

Course Title	Equine practice: Medicine, Orthopaedics, Surgery				
Course Code	VET-409				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 4/ Semester 2 (Spring)				
Teacher's Name	Course Lead: Contributor:				
ECTS	6	Lectures / week	3	Laboratories / week	2
Course Purpose and Objectives	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> • Equine medicine: this course gives the students the essential information on equine medical diseases on which to approach a diagnosis, based on history and clinical signs in an individual horse or, in cases of group problems, on epidemiological evidence. The students should be able to select appropriate diagnostic tests and interpret the results, be able to devise appropriate forms of therapy or other action and give the appropriate prognosis. • Equine orthopaedics: to recognize the common conditions causing equine lameness, to be able to perform analysis of clinical pathological and diagnostic imaging information required to identify musculoskeletal abnormalities, to be able to perform the synthesis of information required to construct a list of differential diagnoses, and to plan treatment protocols. To be able to treat common conditions causing equine lameness, to develop the application of principles to new situations using a problem-solving approach. Secondary Objectives: to be able to recall clinical anatomy and surgical/biomechanical principles. To comprehend the relationship of anatomical, pathological and biomechanical principles to the musculoskeletal system. At the end of this course students should be familiar with the diagnosis and treatment of the more common equine orthopedic conditions. • Equine surgery: to recognize and become familiar with common equine surgical conditions. To be able to apply anatomical, physiological, pathological, and surgical principles of equine surgical conditions. To understand 				

	<p>specific principles of equine surgery. To acquire the knowledge on how to choose, perform and interpret appropriate diagnostic tests to thoroughly investigate surgical conditions of the horse, and refer for specialist treatment when appropriate. To be able to plan an equine surgical procedure in its entirety with an understanding of advantages, disadvantages, and associated risks. To learn how to apply principles to new situations using a problem-solving approach.</p>
<p>Learning Outcomes</p>	<p>The following list provides the learning objectives that will be covered in the lectures, lab practical sessions and tutorials of each week:</p> <p>Equine medicine</p> <p>Week 1</p> <p>LOBs covered during lectures:</p> <p>Infectious diseases</p> <ol style="list-style-type: none"> 1. African horse sickness 2. West Nile virus 3. Gamma herpesviruses (EHV5 and EHV2) 4. Equine alpha herpesviruses 5. Equine Rhinitis Virus Infection 6. Equine influenza 7. Rabies 8. Strangles 9. Leptospirosis 10. Screening herds for Lawsonia 11. Corynebacterium pseudotuberculosis infection (local and systemic) 12. Equine protozoal myelitis 13. Rickettsial Diseases 14. Vaccination programs <p>Week 2</p> <p>LOBs covered during lectures:</p> <p>Respiratory diseases</p> <ol style="list-style-type: none"> 15. Sinusitis 16. Progressive ethmoidal hematoma 17. Guttural pouch disorders 18. Recurrent laryngeal neuropathy 19. Dorsal displacement of the soft palate 20. Pharyngeal collapse 21. Exercise induced pulmonary hemorrhage 22. Recurrent airway obstruction 23. Inflammatory airway disease 24. Pneumonia 25. Acute respiratory distress syndrome

Week 3**LOBs covered during lectures:****Gastrointestinal diseases**

26. Dental disease
27. Esophageal disease
28. Gastric ulcers
29. Gastric impaction
30. Hepatic diseases in the horse
31. Anterior enteritis
32. Acute equine colitis
33. Antimicrobial-associated diarrhea
34. Infiltrative Bowel Diseases of the Horse
35. Small bowel colic
36. Donkey colic
37. Parasite screening and control
38. Lawsonia infection and proliferative enteropathy
39. Peritonitis

Week 4**LOBs covered during lectures:****Neurological diseases**

40. Dysphagia
41. Horner's syndrome
42. Grass sickness
43. Seizure disorders
44. Forebrain disease
45. Cervical vertebral malformation
46. Equine degenerative myeloencephalopathy
47. Equine protozoal myeloencephalitis
48. Neurological herpesvirus
49. Neurologic consequences of Lyme disease
50. Neuromuscular diseases
51. Sleep disorders and alterations in mentation

Week 5**LOBs covered during lectures:****Urinary tract diseases**

52. Polyuria polydipsia
53. Urinary Incontinence
54. Congenital disorders of the urinary tract
55. Urinary tract infection and bladder displacement
56. Ureteral disease
57. Urolithiasis
58. Hematuria
59. Acute Kidney Injury
60. Chronic Kidney Disease

Hematological diseases

61. Anemia
62. Equine infectious anemia
63. Piroplasmosis
64. Foal Immunodeficiency Syndrome
65. Hemolytic disorders
66. Disorders of platelets

Week 6**LOBs covered during lectures:****Cardiovascular diseases**

67. Congenital cardiovascular conditions
68. Cardiac murmurs
69. Cardiac rhythm disturbances
70. Pericardial disease
71. Vascular ruptures

Endocrine diseases

72. Equine metabolic syndrome
73. Pituitary pars intermedia dysfunction (pergolide)
74. Dyslipidemias
75. Older horse endocrinopathies
76. Equine Intestinal Hyperammonemia
77. Hypoadrenocorticism
78. Pheochromocytoma
79. Hypothyroidism
80. Hyperthyroidism
81. Hyperparathyroidism

Equine Orthopedics**Week 7****LOBs covered during lectures:**

82. Diagnostic approach to lameness
83. Physical examination
84. Gait evaluation
85. Provocative tests
86. Regional analgesic techniques
87. Arthrocentesis and analysis of synovial fluid
88. Radiography
89. Ultrasonography
90. CT/MRI
91. Diagnostic arthroscopy

Week 8**LOBs covered during lectures:**

Diseases of the joint

- 92. Idiopathic synovitis
- 93. Traumatic arthritis/synovitis
- 94. Osteoarthritis
- 95. Osteoarthritis dissecans
- 96. Septic arthritis
- 97. Fracture healing
- 98. Complications of fracture healing
- 99. Emergency stabilization
- 100. Medication
- 101. Osteomyelitis

Week 9**LOBs covered during lectures:****Diseases of the foot**

- 102. Cracks of the hoofwall
- 103. Separation of the hoofwall
- 104. Laminitis
- 105. Pododermatitis
- 106. Penetrating wounds to the sole
- 107. Fractures of the distal phalanx
- 108. Navicular disease
- 109. Distal tendinitis of the deep flexor tendon
- 110. Luxation of the fetlock joint
- 111. Osteoarthritis of the fetlock joint
- 112. Fractures of the splint bones
- 113. Superficial/deep digital flexor tendinitis
- 114. Tendon lacerations

Week 10**LOBs covered during lectures:****The proximal limbs**

- 115. Carpal fractures
- 116. Carpal canal syndrome
- 117. Osteochondroma of the distal radius
- 118. Ulnar fractures
- 119. Traumatic luxation of the shoulder
- 120. Osteoarthritis of the small hock joints
- 121. Collateral ligament injury
- 122. Upward fixation of the patella
- 123. Patella luxation
- 124. Hip luxation
- 125. Hip fracture

	<p>Equine Surgery</p> <p>Week 11</p> <p>LOBs covered during lectures:</p> <p>126. Shock: Pathophysiology, Diagnosis, Treatment, and Physiologic response to Trauma</p> <p>127. The Systemic Inflammatory Response</p> <p>128. Fluids, Electrolytes, and Acid-Base Therapy</p> <p>129. Hemostasis, Surgical Bleeding, and Transfusion</p> <p>130. Wound Healing</p> <p>131. Metabolism and Nutritional Support of the Surgical Patient</p> <p>132. Surgical Site Infection</p> <p>133. Regenerative Medicine</p> <p>Week 12</p> <p>LOBs covered during lectures:</p> <p>134. Hygiene in the Surgical Area: Surgical Textiles, Instrument, Processing, Antiseptics and Disinfection</p> <p>135. Preparation of Surgery: Decision Making / Operative Risk, Patient, Facility, Operating Team, Report</p> <p>136. Surgical Instruments</p> <p>137. Minimally Invasive Surgical Techniques</p> <p>138. Cryosurgery</p> <p>139. Lasers in Veterinary Surgery</p> <p>140. Suture Materials and Patterns</p> <p>141. Drains, Bandages, and External Coaptation</p>		
Prerequisites	None	Required	
Course Content	<ul style="list-style-type: none"> • Mechanisms of disease and principles of treatment • Recognizing pain in horses • Critical care • Disorders of the respiratory system • Disorders of the cardiovascular system • Disorders of the neurologic system • Disorders of the gastrointestinal system • Disorders of the urinary system • Disorders of the endocrine system • Joint disorders and joint trauma • Fractures • Selection and use of instruments for equine surgery • Fundamental surgical techniques including incisions, cautery, retractions, irrigation, surgical suction, wound closure, dressings, bandages, and casts 		

Teaching Methodology	Lectures and small group tutorials
Bibliography	<ol style="list-style-type: none">1. <u>Robinson's current therapy in Equine medicine, 7th</u>2. <u>Equine internal medicine, 3rd, Reed</u>3. <u>Equine Medicine Surgery And Reproduction, 2nd, Mair</u>4. <u>Equine surgery, 5th, Auer</u>
Assessment	Final written exam 100%
Language	English