



**Animal Science 340**  
**Reproductive Physiology of Domestic Animals**  
**Course Syllabus - Fall 2011**

**Instructor:** Cynthia A. Daley, Ph.D. Email: cdaley@csuchico.edu  
**Class Schedule:** Mon. & Wed. 9:00 - 9:50 Lecture- Plumas 205  
Mon. or Wed. 2:00 - 5:00 Laboratory : Farm Classroom #2  
**Office Hours:**  
Wed. 10:00 – 1:00 pm Plumas Hall 209 Ext. 6280  
Thurs 9:00 – 11:00pm  
Or by appointment  
**Required Text:** Pathways to Pregnancy and Parturition –Ed. P.L. Senger

**Course Content:** The primary objective of this course is to promote an understanding of reproductive processes in domestic animals. The course will emphasize basic and comparative aspects of reproductive physiology to meet the needs of students in agricultural sciences, animal sciences, biology, pre-veterinary medicine, and related fields. Lecture material will provide a fundamental understanding of reproductive mechanisms, including basic anatomy/physiology, endocrinology, cellular signal transduction involved in hormone production and secretion, cyclicity, factors influencing onset of puberty, ovulation, fertilization, gestation and the initiation of parturition.

The latest in reproductive technologies (i.e., artificial insemination, estrous synchronization, embryo transfer, embryo sexing, and cloning) will be discussed and demonstrated as applied to animal agriculture.

<b>Course Grading:</b> Comprehensive final	150 pts
7 quizzes (50 pts each)	350 pts
Pop quizzes	100 pts
Estrous Synchronization Breeding Plans & Presentation	150 pts
<b>Total:</b>	<b>750 pts</b>

**Grading Scale:** 90% = A; 80% = B; 70% = C; 60% = D; <60% = F

**Ground Rules:** Quizzes will be given at the beginning of lab (2:10pm) and will cover the previous two week's lecture and laboratory information. Makeup-quizzes will be at the discretion of the professor, and under most circumstances will not be granted. Pop quizzes will be unannounced and administered during lecture. For additional information on College of Agriculture policies please see the following link or file posted to Vista.  
<http://www.csuchico.edu/ag/assets/documents/syllabi/COACCommonSyllabusPolicies.pdf>

**Expected Student Behavior in the Classroom**

- Students are expected to turn off all pagers, cell phones and other electronic devices during class time.
- Students are expected to pay attention and participate in class meetings.
- Students may not read other materials (newspapers, magazines) during class.
- Students are to remain in class during the entire session with the exception of breaks. Students are not allowed to come and go during the class session.
- All class participants are expected to exhibit respectful behavior to other students and the instructor.
- All students have the right and privilege to learn in the class, free from harassment and disruption.
- Inappropriate or disruptive behavior will not be tolerated, nor will lewd or foul language.
- The class follows the standards set in the *Code of Students Rights and Responsibilities (EM 96-38)* and students are subject to disciplinary action for violation of that code.

- Be respectful and considerate of other students, instructors and the animals.

<b>Date</b>	<b>Lecture: Assignment/Reading</b>	<b>Lab</b>
8/22-8/24	<b>Chapter 1: History</b> <b>Chapter 2: Female</b> Anatomy/Physiology	<ul style="list-style-type: none"> <li>• Meet at Sheep Unit: Unit Management Calendar</li> <li>• Ultrasound technology as a management tool</li> <li>• Pregnancy Diagnosis - Ultrasound in the ewe</li> <li>• CSU Chico Research - Melatonin</li> </ul>
8/29 – 8/31	<b>Chapter 2: Female</b> <b>Chapter 3: Male</b> Anatomy/Physiology	<ul style="list-style-type: none"> <li>• Meet at Farm Classroom #2: <b>Quiz 1</b></li> <li>• Pregnancy checking cows: Dairy Monday/ Beef onWed</li> <li>• Sexing fetuses using ultrasound technology</li> </ul>
9/5– 9/7	<b>9/5 Labor Day – No Class</b> <b>9/7 Wed: Chapter 3: Male</b>	<ul style="list-style-type: none"> <li>• No Lab this week</li> </ul>
9/12 – 9/14	<b>Chapter 4: Embryogenesis of the male and female tract</b>	<ul style="list-style-type: none"> <li>• Meet at Farm Classroom #2: <b>Quiz 2</b></li> <li>• Male Reproductive Tracts</li> <li>• Breeding Soundness Exams in Bulls</li> </ul>
9/19 - 9/21	<b>Chapter 5: Endocrinology</b>	<ul style="list-style-type: none"> <li>• Meet at Sheep Unit</li> <li>• Estrous Synchronization in Sheep</li> <li>• Laparoscopic A.I. in Sheep – demo</li> <li>• Reproductive Management of Flocks</li> </ul>
9/26-9/28	<b>Chapter 6: Onset of Puberty</b>	<ul style="list-style-type: none"> <li>• Meet at Farm Classroom #2: <b>Quiz 3</b></li> <li>• Boar semen collection</li> <li>• Semen Analysis: Morphology/Motility/Concentration</li> </ul>
10/3-10/5	<b>Chapter 7: Reproductive Cycles</b>	<ul style="list-style-type: none"> <li>• Estrous synchronization programs.</li> <li>• Developing the breeding plan – selecting the right hormones and products – cost/benefit analysis</li> </ul>
10/10 -10/12	<b>Chapter 8: Follicular Phase of the Estrous Cycle</b>	<ul style="list-style-type: none"> <li>• Meet at Farm Classroom #2: <b>Quiz 4</b></li> <li>• Group presentations of Reproductive Management Plan – submit 3 page summary of your plan with spreadsheet on costs/benefits.</li> </ul>
10/17-10/19	<b>Chapter 9: Luteal Phase of the Estrous Cycle</b>	<ul style="list-style-type: none"> <li>• Group presentations of Reproductive Management Plan – submit 3 page summary of your plan with spreadsheet on costs/benefits.</li> </ul>
10/24-10/26	<b>Chapter 10: Endocrinology of the Male and Spermatogenesis</b>	<ul style="list-style-type: none"> <li>• Meet at Farm Classroom #2: <b>Quiz 5</b></li> <li>• Introduction to Artificial Insemination</li> <li>• Palpation Laboratory: I</li> <li>• Female Reproductive Tracts – table top AI</li> </ul>
10/31 – 11/2	<b>Chapter 11: Reproductive Behavior</b>	<ul style="list-style-type: none"> <li>• Palpation Laboratory: II</li> <li>• Thawing straws/loading A.I. guns</li> </ul>
11/7-11/9	<b>Chapter 12: Spermatozoa in the Female Tract: Transport,</b>	<ul style="list-style-type: none"> <li>• Meet in Farm Classroom #2: <b>Quiz 6</b></li> <li>• Palpation Laboratory III:</li> </ul>

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	<b>Capcitation and Fertilization</b>	<ul style="list-style-type: none"> <li>• Certification Practicum I</li> </ul>
11/14-11/16	<b>Chapter 13: Early Embryogenesis and Maternal Recognition of Pregnancy</b>	<ul style="list-style-type: none"> <li>• Certification Practicum II</li> </ul>
11/21-11/23	Thanksgiving Break	No Labs – cows available for practice
11/28-11/30	<b>Chapter 14 Placentation, and the Endocrinology of Gestation and Parturition</b>	<ul style="list-style-type: none"> <li>• Meet at the Farm Classroom #2: <b>Quiz 7</b></li> <li>• Embryo Transfer in Bovine - demo</li> <li>• Freezing Embryos</li> <li>• Assessing embryo quality: IETS standards</li> </ul>
12/5-12/7	<b>Chapter 15 Puerperium and Lactation</b>	<ul style="list-style-type: none"> <li>• Animal cloning methods</li> <li>• Zona-free cloning method: Hand-Made Cloning</li> <li>• Assisted reproduction : In-vitro Fertilization</li> <li>•</li> </ul>
Week of 13th	<b>Final: Comprehensive Exam</b>	No Laboratory during Finals