ANS 4932/6932 - DAIRY CATTLE REPRODUCTION (2 CREDITS)

Spring 2026 Syllabus

Class Periods: Online, up to three topics per week

Academic Term: Spring 2026

Instructor:

This will be an online course involving faculty and staff from the Dept. of Animal Sciences. The course will be coordinated by John Bromfield and Peter J Hansen. Contact information are as follows:

John Bromfield
jbromfield@ufl.edu

Peter J Hansen
pjhansen@ufl.edu

Faculty collaborators:

José Santos, Rafael Bisinotto, John Bromfield, Albert De Vries, Klibs Galvão, Fiona Maunsell

Summary

This course focuses on dairy cattle reproduction, including reproductive management, fertility monitoring and key fertility problem areas.

Course Description

This is an 8-week course which consists of up to 3 topics per week. The lectures can be viewed at the student's convenience during the week, but all material should be covered prior to assessment.

Requirements

Consent of instructor is required, and enrollment will be limited.

Communication

Email will be used as the major method for communicating.

Course Objectives

Lactation depends upon successful reproduction. Accordingly, the economics of dairy farming depends upon. This course is designed to give the successful student the tools needed to develop on-farm programs to optimize reproductive function on the dairy farm. After completion of the course, the student should 1) understand the biology of reproduction in cattle, 2) learn management approaches and techniques for detection of estrus and hormonal control of the estrous cycle to program the timing of estrus and ovulation, 3) understand management strategies for achieving pregnancies in first service lactating cows, resynchronized cows and heifers, 4) gain an appreciation for the epidemiology and management of anovular cows and how to reduce pregnancy loss, 5) learn how to measure reproductive performance, 6) understand the application of new reproductive technologies for dairy cattle reproduction, 7) learn management approaches to reduce the impact of heat stress on reproduction, 8) appreciate the role of genetics and genetic selection for determining reproductive performance, 9) learn how to minimize reproductive diseases through proper vaccination programs, 10) acquire knowledge on nutritional strategies to improve reproduction, and 11) understand the connection between reproduction and the economics of dairy production.

Course Schedule

Week 1 (Jan 19-23)

Overview of reproduction in the dairy cow – Hansen
The estrous cycle (two lectures) – Hansen

Week 2 (Jan 26-30)

Ovulation, fertilization and early embryonic development (three lectures) – Bromfield
Maintenance of pregnancy and placentation – Bromfield

Week 3 (Feb 2-6)

Puberty in the female and postpartum reproduction – Hansen
Estrus – its expression and detection – Bisinotto
Artificial insemination – Hansen
Exam 1 – February 6 (material covers weeks 1 to 3)

Week 4 (Feb 9 to Feb 13)

Hormonal control of the estrous cycle for the synchronization of estrus – Santos
Hormonal control of the estrous cycle for the synchronization of ovulation – Santos
Implementing reproductive programs for first AI in lactating cows – Santos

Week 5 (Feb 16 to 20)

Implementing reproductive programs for resynchronization in lactating cows – Santos
Implementing reproductive programs for dairy heifers – Santos
Anovular cows – epidemiology, management and mechanisms – Bisinotto

Exam 2 – Feb 20 (material covers weeks 4 and 5)

Week 6 (Feb 22 to 27)

Pregnancy loss – epidemiology, management and mechanisms – Santos
Metrics for evaluating reproductive performance – Bisinotto
Embryo transfer – Hansen

Week 7 (Mar 2 to Mar 6)

Impacts and mitigation of heat stress on reproduction – Hansen
Genomics and genetics of reproduction – Hansen
Vaccination programs to reduce reproductive diseases – Maunsell

Week 8 (Mar 9 to Mar 12)

Nutritional strategies for reproduction (two lectures) – Santos
Economics of reproduction (two lectures) – De Vries
Economics of reproduction (two lectures) – Galvão
Exam 3 – Mar 12 (material covers week 6 to 8)

Expectations and Make-Up Policy

The lectures can be viewed at the student's convenience during the week, but all material should be covered prior to exams. Conflicts that prevent students from taking an exam as scheduled should be discussed with the instructor.

Exams

Exams will be multiple choice.

Evaluation of Grades

The grading scale is A, 92.0-100%; A minus, 91.9-90.0; B+, 86.0-89.9; B 82.0-85.9; B minus, 81.9 to 80.0; C, 79.9-70.0; D, 69.9 – 60.0; E, less than 60.0. The final grade will be based on performance in the exams as well as in course participation. The breakdown is as follows:

Exam 1 – 33.33%

Exam 2 – 33.33%

Exam 3 – 33.33%

If you are having trouble with the course, see Pete Hansen or John Bromfield.

For information on current UF policies for assigning grade points, see
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Attendance and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: https://gatorevals.aa.ufl.edu/students/ Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from

GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I

have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor

Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal

penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, https://disability.ufl.edu

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu

Counseling Services

Groups and Workshops

Outreach and Consultation

Self-Help Library

Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/

- Career Connections Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Student Complaints

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code

- Online Course: https://distance.ufl.edu/state-authorization-status/#student-complaint