University of Florida College of Veterinary Medicine Syllabus

I. Course information
   Course Title: VEM 5243, Equine Ophthalmology
   Phase: III
   Semester: Spring
   Course credit: 1 credit
   Course grading: letter

II. General information
   Course director: Caryn Plummer, DVM, DACVO
   Office location & office hours: SAH 386, 3rd floor
   Office phone number: 294-4401
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III. Course goals/ Educational goals of the course: This course will build on the spring core didactic ophthalmology course, VEM 5241, where you have already been introduced to basic clinical ophthalmology. This course will focus on the equine eye and the different approaches to the eye exam that are necessary for equine patients and the specific disease entities that affect horses (compared to small animals).

Course objectives:
At the end of this course, the student should be able to:
1. Understand basic ophthalmic terminology, anatomy and physiology of the horse eye
2. Understand and perform a proper and thorough ophthalmic examination on an equine patient.
3. Diagnose and properly treat common ophthalmic disorders of horses - including:
   a) Ulcerative and nonulcerative keratitis
   b) Anterior uveitis
   c) Glaucoma
   d) Eyelid, nasolacrimal, orbital and conjunctival disease
   e) Ocular neoplasia
   f) Diseases of retina and optic nerve

Course Outline & schedule: Lecture Topics - Schedule is tentative.
Examination of the horse eye
Examination of the horse eye, cont’d.
Congenital ocular problems & diseases of the young animal
Lacrimal apparatus, Conjunctiva, Nictitans/Orbit
Corneal ulcers in horses: Superficial, Deep, Melting, Fungal
Corneal ulcers in horses: Superficial, Deep, Melting, Fungal, cont’d.
Nonulcerative Keratopathies
Stromal abscesses
Eyelids/Lens
Disorders of the uvea/ERU
Uvea, cont.
Glaucoma
Retina and Optic Nerve
Equine vision
OMSD
Prepurchase Examination
Final Examination: Good Luck!!!
IV. Include Learner Objectives and Key words for each IU:

IU 1: Eye exam - Learning Objectives:
1) Which diagnostics evaluate vision
2) Sequence of diagnostic tests to use
3) How to perform a complete examination
4) What to look for as evidence of disease or abnormality
Key Words: ophthalmic examination, menace, dazzle, reflex, PLR, auriculopalpebral block, lidocaine, focal light source, ophthalmoscope, Tonopen, culture, cytology, Gram-stain, subpalpebral lavage, ERG

IU 2: Congenital ocular disease/ diseases of the foal - Learning Objectives:
1) Distinguish congenital abnormalities from those acquired
2) Treatment approach to eyelid and NL abnormalities
3) Treatment approach to corneal disease
4) Appreciate differences between foals and adults that will affect treatment and outcome
Key Words: foal, microphthalmia, strabismus, dermoid, entropion, nasolacrimal punctual atresia, corneal ulcer, melting ulcer, aniridia, anterior uveitis, sepsis, cataract, retinal dysplasia, retinal detachment, trauma

IU 3: Orbit - Learning Objectives:
1) Appreciate diagnostic testing necessary to evaluate orbital disease
2) Clinical signs to localize an inciting lesion
3) Treatment approach, if possible, and prognosis for orbital disease
4) Importance of local anesthesia for orbital procedures and enucleations.
Key Words: orbit, globe, infectious, inflammatory, neoplasia, exophthalmos, enophthalmos, trauma, ultrasonography, CT, MR, strabismus, fracture, cellulitis, SCC, retrobulbar anesthesia, enucleation

IU 4: Lacrimal apparatus - Learning Objectives:
1) Learn components and functions of NL apparatus and tear fluid
2) Diagnosis and consequences of abnormalities associated with this system
3) How to flush NLD
4) Treatment of disease processes afflicting NL apparatus
Key Words: NLD, dacryocystitis, puncta, contrast dacryocystorhinography, tear film, STT, fluorescein, Jones’ test, Rose Bengal, KCS, qualitative tear deficiency, NLD flush, obstruction,

IU 5: Conjunctiva, nictitans - Learning Objectives:
1) Learn functions and appearance of normal structures
2) Consequences to disease processes affecting these structures
3) Diagnostic and treatment approaches to injury and disease affecting these structures
4) Etiologies of conjunctival disease
Key Words: conjunctiva, third eyelid, TE, nictitans, cytology, conjunctivitis, bacteria, virus, allergic, parasitic, neoplasia, SCC, protrusion of TE, excision of TE

IU 6: Eyelids - Learning Objectives:
1) Normal anatomic structure of eyelids
2) How and when to repair a laceration
3) Recognition of disease processes and when to intervene
Key Words: eyelid, laceration, neoplasia, SCC, sarcoid, blepharitis, trauma

IU 7: Cornea - Learning Objectives:
1) Appreciate normal anatomic structure, function and appearance of the cornea
2) Learn what causes corneal opacification
3) Appreciate steps of corneal healing in the horse and the cornea’s response to injury
Key Words: cornea, epithelium, stroma, Descemet’s membrane, endothelium, opacification, ulceration, collagen, PMNs, proteinase, collagenase

IU 8: Corneal ulcers - Learning Objectives:
1) Diagnostic approach to corneal disease, particularly ulcers
2) Appreciate and classify ulcers based on depth, etiology and seriousness or response to therapy
Key Words: cornea, diagnostics, fluorescein, Rose Bengal, depth, culture, cytology, trauma, infectious, immune-mediated, simple, complicated, superficial, stromal, deep, descemetocele, iris prolapse
IU 9: Corneal ulcers - Learning Objectives:
1) Learn most common etiologies of corneal ulcerative disease
2) Distinguish clinical appearance of corneal lesions with different etiologies
3) Learn when to suspect a corneal lesion has become complicated and when a fungal etiology is possible
4) Recognize different clinical manifestations of fungal corneal disease
5) Goals of therapy
6) Recognize when surgery is indicated for a corneal lesion

Key Words: cornea, laceration, ulcer, uveitis, bacteria, fungal, enzyme, melting, culture and sensitivity, antibiotic, anti-fungal, anti-inflammatory, anti-protease, anti-collagenase, mydriatic, indolent, conjunctival flap

IU 10: Non-ulcerative keratopathies - Learning Objectives:
1) Appreciate that there are many corneal diseases that do not primarily involve ulceration
2) Understand different etiologies possible and how to distinguish them
3) Treatment approaches based on diagnostic testing and clinical appearance

Key Words: nonulcerative keratopathy, keratitis, congenital, traumatic, inflammatory, degeneration, neoplasia, foreign body, burdock keratopathy, traumatic keratouveitis, endotheliitis, superficial, stromal, deep, recurrent, infectious, herpetic, keratomykosis, eosinophilic keratitis, band keratopathy, SCC

IU 11: Stromal abscesses - Learning Objectives:
1) Learn the clinical signs associated with this disease process and how to recognize it
2) Institute appropriate therapy to manage the different facets of the disease
3) Recognize that surgical intervention may benefit patient over prolonged medical therapy
4) Become familiar with the theory behind different surgical approaches and their indications

Key Words: cornea, stromal abscess, micropuncture, fungus, uveitis, corneal transplant, penetrating keratoplasty, lamellar keratoplasty

IU 12: Uvea - Learning Objectives:
1) Appreciate normal appearance and anatomy of uveal tract
2) Recognize clinical signs associated with disease of these structures
3) Learn when to institute therapy, what treatment is indicated and what is the expected response
4) Introduce potential etiologies of both acute and chronic uveal disease

Key Words: uvea, iris, ciliary body, choroid, uveitis, heterochromia, cysts, aniridia, aqueous flare, miosis, hyperpigmentation, sepsis, immune-mediated, inflammation, neoplasia

IU 13: ERU - Learning Objectives:
1) Recognize clinical signs associated with uveitis and how to differentiate uveitis as a clinical entity separate from other primary ocular diseases that are accompanied by secondary uveitis
2) Diagnostic testing indicated
3) Treatment options and potential sequelae
4) Acute and long-term prognosis for vision and comfort

Key Words: ERU, moon blindness, inflammation, blindness, cataract, butterfly lesions, chorioretinal scars, leptospirosis, Appaloosa, auto-immune

IU 14: Glaucoma - Learning Objectives:
1) Appreciate the usual pathogenesis of glaucoma
2) Potential etiologies
3) Initial therapies and their indications and mechanisms of action and long-term prognosis

Key Words: glaucoma, uveitis, anti-hypertensives, anti-inflammatory, intraocular pressure, IOP, Tonopen, buphthalmia, blindness

IU 15: Lens - Learning Objectives:
1) Recognize the most common abnormalities of the lens of the horse
2) Appreciate the most common etiologies and appropriate therapies for lens lesions
3) Become aware of the implications of aphakia

Key Words: lens, cataract, congenital, post-uveitic, surgery, phacoemulsification, aphakia, subluxation, luxation
IU 16: Posterior segment - Learning Objectives:
1) Understand normal anatomy of posterior segment, especially retina and optic nerve
2) Appreciate components and pathway that must be intact for a visual response to be achieved
3) Examination techniques, diagnostics and responses/reflexes necessary to evaluate the posterior segment and the animal’s potential for vision
4) Recognize variations in the normal appearance of the equine fundus
5) Understand the response of the posterior segment to disease or injury and the consequences thereof

Key Words: visual pathway, vitreous, retina, optic nerve, ERG, congenital stationary night blindness, fundus, retinal dysplasia, chorioretinitis, retinal detachment, EMND, optic neuritis, optic nerve atrophy, ischemia, trauma

IU 17: OMSD - Learning Objectives:
1) Recognize the range of systemic disease processes that may affect the eye
2) Understand the eye’s response to disease elsewhere in the body and the potential consequences for the animal’s comfort and vision
3) Appreciate the need for an ophthalmic examination as part of a complete investigation of a systemic disease

Key Words: infection, sepsis, immune-mediated, neoplasia, bacteria, virus, protozoa, parasite

IU 18: Vision/Pre-purchase exam - Learning Objectives:
1) Gain an appreciation for the normal horse’s visual acuity and the implications on behavior
2) Understand the importance of a complete ophthalmic examination when evaluating an animal that is to have an athletic career or due to temperament issues may be unsafe with sight deficits
3) Appreciate significance of ophthalmic lesions and their potential impact on vision

Key Words: ophthalmic examination, inflammation, scar, tracking, menace, dazzle, predator-prey relationship, horizon, blindness, ERU, depth perception, dichromatic vision

Required texts: SCAVMA Notes

Recommended/ Reference texts:
Brooks DE: Ophthalmology for the Equine Practitioner. Teton NewMedia, Jackson, WY, 2002

V. Evaluation/ Grading/ Testing:
Give the grading scheme: Grading will be determined by a final examination. The final will cover the entire course and will be multiple choice. Material covered in the examination will be taken from lectures and course notes.

Course examination: Final- Multiple choice. Questions will be from material in lectures and notes.

VI. Administrative Policies: see Student Handbook @ http://education.vetmed.ufl.edu/dvm-curriculum/student-handbook/

Individual students can reschedule examinations in the case of documented medical or family need, or other unusual extenuating circumstances. This should be done prior to the scheduled examination. The course instructor should be notified as soon as possible if special arrangements need to be made.

Attendance: Attendance in all scheduled lectures is expected. Students are responsible for all material and assignments from all scheduled activities. Instructors have the authority to administer unannounced quizzes which may be given at the beginning of some lecture periods. These quizzes will not account for more than 20% of the overall points in the course. Instructors may also, at any time, assess and record individual student attendance; course grades for those students who are absent without legitimate reason may be reduced by a half-letter grade for each instructional period for which an absence occurs. The class notes provided are intended to supplement the lecture presentations. Students should expect some examination questions which directly refer to material covered in lectures that may not appear in the notes. In addition, students will be expected to complete all supplemental reading assignments. Several of the lecture periods deviate from the traditional didactic lecture format. There may be radiographs, computer assignments including web pages or other materials posted to be reviewed prior to lecture.
**Academic Honesty** The College of Veterinary Medicine expects students to be honest in all their class work. Therefore, students are required to commit themselves to academic honesty by signing the following statement as part of the admissions process:

"I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University of Florida."

**Professional Behavior** Satisfactory demonstration of professional attitudes considered important for successful performance in veterinary medicine including, but not limited to, academic honesty, interpersonal relations and communication skills, behavior and conduct with animals, clients, faculty, students, staff, and adherence to the provisions of the Veterinary Medical Practice Act of the State of Florida as set forth by the Department of Business and Professional Regulations. Satisfactory demonstration of professional attitudes considered important for successful performance in veterinary medicine including, but not limited to, academic honesty, interpersonal relations and communication skills, behavior and conduct with animals, clients, faculty, students, staff, and adherence to the provisions of the Veterinary Medical Practice Act of the State of Florida as set forth by the Department of Business and Professional Regulations.

**Plagiarism** includes any attempt to take credit for another person’s work. This includes quoting directly from a paper, book, or website, without crediting the source. Sources should be noted, a link to the website added, or quotation marks placed around the material and attributed, even during online discussions. However, the instructor expects more than simply cutting and pasting in this graduate-level course. Students are expected to review, evaluate and comment on material they research, rather than simply copying relevant material. Work will be graded accordingly.

**Student Evaluation of Instruction** Each instructor involved in didactic teaching efforts is evaluated by the students in the course of his or her major involvement as determined by the Department Chair. Comments are also solicited from students with respect to the instructor's personal qualities or teaching skills which contributed to or hindered the success of the course. In addition, comments are requested to determine the students’ overall opinions regarding the course and any printed materials associated with the course.

**Accommodations for Students with Disabilities** - Students requesting accommodations must first register with the Dean of Students Office, Disability Resource Center at 352-392-8565. Students may also apply on-line for accommodations. For more information, see the Disability Resource Center website at: [http://www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

The Disability Resource Center will provide a letter to the student who must then meet with the course instructor to discuss the required accommodations. Once notification is complete, the instructor can work with the Disability Resource Center to provide the requested accommodations. To ensure that necessary accommodations are provided in a timely manner, it would expedite this process if any student who might need an accommodation would notify the course coordinator during registration.