, altered or incomplete versions of the TVF will be accepted

2. Task 4 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. CBC and Chemistry Results

- Copy of the CBC results (printout or screenshot)
- Copy of the chemistry panel results (printout or screenshot)
- Results are clearly legible and correspond to the patient used for Task 4

4. Rabies Vaccination Documentation

- Required **ONLY** if the student handling the animal is **NOT** vaccinated for rabies
- Proof of the patient's current rabies vaccination is submitted
- Documentation clearly identifies the patient and vaccination status

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (circle one) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

5. COAGULATION

Goal: To accurately perform and record results of an in-house coagulation test.

Description: The student selects **ONE** in-house coagulation test, explains the clinical rationale for the test, correctly performs the procedure, and accurately reports and records the results using proper units and terminology.

Criteria: Read Carefully

All criteria in this task are **CRITICAL**. Failure to demonstrate any required step requires resubmission until competency is achieved.

- One approved in-house coagulation test is selected
- Clinical reasoning is explained before testing
- The procedure is performed safely and correctly
- Results are accurately reported and interpreted
- Every required step must be shown on camera with live narration
- The student states out loud what test is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated.
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding.

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL:**

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. "Clinical Pathology VM22700, Task 5 - Coagulation")

5. COAGULATION (continued pg. 2)

- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

Test Selection - CRITICAL

The student selects and states out loud **ONE** of the following tests:

- Buccal mucosal bleeding time (BMBT)
- Activated clotting time (ACT)
- Prothrombin time (PT)/Activated partial thromboplastin time (APTT) - automated
- Fibrinogen assay

Supplies and Equipment Verification - CRITICAL

Before starting the test, the student clearly shows and verbally identifies all equipment and supplies required for the selected test.

Buccal Mucosal Bleeding Time (BMBT)

- Exam gloves
- Appropriate lancing device (commercial BMBT lancet or approved equivalent)
- Timer or watch with a second hand
- Filter paper or blotting paper
- Roll gauze
- Assistant for restraint (required if patient is sedated or anesthetized)

Activated Clotting Time (ACT) - Tube Method

- Exam gloves
- Plain red top tube with no silica or clot activator **OR** white top ACT tube
- Timer
- Thermometer **OR** thermostatically controlled heating block or water bath (as required by protocol)
- Tube rack
- Assistant for restraint (recommended)

Prothrombin Time (PT)/Activated Partial Thromboplastin Time (APTT) - Automated

- Exam gloves
- Automated coagulation analyzer
- Cartridges or reagent packs specific to the analyzer
- Citrated blood collection tube (light blue top)

Fibrinogen Assay

- Exam gloves
- Microhematocrit tubes
- Microhematocrit tube sealant
- Microhematocrit centrifuge
- Refractometer
- Thermostatically controlled heating block or water bath
- Timer
- Tube rack

5. COAGULATION (continued pg. 3)

Clinical Reasoning - CRITICAL

Before beginning the procedure, the student verbally explains out loud:

- The name of the coagulation test selected
- Why coagulation testing is indicated for the patient
- What portion of hemostasis the selected test evaluates
- Expected normal reference range(s) for the species
- What constitutes an abnormal result for this patient

Failure to clearly explain clinical reasoning results in resubmission.

NOTE: You are graded only on the checklist associated with the test you select.

Buccal Mucosal Bleeding Time (BMBT)

If BMBT is selected, only the appropriate lancing device must be used.

The student demonstrates the following:

Preparation

- Exam gloves are worn
- Patient is appropriately restrained
- An assistant is required if patient is sedated or anesthetized
- Upper lip is elevated to expose the buccal mucosa
- Buccal mucosa is dried prior to lancing
- A timer or stopwatch is available and visible

Procedure

- A commercial BMBT lancing device is used
- The lancing device is applied correctly to the buccal mucosa
- The incision is made on the buccal mucosa
- Timing is initiated immediately after the incision is made, and the student states when timing is started
- Blood is blotted at regular intervals using filter or blotting paper
- The incision site is **not touched** during blotting
- Timing continues until bleeding stops

Results

- Bleeding cessation is correctly identified
- The student states out loud when bleeding has stopped
- Timing is stopped when active bleeding stopped
- Bleeding time is stated out loud in minutes and/or seconds
- Result is identified as normal or abnormal for the species
- Result is documented according to task instructions

Activated Clotting Time (ACT)

A modified test is accepted using plain red top tubes (no silica coating) or white top tubes may be used. DE is not needed.

If ACT (tube method) is selected, the student demonstrates:

- Correct tube type is identified (plain red top with no silica or white top)
- Tube is maintained at body temperature (98F-100F) and states out loud how the tube is kept at the correct temperature (e.g. thermometer, water bath, warming block)

5. COAGULATION (continued pg. 4)

- The tube must remain in the water bath or heating block and does not leave the warming device until blood is drawn
- Venipuncture is demonstrated on a live patient appropriate technique, PPE, and patient restraint
- Timing is initiated immediately after blood is transferred into the tube, and the student states when timing is started
- The tube is gently inverted or manipulated at regular intervals according to the test protocol, and the student states how often this is performed
- Clot formation is identified when blood no longer flows freely during gentle tube manipulation, and the student states when clot formation is observed
- The result is stated out loud with correct units and whether the result is normal or abnormal using appropriate reference ranges for the species
- The student briefly explains what the ACT result indicates for the patient (normal vs abnormal)

Automated Coagulation Tests (PT/APTT)

If an automated method is selected, the student demonstrates:

- The student states out loud whether PT, APTT, or both are being performed
- The student states what portion of hemostasis is evaluated:
 - PT: extrinsic and common pathways
 - APTT: intrinsic and common pathways
- Analyzer and test are selected and identified
(Make/model of analyzer is stated out loud)
- The student identifies out loud the correct sample type
(Citrated plasma (light blue top tube))
- Test cartridge or reagent is loaded correctly
- The sample is loaded according to manufacturer instructions
- Analyzer run is initiated correctly
- Results are retrieved from the analyzer
- The PT/APTT result is stated out loud using correct units of measurement
- The student briefly explains what the result indicates for the patient (normal vs abnormal)

Fibrinogen - Heat Precipitation

If heat precipitation fibrinogen is selected, the student demonstrates:

- Pre-heating total protein is measured and stated
- Sample is heated appropriately
- Sample is centrifuged appropriately
- Post-heating total protein is measured and stated
- Fibrinogen concentration is calculated correctly
- Result is identified as normal or abnormal

5. COAGULATION (continued pg. 5)

Task 5 - Results Documentation - CRITICAL

All values must be completed. Any missing or blank field will result in resubmission.

Date : _____ Patient ID/Name: _____ Species: _____

Test Performed: _____

Result _____ Normal for this patient Abnormal for this patient

PRACTICE REQUIREMENTS: None, but recommended if possible

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will not be graded and require resubmission.

1. Task 5 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task5_TVF*
- No edited, altered or incomplete versions of the TVF will be accepted

2. Task 5 Video Recording

- One continuous UNEDITED video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Coagulation Results

- Copy of the coagulation analyzer results (if performed) (printout or screenshot)
- Results are clearly legible

4. Rabies Vaccination Documentation

- Required **ONLY** if the student handling the animal is **NOT** vaccinated for rabies
- Proof of the patient's current rabies vaccination is submitted
- Documentation clearly identifies the patient and vaccination status

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (**circle one**) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

6. URINALYSIS

Goal: To demonstrate competency in urinalysis by integrating technical skills, accurate observation, and clinical reasoning to interpret physical, chemical, and microscopic findings.

Description: Using a properly collected, fresh urine sample, the student will perform a complete urinalysis, including physical examination, chemical analysis, and microscopic sediment evaluation, and will accurately demonstrate, verbally explain, and document all findings.

Criteria: Read Carefully

- All sections of this task must be completed using a fresh urine sample
 - Section A: Physical Evaluation
 - Section B: Chemical Evaluation
 - Section C: Microscopic Sediment Evaluation
- Each section must be fully performed and demonstrated
- Every required step must be shown on camera with live narration
- The student states out loud what is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The supervising mentor is physically present and actively supervising for the entire task
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

Note: Sections may be completed in a logical clinical order. Certain procedures may be performed at the same time when appropriate (for example, performing USG while the centrifuge is running). The order of completion does not affect grading as long as all criteria are met.

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

6. URINALYSIS (continued pg. 2)

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. “Clinical Pathology VM22700, Task 6 - Urinalysis”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, doing steps out of order, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All items are visible on camera

- Fresh urine sample
- Conical centrifuge tubes **OR** White top tubes
- Centrifuge
- Urine chemistry test strips
- Automated urine chemistry analyzer (if available)
- Refractometer
- Distilled water
- Lens paper/KimWipe
- Transfer pipettes
- Glass microscope slides (frosted or non-frosted)
- Coverslips
- Microscope
- Sediment stain (optional)
- Task 6 written report form

6. URINALYSIS (continued pg. 3)

PART A: PHYSICAL EVALUATION

Required Demonstration and Narration

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

While wearing exam gloves, the student must state out loud the following:

- **Color is described out loud**
(Student states the observed urine color)
- **Clarity is described out loud**
(Student states whether urine is clear, cloudy, etc)
- **Odor is described out loud**
(Student states the presence or absence of odor)
- **Foam is described out loud**
(Student states the presence or absence of foam)
- **Volume is described out loud**
(Student states the amount of urine)
- Specific gravity (measured with a refractometer)

Refractometer Use

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

Step 1. Check refractometer cleanliness

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Refractometer prism is shown clean and dry before use**
(No residue or liquid is present; if it is dirty, clean before proceeding)

Step 2. Check refractometer calibration

- **One drop of distilled water is placed on the prism**
(Only distilled water is used for calibration)
- **Cover plate is closed gently**
(The liquid spreads evenly across the prism)
- **Refractometer is oriented toward light**
(Instrument is positioned for reading)
- **Calibration reading is identified**
(Student states out loud the reading at the blue/white interface)
- **Calibration value is stated out loud**
(Student states that distilled water should read 1.000)
- **Student explains out loud why calibration is important**
(Student states calibration ensures the USG results are accurate)
- **Refractometer is held to the camera for at least 5 seconds**
(The scale and blue/white line are clearly visible)

Important: If reading is not at 1.000 calibration **MUST** be performed before continuing. Calibration does **NOT** need to be shown on video.

6. URINALYSIS (continued pg. 4)

Step 3. Prism is cleaned before urine is applied

(All distilled water is removed)

Step 4. One drop of urine is placed on the prism

(The sample fully covers the prism)

- **Cover plate is closed gently**
(The liquid spreads evenly across the prism)
- **Refractometer is oriented toward light**
(Instrument is positioned for reading)
- **Urine specific gravity is read at the blue/white interface**
(Student reads the value where the colors meet on the specific gravity scale)
- **SG result is stated out loud using proper units**
(e.g., “The urine specific gravity is one point zero two five” or “ten twenty-five”)
- **Refractometer is held to the camera for at least 5 seconds**
(The scale and blue/white line are clearly visible)
- **USG result is recorded**
(Value is documented)
- **Refractometer is cleaned after use**
(Prism and cover plate are left clean and dry)

PART B: CHEMICAL EVALUATION

Before beginning the chemical evaluation, the student must clearly state out loud **WHICH ONE** method used for the chemical evaluation.

Manual Chemistry Strip Interpretation

If this method is used, the student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn**
(Gloves are on during entire process)
- **Strip brand/manufacturer is stated out loud**
(Student names the urine chemistry strip)
- **Manufacturer instructions are followed**
(Student dips or applies drops urine as instructed)
- **Proper timing is followed**
(Student states the correct time before reading each pad)
- **All chemistry results are stated out loud**
(Student reports every pad result)
- **Student explains out loud what each pad measures**
(Student states what each square tests for)
- **Proper unit of measurement is stated out loud**
(Student stated mg/dL, mmol/L, etc)
- **Results are recorded on the written report**
(All values are documented-does not need to be shown on camera)

6. URINALYSIS (continued pg. 5)

Automated urine chemistry analyzer

If this method is used, the student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Exam gloves are worn (CRITICAL)**
(Gloves are on during entire process)
- **Strip brand and analyzer brand are stated out loud**
(Student names both)
- **Analyzer is used according to manufacturer instructions**
(Strip is loaded and run correctly)
- **All chemistry results are stated out loud**
(Student reports analyzer output)

Note: because automated analysis does not demonstrate manual interpretation, the student must additionally:

- **Two urine chemistry pads are verbally identified out loud**
(Student selects any two pads)
- **Pad function is explained out loud**
(Student states what each pad measures)
- **Basic normal vs abnormal meaning is explained out loud**
(Student gives a simple interpretation)
- **Alternate method is explained out loud**
(Student explains how the strip could be read manually if analyzer were unavailable)

PART C: MICROSCOPIC SEDIMENT EVALUATION

Required Demonstration and Narration

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

1. Sample Preparation

- **Exam gloves are worn (CRITICAL)**
(Gloves are on during entire process)
- **Urine is prepared for centrifugation**
(Sample is transferred to an appropriate tube)
- **Tubes are positioned upright in the centrifuge**
(Tubes are vertical within the holder)
- **Centrifuge is balanced**
(A matching tube of equal volume is placed directly opposite the sample tube)
- **Centrifuge lid is secured**
(Lid is fully closed)
- **Centrifuge settings for time and speed are stated out loud**
(Student verbalizes the settings for urine as stated in Task 1)
- **After centrifugation tube is removed from the centrifuge**
(Tube is not shaken)
- **Supernatant is poured off**
(Supernatant is carefully poured off without disturbing or losing the sediment pellet)

6. URINALYSIS (continued pg. 6)

- **Sediment is resuspended** (Tube is gently flicked or pipetted)

Optional: a pipette may be used to add a drop of sediment stain to the sediment, then use the pipette to mix the stain with the sediment.

- **Wet mount is prepared**
(One drop of sediment is placed on slide and a coverslip placed)

2. Microscopic Evaluation

STEP 1: Microscope Setup

- **Lowest power objective (4x) is fully engaged**
(4x objective is locked in place)
- **Slide is placed correctly on the stage**
(Slide is secured in the stage holder and centered over the light opening so it can be moved using the mechanical stage controls)
- **Interpupillary distance is adjusted**
(Oculars are moved together or apart until one clear circular field is seen)
- **Ocular focus is adjusted (if applicable)**
(The ocular focus ring is rotated to bring the image into sharp focus for that eye)

STEP 2: 10x Examination

- **10x objective is selected**
(Student rotates nosepiece until 10x objective clicks into place)
- **Image is focused**
(Student uses appropriate focus controls for this objective)
- **Illumination is evaluated and adjusted if needed**
(Student adjusts condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective; a partially closed iris diaphragm with subdued light is recommended)
- **A minimum of 5 different fields are examined using a systematic scanning pattern**
(Student moves across the slide in an organized, non-random pattern without repeatedly viewing the same area)
- **Casts and large crystals are identified and stated out loud**
(Student states the presence or absence of casts and large crystals)
- **One microscopic field is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)

STEP 3: 40x Examination

- **40x objective is selected**
(Student rotates nosepiece until 40x objective clicks into place)
- **Image is focused**
(Student uses appropriate focus controls for this objective)
- **Illumination is evaluated and adjusted if needed**
(Student adjusts condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective; if no adjustment is needed, the student must state that illumination is appropriate)
- **A minimum of 5 different fields are examined using a systematic scanning pattern**
(Student moves across the slide in an organized, non-random pattern without repeatedly viewing the same area)

6. URINALYSIS (continued pg. 7)

- **RBCs, WBCs, small crystals, bacteria, parasites, sperm, and fat droplets are identified and stated out loud**
(Student states the presence or absence of RBCs, WBCs, small crystals, bacteria, parasites, sperm, and fat droplets)
- **One microscopic field is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)

PART D: WRITTEN REPORT

All steps are **CRITICAL** and required to demonstrate competency.

The student must submit the completed Urinalysis Written report that includes:

- All physical findings are documented
(Form is complete, blank fields not accepted)
- All chemical results are documented
- All sediment findings are documented
- Clinical reasoning paragraph is included
(3–5 sentences correlating findings and limitations)
- Mentor verified these results

6. URINALYSIS (continued pg. 8)

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
- Practice attempts are not recorded or submitted
- Mentor initials verifies completion of practice

Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will require resubmission.

1. Task 6 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task6_TVF*
- No edited or altered versions of the TVF will be accepted

2. Task 6 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Maximum of three (3) labeled microscopic images

- At least one 10x image
- At least one 40x image
- Label and Identify any SPECIFIC structures or elements visible in the field (ie crystals, RBCs, casts, etc). directly on image
- Label the objective used directly on the image in a contrasting font color that stands out against the image background

4. Written Urinalysis Report

- Completed report of findings using the form on the next page
- Results are clearly legible and correspond to the patient used

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (**circle one**) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

URINALYSIS WRITTEN REPORT (pg. 1)

Date: _____ Name or ID: _____ Species: _____

Age: _____ Breed: _____ Gender: (*circle one*) F-spayed F-intact M-neutered M-intact

Time of Collection: _____ Time of Testing: _____

Method of Collection: _____ Method of Preservation (*circle one*): None Refrigeration

Chemistry Evaluation

Physical Evaluation

Volume (mL): _____

Color: _____

Turbidity: _____

Odor: _____

Foam: _____

Specific Gravity (Refractometer): _____

Manual Automated (*circle one*)

Brand of Dipstick: _____

Glucose (include units of measurement): _____

Bilirubin(include units of measurement): _____

Ketones(include units of measurement): _____

Blood(include units of measurement): _____

pH: _____

Protein (include units of measurement): _____

Urobilinogen (include units of measurement): _____

Sediment Analysis (average number seen in 5 microscopic fields)

WBC/HPF: _____

RBC/HPF: _____

Epithelial cells/HPF: _____

Sperm/HPF: _____

Bacteria/HPF: _____

Casts (Specify Type)/LPF: _____

Crystals (Specify Type)/LPF: _____

Other cells (Specify): _____

URINALYSIS WRITTEN REPORT (pg. 2)

Clinical Reasoning

In 3-5 complete sentences, explain how the physical examination, urine chemistry results, and microscopic sediment findings relate to one another.

Your response must:

- Refer to at least one specific finding from each section:
 - Physical evaluation
 - Chemical evaluation
 - Microscopic sediment evaluation
- Briefly explain what the combined findings may suggest clinically
- Identify at least one limitation of the urinalysis results
(e.g., sample quality, timing, collection method, or test limitations)

Do not restate numeric values or list results or make a diagnosis. Focus on connecting findings and explaining their significance.

I verify that **(student name)** _____ performed this task under my supervision and I reviewed the written report results.

Date: _____

Signature of Clinical Mentorship Supervisor: _____

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL)

Note: Task 3 (Blood Film Preparation and Staining) must be approved before this task may be attempted. *(If Task 3 is not approved, the student may not proceed with Task 7. Any submission without Task 3 approval is automatically not accepted and will not be graded.)*

Goal: To accurately classify and quantify white blood cell populations, assess erythrocyte morphology, estimate platelet numbers, calculate a corrected white blood cell count, and adjust absolute values when nucleated red blood cells (nRBCs) are present. Additionally, to provide a concise clinical interpretation based on the differential results and calculations.

Description: Using a fresh EDTA whole-blood sample, the student prepares and stains a high-quality blood film following the Task 3 criteria. The student evaluates erythrocyte, leukocyte, and platelet morphology using appropriate terminology†, performs white blood cell and platelet estimates, and accurately classifies and counts 100 white blood cells using a systematic tracking method. The student then uses these findings to calculate a corrected white blood cell (WBC) count in the presence of nucleated red blood cells (nRBCs) and provides a concise clinical interpretation based on the differential results and calculations.

†*Veterinary Hematology Atlas of Common Domestic and Non-Domestic Species, Reagan, Irizarry-Rovira, and DeNicola, 3rd Edition, ISBN: 9781119064978*

Criteria: Read Carefully

- All sections of this task must be completed using a fresh EDTA whole blood sample
- Each section must be fully performed and demonstrated
- Every required step must be shown on camera with live narration
- The student states out loud what is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The supervising mentor is physically present and actively supervising for the entire task
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are

CRITICAL:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 2)

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name (e.g. “Clinical Pathology VM22700, Task 7 - Differential Count Normal and Abnormal”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All required items are visible on camera

- Fresh blood in an EDTA tube
- Microhematocrit (PCV) tubes, plain
- Glass microscope slides (Frosted or non-frosted end)
- Diff-Quik® or equivalent stain
- Water (for rinse)
- Laboratory wipes or bibulous paper
- Wax pencil or permanent marker for labeling
- Microscope
- Immersion oil
- Differential cell counter or manual tally method
- Lens paper and microscope cleaner
- Task 7 written report worksheet (logbook)
- Task 7 Verification Form (TVF)
- Approved stained blood smear (from Task 3) - optional

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 3)

PART A

Slide Preparation and Setup

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

1. Prepare a minimum of three blood films using Task 3 criteria

(After preparation, select one appropriately stained slide for evaluation)

2. Slide is verified as an approved Task 3 blood smear

(Use of a slide without Task 3 approval results in immediate resubmission)

3. The blood smear is visually inspected prior to microscopy

(The smear is intact, evenly distributed, and appropriately stained; proceeding with an inadequate smear results automatic resubmission)

4. Slide is shown for evaluation

(Student holds the slide steady to the camera for a minimum of 5 seconds)

Low-Power and Monolayer Identification

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

STEP 1: Microscope Setup

- **Lowest power objective (4x) is fully engaged**
(4x objective is locked in place)
- **Slide is placed correctly on the stage**
(Slide is secured in the stage holder and centered over the light opening so it can be moved using the mechanical stage controls)
- **Interpupillary distance is adjusted**
(Oculars are moved together or apart until one clear circular field is seen)
- **Ocular focus is adjusted (if applicable)**
(The ocular focus ring is rotated to bring the image into sharp focus for that eye)

STEP 2: 10x Examination

- **10x objective is selected**
(Student rotates nosepiece until 10x objective clicks into place)
- **Image is focused**
(Student uses appropriate focus controls for this objective)
- **Illumination is evaluated and adjusted if needed**
(Student adjusts condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective; if no adjustment is needed, the student must state that illumination is appropriate)
The slide is scanned systematically to locate the monolayer
(Student moves across the slide in an organized, non-random pattern without repeatedly viewing the same area)
- **The monolayer region is correctly identified and stated out loud**
(Cells are evenly distributed with minimal overlap; incorrect identification results in automatic resubmission)
- **One microscopic field of the monolayer is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 4)

High Power Morphology Evaluation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

STEP 3: 40x Examination

- **40x objective is selected and stated out loud**
(Student rotates nosepiece until 40x objective clicks into place)
- **The field is brought into clear focus and verbally confirmed**
(Student uses appropriate focus controls for this objective)
- **Illumination is evaluated and any adjustments stated out loud**
(Student adjusts condenser height, iris diaphragm, and/or rheostat adjusted as appropriate for this objective; if no adjustment is needed, the student must state that illumination is appropriate)
- **The monolayer is re-confirmed and verbally identified**
(Cells are evenly distributed with minimal overlap)
- **A minimum of 5 different fields are examined using a systematic scanning pattern**
(Movement across the slide is organized without repeatedly viewing the same area)
- **Large structures are identified and stated out loud**
(Student states the presence or absence of structures such as platelet clumps, debris, microfilaria, or white blood cell aggregates)
- **One microscopic field is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)

Oil Immersion Evaluation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

STEP 4: Transition to 100x oil immersion

- **Rotate the nosepiece halfway between 40x and 100x**
(Slide and stage remain in place)
- **Apply one drop of immersion oil to the slide**
(The stage must NOT be lowered or raised)
- **Rotate the nosepiece until the 100x objective clicks into place**
(Ensure the objective enters the oil)

IMPORTANT: The following actions are NOT permitted during 100x oil immersion. If any of these actions occur, the task will be returned as “Not Complete” and must be re-recorded and resubmitted demonstrating the correct technique:

- Lowering or raising the stage
- Using the coarse focus knob
- Applying oil after the 100x objective is fully rotated into place
- Rotating away from the slide and then back into the oil immersion objective

STEP 5: 100x (Oil Immersion) Examination

- **The image is brought into clear focus using fine focus only, and this is stated out loud**
(Use of the coarse focus knob or adjustment of stage height constitutes improper technique and results in automatic resubmission)

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 5)

- **Illumination is evaluated and any adjustments stated out loud**
- (Condenser height, iris diaphragm, and/or rheostat adjusted appropriately for this objective; if no adjustment is needed, the student must state that illumination is appropriate)
- **A systematic scanning pattern within the monolayer is demonstrated and described out loud**
(Movement across the slide is organized without repeatedly viewing the same area)
- **Erythrocyte morphology is evaluated within the monolayer and described out loud**
(Cell size, shape, and staining characteristics are assessed; abnormalities are described accurately when present and proper terminology is used)

Estimated WBC Count

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **The tally system is shown clearly to the camera and verbally identified prior to counting**
(The tally counter or manual tally method is visible and identified before counting begins; failure to show the tally system results in non-completion)
- **Ten oil immersion fields within the monolayer are selected for the WBC estimate**
(WBCs are counted in the monolayer)
A systematic scanning pattern within the monolayer is demonstrated and described out loud.
(Movement across the slide is organized and non-random; the scanning approach is verbally described)
- **WBCs are identified and counted on camera in 2-3 fields with live narration**
(WBCs are correctly identified and counted out loud; approximately 1-2 minutes of footage is sufficient; footage counting all fields is not required)
- **The average number of WBCs per oil immersion field is calculated and tallied**
(The calculation is shown on the written report)
- **Counting of white blood cells is completed off camera in the remaining oil immersion fields for a total of ten fields**
(All ten selected fields must be counted)
- **The total number of WBCs counted and the average number of WBCs per oil immersion field are calculated and written on the report**
(Calculations are shown on the written report; missing or incorrect calculations result in non-completion)
- **One microscopic field is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)
- **The estimated WBC count (cells/ μ L) is calculated using the formula provided in the written report**

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 6)

Manual Differential

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **The tally system is shown clearly to the camera and verbally identified prior to counting**
(The tally counter or manual tally method is visible and identified before counting begins; failure to show the tally system results in non-completion)
- **A systematic scanning pattern within the monolayer is demonstrated and described out loud**
(Movement across the slide is organized and non-random; the scanning approach is verbally described)
- **WBCs are identified, classified, and counted on camera in 2-3 fields with live narration**
(WBC types are correctly identified and named out loud; approximately 1-2 minutes of footage is sufficient; footage of the entire differential is not required)
- **Counting and classifying the remaining white blood cells is completed off camera**
(Write findings on the written report)
- **Relative percentages for each leukocyte type are calculated and recorded**
(Percentages total 100%; calculations are shown on the written report; errors result in non-completion)

Platelet Evaluation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

STEP 6: Platelet Estimate

- **The tally system is shown clearly to the camera and verbally identified prior to counting**
(The tally counter or manual tally method is visible and identified before counting begins; failure to show the tally system results in non-completion)
- **Ten oil immersion fields within the monolayer are selected for platelet estimation**
(The student stated out loud the presence or absence of platelet clumps)
- **A systematic scanning pattern within the monolayer is demonstrated and described out loud**
(Movement across the slide is organized and non-random, the scanning approach is verbally described)
- **Platelets are identified and counted on camera over 2-3 fields with live narration**
(Approximately 1-2 minutes of narrated footage is sufficient to demonstrate correct identification and counting technique; the entire platelet count is not required to be shown on camera)
- **Counting of platelets is completed off camera in the remaining oil immersion fields for a total of ten fields**
(All ten selected fields must be counted)
- **The total number of platelets counted and the average number of platelets per oil immersion field are calculated and written on the report**
(Calculations are shown on the written report; missing or incorrect calculations result in non-completion)

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 7)

- **One microscopic field is shown to the camera for at least 5 seconds**
(Field is centered, steady, and clearly visible through the eyepiece or external monitor)
- **The estimated platelet counted is calculated using the formula provided in the written report (cells/ μ L)**

PART B

Abnormal Differential Analysis - Corrected WBC for nRBCs

This section evaluates the ability to apply results from the normal leukocyte differential to an abnormal differential scenario and to correct the WBC count when nucleated red blood cells (nRBCs) are present. This is completed as a written assignment only and is NOT recorded on video. All steps are **CRITICAL** and required to demonstrate competency.

Step 1: Enter Assigned nRBC Value on the written report

Use the Task 7 Written report for this section

- **Enter the nRBC value assigned to you in the Brightspace Task 7 Nucleated Red Blood Cell Value Quiz**

(The value represents the number of nucleated red blood cells per 100 white blood cells)

Step 2: Calculate the Corrected WBC Estimate

- **Use the WBC estimate you calculated earlier in Part A**
(Do not change or re-estimate this value)
- **Use the formula provided in the written report**
- **Show your math step-by-step**
(All numbers and calculations must be visible)
- Round the final corrected WBC value to the nearest whole number
- **Use the corrected WBC value (not the original estimate) to recalculate all absolute differential counts**

(Relative percentages do not change)

Written Interpretation - Required 3-4 Sentences

All components of this section are **CRITICAL** and must be completed to demonstrate competency. This section assesses clinical reasoning. Your response must explain what the corrected WBC calculation means for this patient.

Your interpretation must include all the following:

1. Why correction for nRBCs is necessary

Explain how the presence of nucleated red blood cells can falsely affect automated or estimated WBC counts.

2. How the corrected WBC value compares to the original estimate

State whether the corrected WBC is higher, lower, or similar to the original WBC estimate.

3. Whether the correction meaningfully changes patient assessment

Explain whether using the corrected WBC alters the clinical interpretation of the leukogram and briefly explain why or why not.

7. DIFFERENTIAL COUNT (NORMAL AND ABNORMAL) (continued pg. 8)

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
- Practice attempts are not recorded or submitted
- Mentor initials verifies completion of practice

Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will be returned.

1. Task 7 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task7_TVF*
- No edited, altered or incomplete versions of the TVF will be accepted

2. Task 7 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Maximum of FOUR (4) labeled microscopic images

- One 10x image of the monolayer
- One 40x image identifying at least one platelet, one RBC, one WBC, identifying the specific type of WBC (e.g. seg or band neutrophil, monocyte, etc)
- One 100x image
- Label and Identify SPECIFIC structures or elements visible in the field (ie, RBCs, WBCs, etc).
directly on image
- Label the objective used directly on the image in a contrasting font color that stands out against the image background

4. Written Differential Report

- Completed report of findings using the forms on the next page
- Results are clearly legible and correspond to the patient used

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (**circle one**) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

DIFFERENTIAL COUNT WRITTEN REPORT (pg. 1)

Date: _____ Name or ID: _____ Species: _____

Breed: _____ Age: _____

Gender: (circle one) F-spayed F- intact M-neutered M-intact

SHOW YOUR WORK!
WBC Estimate: Average # WBCs per 100x field x 2,000 (or 50x field x 3,000) = approximate # of WBCs/mm³
 (Round to the nearest whole number)

- | | |
|----|-----|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

WBC Differential	Relative Count (%) (Number (%) of each WBC type observed in 100 WBCs)	Absolute Count (/uL) (% of WBC type x WBC estimate)	CORRECTED Absolute Count (/uL) (% of WBC type x CORRECTED WBC estimate)
Segmented Neutrophil			
Non-segmented (Band) Neutrophil			
Lymphocyte			
Monocyte			
Eosinophil			
Basophil			
Total Count	_____ % (must equal 100%)	Total equals approx estimated WBC	Total equals approx corrected WBC

Nucleated RBCs (metarubricyte) per100 WBCs: _____ (If more than 5 nRBCs are seen then a corrected WBC count needs to be done).

DIFFERENTIAL COUNT WRITTEN REPORT (pg. 2)

RBC Morphology: *use appropriate terminology* (examples of morphology terms and grading schemes can be found in Appendix A and B of the Veterinary Hematology Atlas† textbook.)

Size: _____

Shape: _____

Color: _____

WBC and Platelet Morphology (Specify using appropriate terminology):

SHOW YOUR WORK!

Platelet Estimate = _____

Average # platelets per 100x field x 20,000 = Estimated platelets/mm³

Platelet clumping observed? (**circle one**) Yes/No

- | | |
|----|-----|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

SHOW YOUR WORK!

Corrected WBC count for nRBCs = _____

WBC estimate x 100

(# of NRBCs + 100 = corrected WBC count/mm³)

DIFFERENTIAL COUNT WRITTEN REPORT (pg. 3)

Written Interpretation - Required 3-4 Sentences

All components of this section are **CRITICAL** and must be completed to demonstrate competency.

This section assesses clinical reasoning. Your response must explain what the corrected WBC calculation means for this patient.

Your interpretation must include all the following:

1. Why correction for nRBCs is necessary

Explain how the presence of nucleated red blood cells can falsely affect automated or estimated WBC counts.

2. How the corrected WBC value compares to the original estimate

State whether the corrected WBC is higher, lower, or similar to the original WBC estimate.

3. Whether the correction meaningfully changes patient assessment

Explain whether using the corrected WBC alters the clinical interpretation of the leukogram and briefly explain why or why not.

I verify that **(student name)** _____ performed this task under my supervision and I reviewed the written report results.

Date _____

Signature of Clinical Mentorship Supervisor _____

8. CROSSMATCH

Goal: Demonstrate the ability to perform a canine or feline crossmatch between a potential blood donor and a potential recipient using either a traditional crossmatch method or a commercially available major crossmatch kit to determine transfusion compatibility.

Description: Using collected blood samples from **one canine or feline donor AND one canine or feline recipient**, the student performs a crossmatch using **either** a traditional crossmatch method **or** a commercially available **major crossmatch kit**. The student correctly processes samples, follows the selected methodology, evaluates results, and accurately reports compatibility using appropriate medical terminology.

Criteria: Read Carefully

All criteria in this task are **CRITICAL**. Failure to demonstrate any required step requires resubmission until competency is achieved.

- One crossmatch test is selected and stated out loud
- Every required step must be shown on camera with live narration
- The student states out loud what test is being done and why as each step is performed
- Results are accurately reported and interpreted
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are **CRITICAL**:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

8. CROSSMATCH (continued pg. 2)

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name
(e.g. “Clinical Pathology VM22700, Task 8 – Crossmatch”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All required items are visible on camera

- Commercial crossmatch kit supplies
 - Fresh blood samples (plasma, serum packed RBCs, etc)
 - Centrifuge
- Traditional crossmatch supplies
 - Fresh blood samples (plasma, serum packed RBCs, etc)
 - Saline (0.9% Sodium Chloride)
 - Plastic, conical bottom, 12-mL tubes **OR** white top tubes
 - EDTA blood collection tubes
 - Plain, red-top tubes (Serum separator tubes are not appropriate for this procedure)
 - Disposable pipettes
 - Glass slides
 - Coverslips
 - Microscope

SECTION 1: Method Selection and Preparation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- **Crossmatch method is stated out loud**
(The student states whether a traditional crossmatch or a commercial major crossmatch kit is being used)
- **If a commercial kit is used, the name and type of kit is identified and stated out loud**
(The full name and type of the crossmatch kit is stated)
- **Shows the kit packaging on camera**
(The kit packaging is clearly visible on camera)

8. CROSSMATCH (continued pg. 3)

- **If a traditional method is used, all supplies are shown on camera**
(All required supplies are in one central area and visible on camera)

SECTION 2 - Crossmatch Procedure

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency for the chosen test.

- **Wears exam gloves**
(Gloves are worn during entire process)
- **Name or ID of the donor and recipient is stated out loud**
(The student verbally identifies which sample belongs to the donor and which belongs to the recipient)
- **Donor and recipient sample type are identified and stated out loud**
(Samples are identified as plasma, serum or packed RBCs)
- **Condition of samples is assessed and stated out loud**
(Samples are described as normal, hemolyzed, or lipemic)
- **The student states out loud whether the samples are acceptable for crossmatching based on appearance**
- **Performs the crossmatch procedure**
(All steps of the selected crossmatch method are performed per instructions)

A. Commercial Crossmatch Kit

(Follow the manufacturers established protocol and instructions)

- **Verbalizes procedural steps throughout**
(The student explains each step out loud as it is performed)
- **The student follows the manufacturer's instructions exactly**
(The student performs all kit steps in the correct order)
- **The student demonstrates proper centrifugation technique including:**
 - Correct tube placement
 - Balancing the centrifuge
 - Securing the centrifuge lid
 - States out loud the centrifugation time and speed used
- **Determines crossmatch result and states it out loud**
(The student determines whether the crossmatch indicates compatibility or incompatibility)

B. Traditional Crossmatch Method

(Follow the textbook method posted in the course resources OR the clinic's established protocol)

- The student states which protocol is being followed (textbook or clinic-specific)
- The student prepares donor and recipient components according to the selected protocol
- The student demonstrates proper centrifugation techniques, including:
 - Correct tube placement
 - Balancing the centrifuge
 - Securing the centrifuge lid
 - States out loud the centrifugation time and speed used

8. CROSSMATCH (continued pg. 4)

- The student performs required **control reactions**:
 - Donor control
 - Recipient control
- The student verbally states the purpose of each control reaction

SECTION 3: Result Evaluation and Interpretation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- Determines crossmatch result
(The student determines whether the crossmatch indicates compatibility or incompatibility)
- The student verbally states whether agglutination or incompatibility is present or absent using correct medical terminology
- The student verbally states out loud compatibility of the donor and recipient
- The student provides a brief verbal interpretation explaining what the result means for transfusion safety

SECTION 4: Documentation

The student must show and explain the following steps. All steps are **CRITICAL** and required to demonstrate competency.

- The student completes written documentation of the crossmatch results
- If using a commercial kit, the student completes and submits the manufacturer-provided result card or report form
- Completes and submits the manufacturer's report card, if provided
(The report card is fully completed and uploaded with the task submission)
- Submits a copy of the manufacturer's written instructions
(A clear copy of the instructions included with the commercial crossmatch kit is uploaded)

8. CROSSMATCH (continued pg. 5)

PRACTICE REQUIREMENTS: Recommended but not required

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will be returned.

1. Task 8 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task8_TVF*
- No edited, altered or incomplete versions of the TVF will be accepted

2. Task 8 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Written Crossmatch Report

- Completed Crossmatch Report Form on the next page
- A copy of the manufacturer's written instructions included with the commercial crossmatch kit
- A completed manufacturer-provided report card or result form, if included with the kit
- Results are clearly legible and correspond to the patient used

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ *(circle one)* RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

CROSSMATCH WRITTEN REPORT

Donor Name or ID: _____ **Recipient Name or ID:** _____

Species: Canine **Species:** Feline

Crossmatch Method Used

- Traditional crossmatch (course resource method or clinic protocol)
 Commercial major crossmatch kit

Commercial Kit Information *(Complete ONLY if a commercial kit was used)*

Kit Name: _____ **Manufacturer:** _____

Manufacturer Instructions Uploaded

Yes No

Manufacturer Report Card Provided with Kit:

Yes No Not included with kit

Note: If a report card is included with the kit, a completed copy must be uploaded

Sample Type Identified (check all that apply)

Plasma Serum Other _____

Sample Condition (check one for each)

Donor Sample: Normal Hemolyzed Lipemic **Recipient Sample:** Normal Hemolyzed Lipemic

Crossmatch Result Compatible Not Compatible

Brief Interpretation

In 1–2 sentences, briefly explain what this result means for transfusion safety.

I verify that **(student name)** _____ performed this task under my supervision and I reviewed the written report results.

Date _____

Signature of Clinical Mentorship Supervisor _____

9. CANINE VAGINAL CYTOLOGY

***NOTE:** This task may be performed on a sedated or anesthetized patient.

Goal: To properly collect, process, and accurately evaluate and report the cellular findings for canine vaginal cytology.

Description: The student properly collected, processed, and stained a vaginal cytology sample. The student evaluated the slide under the microscope, used correct cytologic terminology to describe cell types and findings, and accurately recorded the results.

Criteria: Read Carefully

All criteria in this task are **CRITICAL**. Failure to demonstrate any required step requires resubmission until competency is achieved.

- The procedure is performed safely and correctly
- Results are accurately reported and interpreted
- Every required step must be shown on camera with live narration
- The student states out loud what test is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are **CRITICAL**:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name

9. CANINE VAGINAL CYTOLOGY (continued pg. 2)

- The course name and number and task number and name
(e.g. “Clinical Pathology VM22700, Task 9 – Canine Vaginal Cytology”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All items are visible on camera

- Sterile, 6” cotton-tip applicators (CTA)
- Sterile saline 0.9%
- Sterile vaginal speculum (optional)
- Sterile lubricant (only if using a sterile vaginal speculum)
- Glass microscope slides (frosted or non-frosted)
- Diff-Quik® or equivalent stain
- Microscope
- Task 9 written report form

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, doing steps out of order, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

- The student briefly explained out loud why a vaginal cytology is being performed
- The student had an assistant hold the dog in either sternal or standing recumbency
- The dog was held firmly to minimize movement prior to sampling
 - **NOTE: If the patient is sedated/anesthetized an assistant must be present to monitor the patient and assist as needed**
- The student performed a visual exam of the vulva
 - The vulva is examined briefly before collecting the sample
 - The appearance is stated out loud (e.g. color, swelling, moisture, discharge, etc)
- While wearing exam gloves, the student demonstrated removing the sterile swabs from the package using aseptic technique
- While wearing exam gloves, moistened a sterile cotton swab with sterile saline
- While wearing exam gloves, the student collected the sample without contaminating the sample/swab or causing injury to the patient
 - **Note: The use of a vaginal speculum is OPTIONAL; if used, the speculum must be the correct size and properly lubricated**

9. CANINE VAGINAL CYTOLOGY (continued pg. 3)

- While wearing exam gloves, the student rolled the swab across the slide to distribute the cells along the slide and allowed it to dry
- While wearing exam gloves, the student stained the slide with Diff-Quik®
- **Showed the stained slide to the camera**
- The student performed a systematic evaluation of the slide and stated out loud their observations at each magnification:
 - 1-2 minutes of the initial microscopic evaluation is acceptable
 - The student examined the sample on 10x for an initial view of the cell types present
 - Hold the camera to the eyepiece of the microscope and keep camera steady for 5 seconds
 - The student examined the sample on 40x and verbally identified any cells or large structures present
 - Hold the camera to the eyepiece of the microscope and keep camera steady for 5 seconds
 - ***NOTE: the oil immersion objective (100x) may be used to gain a closer view of bacteria or other cells/debris present***
- The student thoroughly documented all results on the canine vaginal cytology written report and the student's mentor verified these results

9. CANINE VAGINAL CYTOLOGY (continued pg. 4)

PRACTICE REQUIREMENTS: None required

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will require resubmission.

1. Task 9 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task9_TVF*
- No edited or altered versions of the TVF will be accepted

2. Task 9 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Maximum of three (3) labeled microscopic images

- At least one 10x image
- At least one 40x image
- Label and Identify any SPECIFIC structures or elements visible in the field (ie yeast, bacteria, parasites, etc). directly on image
- Label the objective used directly on the image in a contrasting font color that stands out against the image background

4. Written Vaginal Cytology Report

- Completed report of findings using the form on the next page
- Results are clearly legible and correspond to the patient used

5. Rabies Vaccination Documentation

- Required **ONLY** if the student handling the animal is **NOT** vaccinated for rabies
- Proof of the patient's current rabies vaccination is submitted
- Documentation clearly identifies the patient and vaccination status

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (*circle one*) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

CANINE VAGINAL CYTOLOGY WRITTEN REPORT

Canine Vaginal Cytology Written Report

Date: _____ Name or ID: _____ Species: _____

Breed: _____ Age: _____ Gender: **(circle one)**: F-spayed F-intact

Appearance of labia and behavior of patient (Describe):

Appearance of discharge (Color, Consistency, Odor):

Microscopic Evaluation (#/HPF):

Basal: _____

Intermediate: _____

Parabasal: _____

Superficial: _____

Metestral: _____

Mucus: _____

RBC: _____

Debris: _____

WBC (Specify): _____

Other/Abnormal Cells (Specify/Describe):

Bacteria (Specify): _____

I verify that **(student name)** _____ performed this task under my supervision and I reviewed the written report results.

Signature of Clinical Mentorship Supervisor: _____

10. EAR CYTOLOGY

***NOTE:** A pathologic patient **must** be used for this task. The patient must show clinical signs of ear disease (e.g., discharge, odor, erythema, debris, pruritus) and must **not** have received topical ear medications within the previous 48 hours. Submissions performed on non-pathologic patients will result in point deductions and may require resubmission depending on whether critical steps can be verified.

Goal: To properly collect, process, and accurately evaluate and report the cellular findings on a pathologic patient for ear cytology.

Description: The student properly collected a sample, and properly processed, accurately stained, and read and recorded the results for ear cytology.

Criteria: Read Carefully

All criteria in this task are **CRITICAL**. Failure to demonstrate any required step requires resubmission until competency is achieved.

- The procedure is performed safely and correctly
- Results are accurately reported and interpreted
- Every required step must be shown on camera with live narration
- The student states out loud what test is being done and why as each step is performed
- Supervising mentor must be physically present and actively supervising the student for the entire task
- All materials, procedures, and results are clearly visible so that technical skill and understanding can be evaluated
- The camera must continuously follow the student's hands and the equipment being used so that each step can be clearly evaluated
- The video must allow the instructor to evaluate both skills and understanding

VIDEO & RECORDING REQUIREMENTS

The submission must meet all the following requirements to be accepted for grading. All items below are **CRITICAL**:

- Video must be recorded in horizontal (landscape) orientation
- One continuous video is required
 - The camera may be paused briefly only while:
 - The centrifuge is running
 - Moving between locations
 - All recordings must be combined into a single video file for submission
- Live narration throughout the entire video (no voiceovers)
- Another person must operate the camera
 - Self-recording, tripods, phone stands, or cameras placed on a table are not permitted

Note: the supervising mentor(s) may operate the camera. They must appear at the beginning of the video, introduce themselves, and confirm active supervision. Submission of multiple video files or failure to meet any recording requirement will result in the task being returned without grading.

VIDEO INTRODUCTION REQUIREMENTS

All items below are **CRITICAL**:

10. EAR CYTOLOGY (continued pg. 2)

At the start of the video, both the student and mentor must be clearly visible.

The student must show their face and clearly state out loud:

- Their first and last name
- The course name and number and task number and name
(e.g. “Clinical Pathology VM22700, Task 10 – Ear Cytology”)
- Date of recording (month, day and year)

The mentor must show their face and clearly state out loud:

- First and last name
- Professional credentials
- They are supervising this task and will be actively supervising the student for the entire task

Required Supplies and PPE

PPE

- Exam gloves

Supplies organized in a central area

All items are visible on camera

- Non-sterile, 6” cotton-tip applicators (CTA)
- Glass microscope slides (frosted or non-frosted)
- Diff-Quik® or equivalent stain
- Microscope
- Task 10 written report form

IMPORTANT: Every step in this task is **CRITICAL**. Missing a step, doing steps out of order, or steps not clearly demonstrated and explained means the task will require resubmission until competency is achieved. Grades reflect performance and penalties. Competency status reflects CVTEA requirements.

- The student had an assistant hold the patient in either sternal or standing recumbency
- The dog was held firmly to minimize movement prior to sampling
 - **NOTE: If the patient is sedated/anesthetized an assistant must be present to monitor the patient and assist as needed**
- The student performed a brief exam of the ear canal and pinnae and stated observations out loud (e.g. color, swelling, moisture, discharge, etc)
- While wearing exam gloves, the student placed one clean cotton swab into the patient’s right ear to properly collect secretions
 - The swab should be inserted into the vertical ear canal and gently rotated to collect the sample
- The student showed the swab to the camera for at least 5 seconds
- The student placed a separate clean cotton swab into the patient’s left ear to properly collect secretions
 - The swab should be inserted into the vertical ear canal and gently rotated to collect the sample

10. EAR CYTOLOGY (continued pg. 3)

- The swabs containing the appropriate samples were safely removed from the ears
- The student rolled the swabs across the slide, confirming the location of the right and left ear samples on the slide, and allowed it to dry
 - Heat fixing the slide is optional
- **Note: the samples can be placed on the same slide or separate slides**
- The student properly labeled and stained the slide with Diff-Quik®
- Showed the stained slide to the camera for at least 5 seconds
- The student performed a systematic evaluation of the slide and narrated their observations at each magnification:
 - The student examined the sample on 10x for an initial view of the cell types present
 - Hold the camera to the eyepiece of the microscope and keep camera steady for 5 seconds
 - The student examined the sample on 40x and verbally identified any cells or large structures present
 - Hold the camera to the eyepiece of the microscope and keep camera steady for 5 seconds
 - The student examined the sample on the oil immersion objective (100x) and verbally identified any bacteria or yeast present
 - Hold the camera to the eyepiece of the microscope and keep camera steady for 5 seconds
- The student thoroughly documented all results on the ear cytology differential written report and the student's mentor verified these results

10. EAR CYTOLOGY (continued pg. 4)

PRACTICE REQUIREMENTS: 1

- Task must be practiced successfully once before recording
 - Practice attempts are not recorded or submitted
 - Mentor initials verifies completion of practice
- Practice Attempt #1 Date: _____ Mentor initials: _____

MATERIALS SUBMITTED FOR EVALUATION & VERIFICATION:

All items must be submitted together. Partial submissions will require resubmission.

1. Task 10 Verification Form (TVF)

- Signed and dated by the Clinical Mentorship Supervisor
- Submitted as a separate file with filename: *LastName_FirstInitial_VM227_Task10_TVF*
- No edited or altered versions of the TVF will be accepted

2. Task 10 Video Recording

- One continuous video (multiple video clips not accepted)
- Includes student and mentor introductions
- Includes live narration throughout (no voiceovers)

3. Maximum of three (3) labeled microscopic images

- At least one 10x image
- At least one 40x image
- Label and Identify any SPECIFIC structures or elements visible in the field (ie yeast, bacteria, parasites, etc). directly on image
- Label the objective used directly on the image in a contrasting font color that stands out against the image background.

4. Written Ear Cytology Report

- Completed report of findings using the form on the next page.
- Results are clearly legible and correspond to the patient used

5. Rabies Vaccination Documentation

- Required **ONLY** if the student handling the animal is **NOT** vaccinated for rabies
- Proof of the patient's current rabies vaccination is submitted
- Documentation clearly identifies the patient and vaccination status

COMPETENCY STATEMENT

Failure to demonstrate any **CRITICAL** criterion will result in the task being returned as **Not Complete** and will require resubmission. No grade will be assigned until all criteria are met and competency is demonstrated.

Date: _____

Student Name: _____

Supervisor Name: _____ (*circle one*) RVT, CVT, LVT, LVMT, DVM, VMD

I verify that the student performed this task under my active and continuous supervision.

Signature of Clinical Mentorship Supervisor: _____

EAR CYTOLOGY WRITTEN REPORT

Date: _____ Name or ID: _____ Species: _____
Breed: _____ Age: _____

Gender: (**circle one**): F- spayed F- intact M-neutered M-intact

Right Ear

Appearance of Ear (Describe):

Appearance of Exudate (Color, Odor):

Microscopic Evaluation (#/field):

RBC: _____

WBC: _____

Epithelial Cells: _____

Yeast: _____

Bacteria (Rods): _____

Bacteria (Cocci): _____

Parasites: _____

Abnormal Cells (#/field and describe):

Other (Specify): _____

Left Ear

Appearance of Ear (Describe):

Appearance of Exudate (Color, Odor):

Microscopic Evaluation (#/field):

RBC: _____

WBC: _____

Epithelial Cells: _____

Yeast: _____

Bacteria (Rods): _____

Bacteria (Cocci): _____

Parasites: _____

Abnormal Cells (#/field and describe):

Other (Specify): _____

I verify that (**student name**) _____ performed this task under my supervision and I reviewed the written report results.

Signature of Clinical Mentorship Supervisor: _____