Courseware Descriptions

Veterinary Anatomy Courseware

Veterinary Anatomy Concepts Checker This web site focuses on anatomical concepts, giving students an opportunity to clarify conceptual understanding via self-assessment. Per subject category, a series of query screens is presented randomly. Each screen consists of a centrally placed statement surrounded by four randomly positioned phrases that are either true or false. A Show Answer button reveals your success and offers a conceptual explanation. A Delete Screen button eliminates screens from the available pool.

http://vanat.cvm.umn.edu/anatConcepts/

Anatomy Directions, Planes & Muscle/Joint Actions Descriptions plus interactive animations illustrating direction terminology, anatomical planes, and muscle/joint actions pertinent to veterinary anatomy.

http://vanat.cvm.umn.edu/anatDirections/

Autonomic Nervous System This web site presents autonomic nervous system anatomy and physiology, emphasizing visceral efferent nerve pathways to canine body regions. The web site features animated tutorials for learning pathways and animation quizzes for tracing one's knowledge of sympathetic and parasympathetic pathways to regional visceral organs. (At this time, the pathway sections are completed; the physiology sections are still under development.)

http://vanat.cvm.umn.edu/ans/

Canine Head MRI Atlases This web site presents images of a cadaver Beagle Head (Cranium) obtained by Magnetic Resonance Imaging. Three Atlases show labeled MRI images in transverse, sagittal, and dorsal planes of view, respectively. Buttons toggle labels and enable you to switch between bright and dark versions of the images; also, a slider allows you to fade between the two image versions.

http://vanat.cvm.umn.edu/mriHeadAtlas/

Canine Planar Anatomy This web-site presents on-line 900x600 pixel images of canine cadavers sectioned in sagittal, transverse, and dorsal planes. To focus attention, each image has ten or more labels that are accessible via the mouse or the keyboard. Images are grouped by region: head/neck, thorax, & abdomen/pelvis.

http://vanat.cvm.umn.edu/planar/

Carnivore Dissection Lab Introductions A web site intended for veterinary students studying Veterinary Anatomy at the University of Minnesota. Study objectives, terminology, commentary, and 10-12 labeled cadaver images with captions are presented for each of 25 labs devoted to carnivore (dog/cat) dissection. The web site can be viewed on-line or downloaded. Also, PDF files that are used by instructors to introduce individual carnivore dissection labs can be downloaded via this web site. The PDF files contain extra text and enlarged, unlabeled images.

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http://vanat.cvm.umn.edu/carnLabs/

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Carnivore Muscle Identification: Self-Assessment Quiz This web site presents images of dissected muscles from dog & cat cadavers displayed in a quiz context, enabling veterinary students to self-assess their knowledge of muscle identification. Per muscle group, students are repetitively asked to identify a randomly selected muscle by choosing among randomly numbered labels on randomly chosen images. Either the mouse or keyboard can be used for muscle selection and navigation.

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http://vanat.cvm.umn.edu/muscleQuiz/

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Carnivore Lower Urinary Tract This web site presents Embryonic Development, Anatomy, Innervation, Physiology, and Clinical Case Examples pertaining to the lower urinary tract of the dog and cat. In addition, there is a Knowledge Self-Assessment section featuring True/False quizzes geared for instruction, rather than grading. Each quiz page is linked to a pop-up tutorial page. NOTE: If a border appears when you mouse-over an image, you may click the image to view additional information, an enlarged image, or an animation.

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http://vanat.cvm.umn.edu/lut/

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Cranial Nerves Animated Quiz Animated quizzes are presented for students to reinforce their knowledge of the names, innervation targets, and fiber type content of cranial nerves. The quizzes demonstrate the correct answer when a choice is made. Each time RESET is clicked, a new randomized version of the quiz is presented.

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http://vanat.cvm.umn.edu/gaits/

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Gaits This web site employs cartoon animations to help veterinary students recognize limb patterns of the major gaits of cursorial quadrupeds (running animals). The ability to recognize gaits and anticipate foot-fall patterns in a moving animal is essential for identifying gait abnormalities.

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http://vanat.cvm.umn.edu/anatConcepts/

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Developmental Anatomy: Subject Outlines & Knowledge Self-Assessment
This web site is intended to supplement class notes, or a textbook that provides embryology images. For each of a dozen embryology subjects, the web site presents an Outline of Topics, linked to True/False Questions with Explanations. The topical Outlines offer students another perspective of subject matter content. The Questions provide an opportunity to self-assess embryology knowledge so that understanding can be clarified prior to course examinations. The T/F Quizzes are geared for instruction, rather than grading. Embryology terms are shown in color in the Outlines.

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http://vanat.cvm.umn.edu/embrSE/

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Veterinary Neurobiology Courseware

Brain Gross Anatomy This Brain Gross Anatomy web site presents brain dissection neuroanatomy. It is intended for veterinary students studying neurobiology (CVM 6120) at the University of Minnesota. Brain components are shown in intact or dissected brains of horse, cow, sheep, dog, or cat. Images of dissected brains are organized by anatomical region and by viewing perspective. Each brain image has an accompanying caption and labels that can be toggled on/off.

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http://vanat.cvm.umn.edu/grossbrain/

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Canine Brain MRI Atlas A web site presenting labeled transverse views of a Beagle Brain obtained by Magnetic Resonance Imaging. T2-weighted, T1-weighted, and Proton-Density MRIs are included. Three viewing options are presented: 1] MRIs are paired with stained tissue sections of a dog brain to facilitate neuroanatomy identification; 2] MRIs are shown within transverse views of the Beagle head; and 3] MRIs are featured in animated quizzes intended to provide knowledge self-assessment of MRI brain structures.

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http://vanat.cvm.umn.edu/mriBrainAtlas/

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Canine Brain Transections A website presenting neuroanatomy of the canine brain as seen in 20 transverse sections labeled to identify what veterinary students are expected to know in a Veterinary Neurobiology course. The website has two divisions: 1] Brain Transection Levels, which correlates brain levels with brain regions, and 2] Brain Transection Atlas, which identifies anatomical components within brain transections. The atlas features two modes of identification: select a name & see the corresponding structure identified and described, or select a structure & see its name high-lighted. Users can toggle between the two divisions and navigate via an index screen showing small images of all sections. Pop-up glossary statements have been added. When a term is clicked in an Atlas plate, a dot label shows its location and a glossary statement describes it.

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http://vanat.cvm.umn.edu/brainsect/

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Cranial Nerve Nuclei - Animated Quizzes Animated quizzes are provided for students to reinforce their knowledge of cranial nerve nuclei with respect to nuclear names, innervation targets, associated cranial nerves, and fiber-type per nucleus. The quizzes require students to manipulate screen objects in relation to dorsal, sagittal and transverse cartoons showing the nuclei. Correct/incorrect responses are signaled by changes in screen appearance. An explanation page (tutorial) is also included.

http://vanat.cvm.umn.edu/CrNNucQuiz/

Cranial Nerves - Animated Quizzes Animated quizzes are presented for students to reinforce their knowledge of names, innervation targets, and fiber-type content of cranial nerves. The quizzes demonstrate the correct answer when a choice is made. Clicking RESET generates a new randomized version of the quiz.

http://vanat.cvm.umn.edu/CrNAnimQuiz/

Neurobiology Concepts Checker This web site focuses on veterinary neurobiology concepts, giving students an opportunity to clarify conceptual understanding via self-assessment. Per subject category, a series of query screens is presented randomly. Each screen consists of a centrally placed statement surrounded by four randomly positioned phrases that are either true or false. A Show Answer button reveals your success and offers a conceptual explanation. A Delete Screen button eliminates screens from the available pool.

http://vanat.cvm.umn.edu/neuroConcepts/

Neurohistology ATLAS A web site for self-study by veterinary students studying Veterinary Neurobiology (CVM 6120) at the University of Minnesota. The site presents an image Atlas, consisting of over 60 labeled images with captions. Atlas images are linked circularly by Previous/Next buttons. To facilitate Atlas navigation, an associated Image Catalog features image buttons that are reciprocally linked to Atlas images. Web site images are grouped into five neurohistology categories: Neuron & Synapse; Neuroglia & Myelin; Central Nervous System; Peripheral

http://vanat.cvm.umn.edu/neurHistAtls/

Neurobiology Labs Overview (CVM 6120) — Preview & Review Images This is the first web site developed for self-study of Lab subject matter by veterinary students taking Veterinary Neurobiology (CVM 6120) (the site is gradually being supplanted by individual Lab web sites). Lab content in the form of images with captions, including links to other images, is arranged for each of eight Neurobiology Labs.

http://vanat.cvm.umn.edu/neurolab/

Lab 1: Neurohistology A web site that duplicates Lab I of the CVM 6120 Laboratory Guide in order to present color images corresponding to the black & white images included in the Lab Guide. Each section of the Lab Guide is a page in the web site.

http://vanat.cvm.umn.edu/neurLab1/

Lab 2: Spinal Cord Anatomy A web site that corresponds to Lab 2 of the CVM 6120 Laboratory Guide, developed to present spinal cord anatomy via color images, including gross anatomy, segment-vertebrae relationships, meninges, blood supply, histology of spinal gray and white matter, and spinal tracts. Because the spinal cord is clinically significant in veterinary medicine, the site enhances the content in the printed Lab Guide. Terms that students should learn for this Lab are presented in bold type.

http://vanat.cvm.umn.edu/neurLab2/

Lab 3: Brain Anatomy Introduction A web site that corresponds to Lab 3 of the CVM 6120 Laboratory Guide, developed to present beginning brain anatomy from different perspectives via a variety of color images of brain dissections and transections. The site is regionally organized corresponding to sections of the printed Lab Guide. Terms that students should learn for this Lab are presented in bold type.

http://vanat.cvm.umn.edu/neurLab3/

Lab 4: Cranial Nerves A web site that relates to Lab 4 of the CVM 6120 Laboratory Guide. It is also a stand-alone graphic tutorial for canine cranial nerves and cranial nerve nuclei, including: cranial nerve attachment sites; fiber-type cell column identification; cranial nerve nuclei in brainstem transverse sections; and cranial nerve nuclei innervation. The latter includes a self-assessment quiz which presents nuclei & innervation targets randomly and indicates correct answers by animation.

http://vanat.cvm.umn.edu/neurLab4/

Lab 6: Cerebellum A web site that expands Lab 6 of the CVM 6120 Laboratory Guide, developed to present cerebellar anatomy and function via diagrams and images of brain dissections and tissue sections. The site is organized into the following sections: Anatomy, Divisions, Cortex, Peduncles, Circuits, and Function. Terms that students should learn for this Lab are presented in bold type.

http://vanat.cvm.umn.edu/neurLab6/

Embryology Highlights: Nervous System Development This web site presents links to narrated synopses of nervous system embryonic development. The narrations were created using Camtasia and the URLs are delivered by a Media Mill server supported the College of Liberal Arts, University of Minnesota. You may choose to view the narrated screen images or a PDF file containing just the screen images. Either choice appears in a new window.

http://vanat.cvm.umn.edu/nsEmbryo/

Neurobiology Learning Objects A web site presenting animated modules for instructional use by faculty (and students). The term "learning object" refers to an instructional module of limited didactic scope that is designed be re-used by different instructors in different instructional contexts. These neurobiology instructional modules feature animation (Flash .swf content) to enhance interest and didactic impact. Individual modules can be viewed on-line, but each module displays a DOWNLOAD link for copying the module to a local hard disc via FTP file transfer.

http://vanat.cvm.umn.edu/learnObj/

Diagnose Neurological Lesion Location Exercises Via presentations of clinical cases, this web site allows students to exercise their neuroanatomy knowledge to locate destructive neurological lesions. Students are expected to arrive at anatomical location diagnoses by estimating the location-probability for each category of clinical signs. Per case, students may view the Neurological Exam, see instructor-generated probabilities & location interpretations, and reveal the definitive diagnosis. A Lesion Location Guide that presents neuroanatomy and clinical syndromes per neural region is included. (This web site is under development; additional cases are being added.)

http://vanat.cvm.umn.edu/locLesion/

Video-clips of Clinical Neurology Cases To enhance neurology instruction, this web site makes video-clips of selected patients of the University of Minnesota Veterinary College available to faculty and students. The patients exhibit either neurology disorders or normal responses during a clinical neurology exam. The video-clips, identified by case number, are organized chronologically, by species, or by syndrome. Individual video-clips may be viewed via video streaming or they may be downloaded in either 320x240 or 640x480 pixel dimensions, the latter size is provided for classroom projection.

http://xvanat.cvm.umn.edu/neurolVideo/