

## 1. General Information

1a. Submitted by the College of: AGRICULTURE, FOOD AND ENVIRONMENT

Date Submitted: 4/6/2013

1b. Department/Division: Veterinary Science

1c. Contact Person

Name: Barry A. Ball

Email: b.a.ball@uky.edu

Phone: 218-1141

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Specific Term/Year<sup>1</sup> Fall 2014

1e. Should this course be a UK Core Course? No

## 2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: VS 500

2c. Full Title: Advanced Equine Reproduction

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 3

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 3

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: A study of reproductive anatomy and physiology of the horse with emphasis on normal and abnormal reproductive function in this species. Normal reproductive management and diseases affecting the reproductive system will be considered in detail. Prerequisites: ASC 364

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2k. Prerequisites, if any: ASC 364

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Fall,

Will the course be offered every year?: No

If No, explain: Course will be offered on alternate years beginning in 2014

5. Are facilities and personnel necessary for the proposed new course available? Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 25

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: Yes

If Yes, explain: [var7InterestExplain]

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: No

If YES, name the proposed new program:

b. Will this course be a new requirement for ANY program?: No

If YES, list affected programs:

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: Yes

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 10.a above) are attached: Yes

## Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|MHTR222|Mats H Troedsson|Dept approval for ZCOURSE\_NEW VS 500|20130225

SIGNATURE|LGRABAU|Larry J Grabau|College approval for ZCOURSE\_NEW VS 500|20130225

SIGNATURE|JMETT2|Joanie Ett-Mims|Undergrad Council approval for ZCOURSE\_NEW VS 500|20130406

SIGNATURE|ZNNIKO0|Roshan N Nikou|Graduate Council approval for ZCOURSE\_NEW VS 500|20130516

VS 500  
Advanced Equine Reproduction

**Instructor:** Dr. B. A. Ball  
**Office Address:** 128 D Gluck Equine Research  
Center  
**Email:** b.a.ball@uky.edu  
**Office Phone:** 218-1141

**Office hours:** by appointment

**Course Description:** A study of reproductive anatomy and physiology of the horse with emphasis on normal and abnormal reproductive function in this species. Normal reproductive management and diseases affecting the reproductive system will be considered in detail.

**Prerequisites:** ASC 364

**Student Learning Outcomes:**

1. Describe the hormonal control and physiology of the normal estrous cycle of the mare and demonstrate methods to manipulate the estrous cycle.
2. Identify gross and histologic anatomic features of the mare reproductive tract.
3. Describe normal and abnormal features of pregnancy in the mare including diagnosis of pregnancy, pregnancy failure, and physiology of pregnancy.
4. Discuss normal and abnormal foaling and routine care of the pregnant mare and neonate.
5. Describe the normal reproductive anatomy and physiology of the stallion.
6. Describe semen collection and evaluation in the stallion as well as interpret fertility evaluation of the stallion.
7. Define causes of stallion infertility including infectious diseases associated with reproduction in equids.
8. Describe techniques for semen preservation and artificial insemination in the horse.
9. Discuss routine reproductive management techniques in horses including use and assessment of reproductive records.
10. Summarize techniques of assisted reproduction in horses as well as application and potential problems.
11. Describe current methods for genetic testing and their application in horses.

**Required Materials:** NONE. (Note that course materials will be supplied to students via Blackboard.)

**Preferred Course Schedule:** To be offered on Tuesday / Thursday basis with 1.25 hour lectures.

### **Summary Description of Course Assignments**

Grading in this course will be based upon three midterm examinations as well as a final examination. Due to the nature of the course material, examinations will be cumulative and may cover any and all course material up to the date of an examination. Examination format will include a combination of objective (multiple choice, true/false, etc.) as well as brief discussion questions. Examinations will be equally weighted (25% of overall course grade from each of the three midterm examinations plus the final examination).

Graduate students in the course will be required to submit a paper on an assigned topic in equine reproduction in addition to completion of the examinations described above. This paper will represent 10% of their course grade.

### **Course Grading**

Grading scale for undergraduates:

90 - 100% = A  
80-89.9% = B  
70-79.9% = C  
60-69.9% = D  
< 60.0% = E

Grading scale for graduate students (no D for Grad Students):

92-100% = A  
84-91.9% = B  
76-83.9% = C  
<76.0% = E

For both undergraduate and graduate students, final course grades will be subjected to adjustment (curved) based upon the overall class performance for undergraduate and graduate students separately.

### **Final Exam Information**

As scheduled per the published University of Kentucky final examination schedule.

### **Mid-term Grade**

Mid-term grades for undergraduate students will be posted in myUK by the deadline established in the Academic Calendar.

### **Course Policies:**

#### **Excused Absences**

Students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major

religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

### **Verification of Absences**

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

### **Academic Integrity**

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without

appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

**Please note:** Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

#### **Accommodations due to disability**

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

#### **Missed examinations/ makeup examinations**

Students who are unable to take a scheduled examination will be required to provide verification of an excused absence as described above.

Makeup examinations may (at the discretion of the instructor) may be given as oral examinations at a time to be scheduled at the discretion of the instructor.

## Advance Equine Reproduction

### Tentative Course Schedule

To be offered on Tuesday / Thursday basis with 1.25 hour lectures.

Lecture	Title
1	Hormones - Basic structure, classification and function
2	Reproductive physiology of nonpregnant mare
3	Reproductive anatomy of the mare
4	Control of estrous cycle
5	Control of estrous cycle
6	Fertilization, embryonic development, early pregnancy
7	Reproductive physiology - pregnant mare
8	Mare examination and pregnancy diagnosis
9	Exam
10	Twin pregnancy in mares
11	Infertility in the mare
12	Embryonic and early fetal loss
13	Abnormalities of pregnancy / abortion
14	Parturition - normal
15	Abnormal parturition and dystocia
16	Routine care of the pregnant mare and neonate
17	Exam
18	Stallion - anatomy
19	Stallion - physiology
20	Stallion - semen collection and evaluation
21	Stallion - Breeding soundness examination
22	Stallion infertility - functional and infectious aspects
23	Semen preservation
24	Routine stallion management/Artificial insemination
25	Exam
26	Breeding farm management and assessment of reproductive records
27	Embryo transfer/Assisted reproduction technologies
28	Genetic testing and genomics in the horse
29	Review Session
30	Final Exam



Lecture	Title	
1	Hormones - Basic structure, classification and function	Chapter 166 - How hormones work
2	Reproductive physiology of nonpregnant mare	Chapter 178 - Vernal transition; Chapter 179&180 - estrous cycle
3	Reproductive anatomy of the mare	Chapter 164&165 - Reproductive anatomy of the mare
4	Control of estrous cycle	Chapter 187 - prostaglandins; Chapter 188 human chorionic gonadotropin
5	Control of estrous cycle	Chapter 190 - GnRH; Chapter 197 - Synchronization of ovulation
6	Fertilization, embryonic development, early pregnancy	Chapter 225 - Embryo morphology, growth, development
7	Reproductive physiology - pregnant mare	Chapter 229 - Endocrinology of pregnancy
8	Mare examination and pregnancy diagnosis	Chapter 203 - Ultrasonography; Chapter 231 - pregnancy examination
9	<b>Exam</b>	
10	Twin pregnancy in mares	Chapter 241 - Origin and outcomes of twin pregnancies
11	Infertility in the mare	Chapter 271 - Endometritis
12	Embryonic and early fetal loss	Chapter 239 - Embryonic loss; Chapter 240 - Abortions and stillbirths
13	Abnormalities of pregnancy / abortion	Chapter 253 - Abnormalities of pregnancy
14	Parturition - normal	Chapter 233 - Parturition
15	Abnormal parturition and dystocia	Chapter 255 - Dystocia management
16	Routine care of the pregnant mare and neonate	Chapter 10 - Peri-parturient management of the mare and neonate
17	<b>Exam</b>	
18	Stallion - anatomy	Chapter 95 - Functional anatomy of the adult male
19	Stallion - physiology	Chapter 96 - Physiology and Endocrinology
20	Stallion - semen collection and evaluation	Chapter 123 - Semen collection techniques and insemination procedures
21	Stallion - Breeding soundness examination	Chapter 124 - Evaluation of semen
22	Stallion infertility - functional and infectious aspects	Chapter 108 - Abnormalities of the ejaculate; Chapter 121 - Venereal disease
23	Semen preservation	Chapter 127 - Principles of cooled semen
24	Routine stallion management/Artificial insemination	Chapter 128 - Breeding with cooled transported semen
25	<b>Exam</b>	
26	Breeding farm management and assessment of reproductive records	Chapter 118 - Management of stallions in natural-service programs
27	Embryo transfer/Assisted reproduction technologies	Chapter 303- Embryo transfer; Chapter 314 - Principles of cryopreservation
28	Genetic testing and genomics in the horse	Chapter 297 - Parentage testing
29	Review session	
30	<b>Final Exam</b>	