Year 4

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	The main objectives of the course are: • 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	The following list provides the learning objectives that will be covered in the lectures, lab practical sessions and tutorials of each week: Week 1 **LOBs covered during lectures:** 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 Week 2				

	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	• Shock • Trauma • Stabilization • Cardiopulmonary resuscitation • Respiratory emergencies • Cardiac emergencies • Endocrine emergencies • Acute renal failure		

	• Hematologic emergencies • Transfusion medicine • Respiratory monitoring • Hemodynamic monitoring • Acute abdomen • Emergency surgical procedures • Sepsis The course will focus on both emergency stabilization and management of critically ill patients
Teaching Methodology	Lectures, small group tutorials and practical training
Bibliography	1. Manual of small animal emergency and critical care 2. Textbook of Small Animal Emergency Medicine
Assessment	Coursework 30%, Final Exam 70%
Language	English