

Jordan University of Science and Technology
Faculty of Veterinary Medicine
Department of Veterinary Pathology and Public Health
Spring 2021

Title & Instructor	
Course Title	Veterinary Clinical Pathology Clinic
Course Number	VM 554
Instructor	Prof. Raida Al-Rukibat
Office Location	G1 L3
Office Phone	22008
Office Hours	To be announced later
E-mail	ralrukib@just.edu.jo

Course Description
<p>This course focuses on interpreting laboratory data in the context of the clinical condition and merging and collecting information from all sources (hematology, cytology, and clinical chemistry) to obtain a diagnosis of the disease</p> <p>This course will include small group discussion of topics related to clinical chemistry, hematology and cytological cases in dogs, cats, cattle, sheep and goat and horses.</p>

Text Book & References
<ol style="list-style-type: none"> 1. Reagan & DeNicola, Veterinary Hematology: Atlas Of Common Domestic Species. any available edition 2. Kenneth S. Latimer, Keith W. Prasse, Edward A. Mahaffey .Duncan & Prasse Vet. Laboratory medicine, clinical pathology. 3. Internet http://eclinpath.com/. eClinPath, an online textbook on Veterinary Clinical Pathology 4. Any available veterinary cytology book is OK.

Assessment		
Assessment Type	Expected Due Date	Weight
Midterm exam		50%
Final exam		50 %
Assignments /participation		Extra points

Additional Notes	
	<p>The responsibility of the student to coordinate with fellow students in the different clinic rotations to know the cases received by the veterinary health center or that have been discussed with the students as these cases are one of the sources that will be used to conduct the evaluation/exams</p> <p>مسؤولية الطالب التنسيق مع زملائه الطلبة في الشعب المختلفة لمعرفة الحالات الواردة الى المركز الصحي البيطري أو التي تم مناقشتها مع الطلبة حيث أن هذه الحالات هي أحد المصادر التي سوف تستخدم لإجراء التقييم /الامتحانات</p>

	Upon completion of this course, the student will:
	<p>Describe the various types of specimens tested in the clinical laboratory and the importance of proper collection and handling.</p> <p>Demonstrate correct and safe use of lab equipment, microscopes, and glassware.</p> <p>Perform microscopic examination of a prepared blood film.</p> <p>Determine plasma/serum protein concentration using a refractometer, and discuss the causes and significance of abnormal values.</p> <p>Prepare and evaluate a stained blood smear.</p> <p>Identify normal and abnormal morphology of RBCs, WBCs, and platelets in each species as they appear on a blood smear.</p> <p>Perform a differential WBC count, and calculate absolute values.</p> <p>Identify blood samples with hemolysis, lipemia, and icterus, and describe how this may affect hematological results.</p> <p>Identify a variety of normal and abnormal blood cells and discuss their significance.</p> <p>Perform a reticulocyte count.</p> <p>Discuss the results of a complete blood count (CBC) with emphasis on abnormal findings.</p> <p>Select the appropriate blood tube for the diagnostic test required.</p> <p>Interpret the results of a chemistry panel with emphasis on abnormal findings.</p> <p>Describe the general principles of hematology in the diagnosis of health and disease in the veterinary patient..</p> <p>Discuss the origin of RBC, WBC, and platelets.</p> <p>Name the cells in developmental order that will mature into erythrocytes, thrombocytes, plasma cells, and five leukocyte types.</p> <p>Describe the major morphological characteristics of normal and defective hematopoiesis.</p> <p>Describe the nuclear and cytoplasmic characteristics of blood cells in normal and abnormal conditions.</p> <p>Compare and contrast the blood cell morphology of various animal species, including reptiles and birds.</p> <p>Illustrate and discuss normal primary and secondary hemostasis, including intrinsic, extrinsic, and common pathways.</p> <p>Explain the role of the liver in hemostasis.</p>

Discuss the variety of tests used in veterinary practice to evaluate hemostasis.

Define fibrinogen, and discuss the significance of fibrinogen levels in large animals.

List the components of a CBC, and determine normal values in the dog, cat, and horse.

Define reticulocyte, and discuss the importance in anemia.

Define and identify a stress leukogram.

Define normal and abnormal laboratory values for hematological data and disease states that could alter laboratory values for various animal species.

Differentiate regenerative and non-regenerative anemia and provide examples of each.

Discuss common congenital and acquired hematological diseases/disorders of animals.

Describe the general principles of clinical chemistry in the diagnosis of health and disease in the veterinary patient.

List the components of a chemistry profile and their significance.

Interpret abnormal findings on the chemistry, and discuss possible causes.

Discuss the significance of azotemia (i.e., elevated BUN and CR), and identify causes for pre-renal, renal, and post-renal azotemia.

Illustrate the steps involved in bilirubin production.

Indicate normal blood pH, and discuss the role of bicarbonate in maintaining normal blood pH.

Identify liver enzymes (i.e., ALT, ALP, and AST), and discuss their significance when elevated.

List the three (3) isoenzymes of ALP.

Identify electrolytes, and discuss their function and significant when decreased or elevated.

Compare a screening and function test as it relates to the kidney and liver.