

Course Title	Systems Medicine II				
Course Code	VET-308				
Course Type	Required				
Level	Undergraduate				
Year / Semester	Year 3/ Semester 2 (Spring)				
Teacher's Name	Course Lead: Contributor:				
ECTS	6	Lectures / week	3	Practical and small group teaching / week	2
Course Purpose and Objectives	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> • Cardiology This course will review fundamental principles of cardiology. Emphasis will be placed on the pathology, pathophysiology, diagnosis and management of congenital and acquired heart diseases. The lectures will demonstrate how an adequate knowledge of the pathology and pathophysiological mechanisms of disease and clinical pharmacology is essential for devising an effective and rational therapeutic protocol for the animal with heart failure. • Urology The course is designed to enable the student to understand alternations in renal and urinary function from a pathophysiological standpoint. • Neurology This course, which adopts a basic principles approach, will build on preclinical knowledge to form a framework of understanding, diagnosing and treating nervous system disease in small animals. • Endocrinology The course is designed to enable the students to develop their physiological knowledge of the endocrine system into an understanding of the effects that would be produced by excessive or deficient production of a hormone. The course is taught from basic principles and is accompanied by lecture notes containing relevant information about the specific disorders 				
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> <p>Cardiology</p> <ol style="list-style-type: none"> 1. Discuss clinical manifestations of cardiac disease 2. Discuss signs of heart disease 3. Describe signs of heart failure 4. Describe the cardiovascular examination 5. Describe diagnostic tests for the cardiovascular system 6. Describe cardiac radiography 7. Describe electrocardiography 				

8. Describe echocardiography

Week 2

LOBs covered during lectures:

9. Describe management of heart failure
10. Discuss treatment for acute congestive heart failure
11. Describe management of chronic heart failure
12. Describe cardiac arrhythmias and antiarrhythmic therapy
13. Describe congenital cardiac diseases
14. Describe patent ductus arteriosus
15. Describe subaortic stenosis
16. Describe pulmonary stenosis
17. Describe ventricular septal defect
18. Describe atrial septal defect
19. Describe atrioventricular valve malformation
20. Describe tetralogy of Fallot
21. Describe vascular ring abnormalities
22. Describe acquired valvular and endocardial diseases
23. Describe degenerative atrioventricular valve disease

Week 3

LOBs covered during lectures:

24. Describe Myocardial diseases of the dog
25. Describe Dilated cardiomyopathy
26. Describe Hypertrophic cardiomyopathy
27. Describe Myocarditis
28. Describe Myocardial diseases of the cat
29. Describe Hypertrophic cardiomyopathy
30. Describe Restrictive cardiomyopathy
31. Describe Dilated cardiomyopathy

Week 4

LOBs covered during lectures:

32. Describe Pericardial diseases and cardiac tumours
33. Describe Pericardial effusion
34. Describe Constrictive pericardial disease
35. Discuss Cardiac tumours
36. Describe Heartworm disease in dogs
37. Describe Heartworm disease in cats
38. Describe Systemic arterial hypertension
39. Describe Thromboembolic disease
40. Describe Pulmonary thromboembolism
41. Describe Systemic arterial thromboembolism in cats
42. Describe Systemic arterial thromboembolism in dogs

Week 5

LOBs covered during lectures:

Urology:

43. Describe clinical manifestations of urinary disorders
44. Describe diagnostic tests for the urinary system
45. Discuss urinalysis
46. Describe diagnostic imaging
47. Describe Urodynamic testing

48. Discuss Glomerular disease
49. Discuss Amyloidosis
50. Discuss Acute renal failure
51. Discuss Chronic renal failure

Week 6

LOBs covered during lectures:

52. Discuss canine and feline urinary tract infections
53. Discuss bacterial prostatitis
54. Discuss canine urolithiasis
55. Discuss feline urolithiasis
56. Describe obstructive and nonobstructive feline idiopathic cystitis
57. Describe disorders of micturition
58. Discuss ectopic ureters
59. Discuss urinary incontinence

Week 7

LOBs covered during lectures:

Neurology:

60. Discuss lesion localization and the neurologic examination
61. Describe functional anatomy of the nervous system
62. Describe diagnostic tests for the neuromuscular system
63. Describe the laboratory evaluation
64. Discuss the diagnostic imaging
65. Describe cerebrospinal fluid collection and analysis
66. Describe intracranial disorders
67. Discuss head trauma
68. Discuss Hydrocephalus
69. Discuss Encephalitis
70. Discuss Neoplasia

Week 8

LOBs covered during lectures:

71. Describe loss of vision and pupillary abnormalities
72. Describe the Menace response
73. Describe Pupillary light reflex
74. Discuss Pupil size and symmetry
75. Discuss Loss of vision
76. Explain Horner syndrome
77. Explain Protrusion of the third eye lid
78. Discuss Seizures
79. Explain Paroxysmal events
80. Discuss Idiopathic epilepsy
81. Discuss anticonvulsant therapy

Week 9

LOBs covered during lectures:

82. Discuss Head tilt
83. Discuss Peripheral vestibular disease
84. Discuss Central vestibular disease
85. Discuss Encephalitis
86. Discuss Myelitis

	<p>87. Discuss Meningitis 88. Discuss disorders of muscle 89. Discuss Inflammatory myopathies 90. Discuss Acquired metabolic myopathies 91. Discuss Inherited myopathies</p> <p>Week 10</p> <p>LOBs covered during lectures:</p> <p>Endocrinology:</p> <p>92. Discuss disorders of the hypothalamus and pituitary gland 93. Discuss Polyuria and polydipsia 94. Discuss Diabetes insipidus 95. Discuss Endocrine alopecia 96. Discuss Pituitary dwarfism 97. Discuss Disorders of the parathyroid gland 98. Discuss Primary hyperparathyroidism 99. Discuss Primary hypoparathyroidism</p> <p>Week 11</p> <p>LOBs covered during lectures:</p> <p>100. Discuss Disorders of the thyroid gland 101. Describe Hypothyroidism in dogs 102. Describe Hypothyroidism in cats 103. Describe Hyperthyroidism in cats 104. Describe Canine thyroid neoplasia</p> <p>Week 12</p> <p>LOBs covered during lectures:</p> <p>105. Discuss disorders of the endocrine pancreas 106. Discuss Hyperglycemia 107. Discuss Hypoglycemia 108. Discuss Diabetes mellitus in dogs 109. Discuss Diabetes mellitus in cats 110. Discuss Hyperadrenocorticism 111. Discuss Hypoadrenocorticism 112. Discuss Pheochromocytoma</p>		
Prerequisites	Systems Medicine I	Required	None
Course Content	<ul style="list-style-type: none"> • Cardiology: The student will learn to perform a clinical examination of the heart, will learn about imaging of the heart and ECG. We will learn about congenital diseases and acquired diseases. At the end of the course the student should: be familiar with the normal anatomy and physiology of the cardiovascular system. Be able to recognize the clinical manifestations of congenital and acquired cardiovascular disorders and the pathological lesions responsible. Be familiar with the pathology, pathophysiology, staging and management of congestive heart failure. be familiar with the diagnostic techniques and their interpretation. have a good understanding of the drugs used in the treatment of cardiovascular disease, and an ability to select drugs appropriate for the clinical situation. 		

	<ul style="list-style-type: none"> • Urology At the end of the course the student should be able to use this information in the diagnosis and management of renal and urinary disorders. • Neurology The student will learn to conduct a neurological examination and understand the anatomical and physiological basis of the various tests used in the clinical evaluation; Localize lesions to specific areas of the nervous system; Recognize common disease of the nervous system and understand their pathogenesis; Design a rational approach to therapy of common neurological disorders of the nervous system. • Endocrinology: Learning how to diagnose and treat the common endocrinopathies and metabolic disorders which may be encountered in small animal veterinary practice. To understand the pathophysiology of endocrine and metabolic diseases. 																																				
Teaching Methodology	Lecture-based learning, small group study and practical sessions for each thematic area of the course.																																				
Bibliography	<table border="1"> <thead> <tr> <th>Authors</th> <th>Title</th> <th>Edition</th> <th>Publisher</th> <th>Year</th> <th>ISBN</th> </tr> </thead> <tbody> <tr> <td>Richard W. Nelson, C. Guillermo Couto</td> <td>Small Animal Internal Medicine</td> <td>6th</td> <td>Elsevier</td> <td>2019</td> <td>978-0323676946</td> </tr> <tr> <td>Stephen J. Ettinger</td> <td>Textbook of Veterinary Internal Medicine Expert Consult</td> <td>8th</td> <td>Saunders</td> <td>2016</td> <td>978-0323312110</td> </tr> <tr> <td>Jean-Pierre Lavoie</td> <td>Blackwell's Five-Minute Veterinary Consult: Equine</td> <td>3rd</td> <td>Wiley-Blackwell</td> <td>2019</td> <td>978-1119190219</td> </tr> <tr> <td>Larry P. Tilley, Francis W.K. Smith</td> <td>Blackwell's Five-Minute Veterinary Consult: Canine & Feline</td> <td>6th</td> <td>Wiley-Blackwell</td> <td>2015</td> <td>978-1118881576</td> </tr> <tr> <td>Christopher Chase</td> <td>Blackwell's Five-Minute Veterinary Consult: Ruminant</td> <td>2nd</td> <td>Wiley-Blackwell</td> <td>2017</td> <td>978-1119064688</td> </tr> </tbody> </table>	Authors	Title	Edition	Publisher	Year	ISBN	Richard W. Nelson, C. Guillermo Couto	Small Animal Internal Medicine	6th	Elsevier	2019	978-0323676946	Stephen J. Ettinger	Textbook of Veterinary Internal Medicine Expert Consult	8th	Saunders	2016	978-0323312110	Jean-Pierre Lavoie	Blackwell's Five-Minute Veterinary Consult: Equine	3rd	Wiley-Blackwell	2019	978-1119190219	Larry P. Tilley, Francis W.K. Smith	Blackwell's Five-Minute Veterinary Consult: Canine & Feline	6th	Wiley-Blackwell	2015	978-1118881576	Christopher Chase	Blackwell's Five-Minute Veterinary Consult: Ruminant	2nd	Wiley-Blackwell	2017	978-1119064688
Authors	Title	Edition	Publisher	Year	ISBN																																
Richard W. Nelson, C. Guillermo Couto	Small Animal Internal Medicine	6th	Elsevier	2019	978-0323676946																																
Stephen J. Ettinger	Textbook of Veterinary Internal Medicine Expert Consult	8th	Saunders	2016	978-0323312110																																
Jean-Pierre Lavoie	Blackwell's Five-Minute Veterinary Consult: Equine	3rd	Wiley-Blackwell	2019	978-1119190219																																
Larry P. Tilley, Francis W.K. Smith	Blackwell's Five-Minute Veterinary Consult: Canine & Feline	6th	Wiley-Blackwell	2015	978-1118881576																																
Christopher Chase	Blackwell's Five-Minute Veterinary Consult: Ruminant	2nd	Wiley-Blackwell	2017	978-1119064688																																
Assessment	Final written exam 100%																																				
Language	English																																				

