

Course Title	Introduction to emergency and critical care				
Course Code	Vet-411				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 4/ Semester 2 (Spring)				
Teacher's Name	Course Lead: Contributor:				
ECTS	6	Lectures / week	3	Tutorials and Practical training / week	2
Course Purpose and Objectives	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> • At the end of this course the student should: Be able to give advice and administer first aid to emergency patients, have an understanding of basic physiological derangements in very ill animals, have an appreciation of some of the practical methods of assessment and monitoring these patients, have ideas of therapeutic support that these patients may require, understand the effect of critical illness on specific body systems, be able to apply the principles of assessment and therapy to those body systems. • Although the discussions will center on small animal medicine, the same principles often apply to both small animal and large animal situations 				
Learning Outcomes	<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>Week 1</p> <p>LOBs covered during lectures:</p> <ol style="list-style-type: none"> 1. Goals in veterinary emergency medicine 2. Triage 3. Identification of life-threatening conditions 4. Emergency room readiness 5. Equipment recommendations 6. Recommended supplies 7. Recommended drugs <p>Week 2</p>				

LOBs covered during lectures:**Emergency room procedures**

8. Vascular Access
9. Intraosseous Catheters
10. Airway Management
11. Oxygen Therapy
12. Sonography in the Emergency Room
13. Thoracocentesis
14. Thoracostomy Tube Placement
15. Pericardiocentesis
16. Abdominocentesis
17. Urethral Catheterization
18. Mechanical Ventilation in the Emergency Room

Week 3**LOBs covered during lectures:**

19. Cardiopulmonary cerebral resuscitation
20. Hypovolemic shock
21. Cardiogenic shock
22. Sepsis
23. Anesthetic protocols for short procedures
24. Fluid therapy
25. Monitoring critical patients
26. Nutritional support of critical patients

Week 4**LOBs covered during lectures:****Respiratory emergencies**

27. Brachycephalic Syndrome
28. Feline Upper Respiratory Complex
29. Laryngeal Paralysis
30. Tracheobronchial Injury and Collapse
31. Acute Airway Obstruction
32. Bronchopneumonia
33. Cardiogenic Pulmonary Edema
34. Pulmonary Hemorrhage
35. Pulmonary Thromboembolism
36. Primary and Metastatic Pulmonary Neoplasia
37. Pneumothorax
38. Pleural Effusion
39. Pyothorax
40. Diaphragmatic Hernia
41. Penetrating Thoracic Trauma

Week 5

LOBs covered during lectures:**Cardiovascular emergencies**

42. Mechanisms of Heart Failure
43. Congenital Cardiovascular Disease
44. Arrhythmias
45. Pericardial Effusion
46. Dilated Cardiomyopathy
47. Feline Hypertrophic Cardiomyopathy
48. Valvular Heart Disease
49. Heartworm Disease
50. Pulmonary Hypertension
51. Bradyarrhythmias and Pacemakers
52. Myocarditis
53. Thromboembolic Disease
54. Systemic Arterial Hypertension

Week 6**LOBs covered during lectures:****Neurological emergencies**

55. Traumatic Brain Injury
56. Altered Mentation
57. Seizures
58. Intracranial Disease
59. Vestibular Disease
60. Spinal Trauma
61. Intervertebral Disk Disease
62. Diskospondylitis
63. Lower Motor Neuron Disease

Week 7**LOBs covered during lectures:****Gastrointestinal emergencies**

64. Vomiting and Regurgitation
65. Esophageal Foreign Bodies
66. Diarrhea
67. Hematemesis and Gastrointestinal Hemorrhage
68. Parvovirus Enteritis
69. Hemorrhagic Gastroenteritis
70. Protein-Losing Enteropathy
71. Gastrointestinal Obstruction
72. Gastric Dilation-Volvulus
73. Mesenteric Torsion
74. Hemoperitoneum
75. Splenic Disease
76. Pancreatitis

- 77. Peritonitis
- 78. 88 Postoperative Complications Presenting to the Emergency Service
- 79. Biliary Disease
- 80. Acute Liver Failure
- 81. Feeding Tube Complications
- 82. Constipation

[Week 8](#)

LOBs covered during lectures:

Urogenital emergencies

- 83. Acute Azotemia
- 84. Oliguria
- 85. Urinary Tract Infections
- 86. Urolithiasis
- 87. Feline Ureteral Obstruction: Diagnosis and Management
- 88. Feline Lower Urinary Tract Obstruction
- 89. Urethral Trauma
- 90. Lyme Nephritis
- 91. Chronic Kidney Disease
- 92. Uroabdomen
- 93. Urethral Prolapse

[Week 9](#)

LOBs covered during lectures:

Reproductive emergencies

- 94. Dystocia
- 95. Eclampsia
- 96. Neonatal Resuscitation
- 97. Diseases of the Neonate
- 98. Metritis
- 99. Mastitis
- 100. Pyometra
- 101. Prostatic Disease
- 102. Uterine and Vaginal Prolapse
- 103. Penile, Preputial, and Testicular Disease

[Week 10](#)

LOBs covered during lectures:

Endocrine emergencies

- 104. Hypoglycemia
- 105. Hyperglycemia
- 106. Complicated diabetes mellitus
- 107. Adrenal gland disorders

	108. Hypoadrenocorticism 109. Thyroid disorders 110. Diabetes insipidus Skin and soft tissue emergencies 111. Life-Threatening Dermatological Emergencies 112. Severe Soft Tissue Infections Week 11 LOBs covered during lectures: Common toxins 113. Decontamination and Toxicological Analyses of the Poisoned Patient 114. Lipid “Rescue” Therapy 115. Blood Purification Techniques for Intoxications 116. Rodenticide Toxicity 117. Ethylene Glycol Intoxication 118. Paracetamol Intoxication 119. Non-Steroidal Anti-Inflammatory Drug Intoxications 120. Grape, Raisin, and Lily Ingestion 121. Recreational Drug Intoxications 122. Household Toxins Week 12 LOBs covered during lectures: Environmental emergencies 123. Smoke Inhalation Toxicity 124. Porcupine Quilling 125. Snakebites 126. Insect, spider and scorpion bites 127. Hypersensitivity and Anaphylaxis 128. Canine Heat Stroke 129. Cold Exposure 130. Electrical and Lightning Injuries 131. Near drowning 132. High rise syndrome		
Prerequisites	None	Required	None
Course Content	<ul style="list-style-type: none"> • Shock • Trauma • Stabilization • Cardiopulmonary resuscitation • Respiratory emergencies • Cardiac emergencies • Endocrine emergencies • Acute renal failure 		

	<ul style="list-style-type: none"> • Hematologic emergencies • Transfusion medicine • Respiratory monitoring • Hemodynamic monitoring • Acute abdomen • Emergency surgical procedures • Sepsis <p>The course will focus on both emergency stabilization and management of critically ill patients</p>
Teaching Methodology	Lectures, small group tutorials and practical training
Bibliography	<ol style="list-style-type: none"> 1. <u>Manual of small animal emergency and critical care</u> 2. <u>Textbook of Small Animal Emergency Medicine</u>
Assessment	Final written exam 100%
Language	English