I. **OVERVIEW**

The following information will appear in the 2012 - 2013 catalog

**ANSC 209**  
**Equine Breeding & Reproduction**  
3 Units

**Recommended for Success:** Before enrolling in this course, students are strongly advised to satisfactorily complete ANSC 207.

An advanced level course designed for students interested in learning more about equine reproduction and management.

Field trips are not required.  
(A-F Only) Lecture

**Transfer:** (CSU)

II. **LEARNING CONTEXT**

Given the following learning context, the student who satisfactorily completes this course should be able to achieve the goals specified in Section III, Desired Learning:

A. **COURSE CONTENT**

1. **Required Content:**

   a. Physiology of reproduction

   i. Stallion

       a. Anatomy
       
       b. Sperm production
       
       c. Physiology
       
       d. Behavior
       
       e. Stallion management
       
       f. Reproductive health

   ii. Mare

       a. Anatomy
       
       b. Physiology
       
       c. Hormones of reproduction
       
       d. Hormonal cycles
       
       e. Breeding habits
       
       f. Fertilization
       
       g. Sterility
       
       h. Pregnancy checking
a. Ultrasonography
b. Palpation
c. Fetal Sexing

b. Care and management of the stallion
   i. Methods of mating
   ii. Reproductive soundness exam
   iii. Routine management

c. Care of the pregnant mare
   i. Care at foaling time
   ii. Signs of impending parturition
   iii. Labor and parturition
   iv. Dystocia
   v. Postpartum foal/mare care

d. Artificial insemination
   i. Collection methods
   ii. Semen analysis
   iii. Transport

e. Embryo transfer
   i. Synchronization of donor and recipient mare
   ii. Embryo flushing
   iii. Embryo transfer

f. Care of the foal
   i. Foal milestones
   ii. Foalhood disease
   iii. Orthopedic disease
   iv. Nutrition

g. Reproductive technology
   i. Fetal sexing
ii. Sexed semen

iii. Cloning

B. **ENROLLMENT RESTRICTIONS**

1. **Advisories**

Before enrolling in this course, students are strongly advised to satisfactorily complete ANSC 207.

2. **Requisite Skills**

Before entering the course, the student will be able to:

a. Identify various breeds of equines.

C. **HOURS AND UNITS**

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3 Units

D. **METHODS OF INSTRUCTION (TYPICAL)**

Instructors of the course might conduct the course using the following method:

1. Lecture material pertaining to current reproductive methods and technology
2. Use of anatomical models
3. Industry simulation and problem solving situations
4. Use of current veterinary and medical articles for evaluation and analysis

E. **ASSIGNMENTS (TYPICAL)**

1. **EVIDENCE OF APPROPRIATE WORKLOAD FOR COURSE UNITS**

Time spent on coursework in addition to hours of instruction (lecture hours)

a. Weekly written assignments including lecture outlines, in class and take home quizzes and exams.

b. Weekly problem-solving assignments designed to help students analyze critical situations.

c. Term assignments will include research papers, case studies, and model development.

2. **EVIDENCE OF CRITICAL THINKING**

Assignments require the appropriate level of critical thinking

a. Explain how specific hormones affect differing reproductive organs during various times in the reproductive cycle.

b. Using journal entries, explain why various reproductive techniques require differing safety procedures and what those procedures entail.

c. Describe in essay format basic understanding of foal development milestones and neonatal
d. Given a fictional case of a mare with reproductive challenges, formulate, explain and suggest a reproductive program using the latest in equine reproductive technology.

F. TEXTS AND OTHER READINGS (TYPICAL)

III. DESIRED LEARNING

A. COURSE GOAL
As a result of satisfactory completion of this course, the student should be prepared to:

describe and explain the endocrine system, reproductive anatomy, reproductive laboratory techniques and management strategies involved in equine breeding.

B. STUDENT LEARNING GOALS
Mastery of the following learning goals will enable the student to achieve the overall course goal.

1. Required Learning Goals
Upon satisfactory completion of this course, the student will be able to:

a. List and identify the major parts of the stallion and mare reproductive systems.

b. List the hormones and discuss hormonal cycles important in reproduction.

c. Identify fertility problems in mares and stallions.

d. Explain stages in gestation and parturition.

e. Discuss and describe methods of artificial insemination, embryo transfer and estrus detection.

f. Discuss mare and stallion management prior to, during and after the breeding season.

g. Describe normal behavior in a foal and possible diseases that may affect foal development.

IV. METHODS OF ASSESSMENT (TYPICAL)

A. FORMATIVE ASSESSMENT
1. Midterm
2. Weekly journal assignments
3. Weekly written assignments
4. Weekly article summary

B. SUMMATIVE ASSESSMENT
1. Final exam
2. Model design
3. Research project evaluation