*Reedley College Animal Science Program*

Course Syllabus – Spring 2019

|  |  |
| --- | --- |
| Course Number & Name: AS 22 – Equine Reproduction | **Section Number:** 51730 |
| Instructor Information: |
| Desiree Molyneux M.S.Email: desiree.molyneux@reedleycollege.eduPhone: 559-638-0300 ext. 3283Office hours: Monday 1:00 – 3:00; Monday & Wednesday 11:00 – 12:00Kasey CrewKasey.crew@reedleycollege.eduOffice hours: By arrangement |  |
|  |
| **Class Meets:**Lecture: Tuesday & Thursday  9:00 – 9:50 p.m. IT 11Lab: TUESDAY  3:00 – 5:50 p.m. Pavilion  |   |
| **Holidays:** Holidays will be observed as per the State Center Community College District Schedule.January 21st Martin Luther King, Jr. ObservedFebruary 15th Lincoln Day Observed February 18th Washington Day ObservedApril 15-19 Spring Break  |
| **Drop Deadline:** January 25th last day to drop with full refund; February 1st last day to drop a class on WebAdvisor to avoid a W; February 1st last day to add class; **March 18th** last day to drop the class with W, after that grade must be given. |
| **Final Exam Date:** Tuesday May 14th 2:00 – 3:50 pm |
| **Prerequisites:** None | **Units:** 3 (based on 2 hours lecture per week and 3 lab hours) |

|  |  |
| --- | --- |
| Text & Other Course Materials:1. **Recommended** Brinsko, S.P., Blanchard, T.L., Varner, D.D., Schumacher, J., Love, C.C., Hinrichs, K., Hartman, D. . *Manual of Equine Reproduction*, 3rd ed. Maryland Heights, Missouri: Mosby, 2011
2. **Recommended** Dascanio, J., McCue, P.,. *Equine Reproductive Procedures*, 1st ed. Wiley-Blackwell, 2014

Notebook & writing utensil are required! |  |
| **Supplemental References**Animal Industry Trade Magazines, Livestock Breed Magazines, and numerous Internet Sites. |
| Method for Measuring Student Advancement and Determining GradesThe final grade for this course will be weighted as follows: 40% class assignments & tests, 25% lab assignments, and 15% final exam.  |
| **Grading Scale**: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = under 60%.  |
|  |
| **Attendance Requirements:**Attendance is required.* Students are responsible for obtaining notes/information missed due to an absence from the instructor.
* Please notify the instructor if you know in advance that you will be absent from class.
* College policy dictates that an instructor should drop a student with two consecutive weeks of unexcused absences.
* At the end of the 9th week of instruction, no withdrawals are permitted and the student must receive a grade.
* Make up tests and assignments will only be allowed for emergency situations and pre-excused absences.
 |
| **Behavioral Standards:**All students are expected to act in a mature, responsible manner that respects the rights of all other students, the instructor, and any guest presenters that may participate in the class. All cell phones and other electronic gadgets that may cause distraction are to be turned “off” or kept on “silent” during lecture.  |
| **Cheating & Plagiarism:**In keeping with the philosophy that students are entitled to the best education available, and in compliance with Board Policy 5410, each student is expected to exert an entirely honest effort toward attaining an education. Violations of this policy will result in disqualification for the course. |
| **Accommodation Statement:**If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.  |

|  |
| --- |
| **Course Description:**This course is a survey of the equine industry, encompassing the evolution and role of the equine species throughout history, breed selection and development, nutrition, diseases, preventative health, reproductive management, basic horse care, and stabling alternatives. |
|  |
| **Student Learning Outcomes:***Upon completion of this course, students will be able to:*1. Identify and explain the physiological function of the anatomical features of the male and female equine reproductive systems.
2. Outline the techniques utilized for both natural breeding and artificial insemination of horses.
3. Describe safe horse handling procedures and management of mares from conception through weaning of the foal.

**Course Learning Objectives:***In the process of completing this course, students will:*1. Relate basic genetic principles to techniques in breeding selection and mating programs.
2. Evaluate advantages and disadvantages of common mating systems.
3. Compile the possible genetic and phenotypic ratios for two traits.
4. Analyze the impact, advantages and disadvantages of artificial insemination versus natural breeding techniques.
5. Describe the origin and functions of the major hormones, both male and female, and explain the role of each in reproduction.
6. Describe the correct fetal position, delivery process, approximate timeline and maternal behaviors for a normal parturition.
7. Distinguish the signs of gestation and the stages of parturition.
8. Determine motility concentration and volume of semen in a given specimen.
9. Critique various methods of semen handling and storage.
10. List and explain the correct use of specialized insemination tools.
11. Summarize latest developments in reproductive technology.
12. Examine and interpret latest regulations by breed associations regarding registration of foals.

|  |
| --- |
| **Lecture Content:** |
|   |  1.       Basic Genetic PrinciplesA.    GenesB.    Genotype and phenotypeC.    HeritabilityD.    Application to breeding and mating2.       Mating ConceptsA.    Purebred systems1. Inbreeding2. Linebreeding3. OutcrossingB.    HeterosisC.    Crossbreeding systems3.  Natural vs. Artificial BreedingA.    Percent conceptionB.    Potential injury to mare and stallionC.    Number of mares covered4.  Male Reproductive Anatomy and PhysiologyA.    Male reproductive tractB.    Male hormonesC.    Behavioral aspectsD.    Semen evaluation1. Concentration, volume, and motility of viable sperm2. Correct morphology3. Techniques for optimizing viable sperma. extendingb. centrifuging5.  Female Reproductive Anatomy and PhysiologyA.    Female reproductive tractB.    Female hormonesC.    Estrous cycles and ovulationD.    Estrus expression6.  Gestation and ParturitionA.    Conception and implantationB.    Fetal developmentC.    Pregnancy detection/fetal examination1. Ultra sound2. PalpationD.    Parturition7.  Artificial InseminationA.    Advantages and limitationsB.    Equipment and facilitiesC.    Semen storage and quality1. Handling fresh raw semen2. Handling cooled or frozen semen3. Cooled semen containers and frozen semen containers4. Thawing techniques5. Methods of transportingD.    Techniques utilized1. Specialized insemination tools2. Methods of hormonal manipulation of estrousE.     Breed requirements and regulations8.  Reproductive TechnologiesA.    Embryo manipulation1. Embryo transfer2. Embryonic EvaluationB.    Latest developments

|  |
| --- |
| **Lab Content:** |
|   |  |
|  |  |

 |
|  |  |

1. Basic Horse Husbandry
	1. General Horse Handling
	2. Safety Procedures
	3. Immunizations & Health Maintenance
	4. Nutrition and Feeding
2. Managing the Mare for Reproduction
	1. Pre-Breeding Management
	2. Gestation
	3. Parturition
	4. Post-Foaling
	5. Re-Breeding
3. Foal Management
	1. Foaling Procedure
	2. Identifying and Solving Problems
	3. Foal Development
	4. Halter Training
4. Managing the Stallion for Reproduction
	1. Care and maintenance of the stallion
	2. Semen Collection and Evaluation
	3. Semen Storage, Handling, and Shipping
	4. Evaluation and Marketing
5. Mating Systems
	1. Natural Mating
	2. Artificial Insemination
6. Ultrasonography
	1. Pre-breeding
	2. Post-breeding
7. Documentation
	1. General Record Keeping
	2. Registration Requirements
	3. Breeding Contracts
 |