



FLORIDA INTERNATIONAL  
DAIRY ACADEMY

DEPARTMENT OF ANIMAL SCIENCES

# REPRODUCTIVE MANAGEMENT

**Class Periods:** Online, three lectures per part

This course is a collaboration of faculty from the Department of Animal Sciences and Large Animal Clinical Sciences.

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## Course Description

This is an 8-part course which consists of three 50 min lectures. The lectures can be viewed at the student's convenience.

## Course Objectives

Lactation depends upon successful reproduction. Accordingly, the economics of dairy farming depends upon reproduction. 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

### Part 1

Module 1: Overview of reproduction in the dairy cow - Dr. Hansen  
Module 2: The estrous cycle (2 lectures) - Dr. Hansen

### Part 2

Module 3: Ovulation, fertilization, early embryonic development (3 lectures) - Dr. Bromfield  
Module 4: Maintenance of pregnancy and placentation - Dr. Bromfield

### Part 3

Module 5: Puberty in the female and postpartum reproduction - Dr. Hansen  
Module 6: Estrus – its expression and detection - Dr. Bisinotto  
Module 7: Artificial insemination - Dr. Hansen

### Part 4

Module 8: Hormonal control of the estrous cycle for synchronization of estrus - Dr. Santos  
Module 9: Hormonal control of estrous cycle for synchronization of ovulation - Dr. Santos  
Module 10: Implementing reproductive programs for first AI in lactating cows - Dr. Santos

### Part 5

Module 11: Implement reproductive programs: resynchronization in lactating - Dr. Santos  
Module 12: Implementing reproductive programs for dairy heifers - Dr. Santos  
Module 13: Anovular cows – epidemiology, management, and mechanisms - Dr. Bisinotto

### Part 6

Module 14: Pregnancy loss – epidemiology, management, and mechanisms - Dr. Santos  
Module 15: Metrics for evaluating reproductive performance - Dr. Bisinotto  
Module 16: Embryo transfer - Dr. Hansen

## **Part 7**

Module 17: Impacts and mitigation of heat stress on reproduction - Dr. Hansen

Module 18: Genomics and genetics of reproduction - Dr. Hansen

Module 19: Vaccination programs to reduce reproductive diseases - Dr. Maunsell

## **Part 8**

Module 20: Nutritional strategies for reproduction - Dr. Santos

Module 21: Economics of reproduction (two lectures) - Dr. De Vries and Dr. Galvão

## **Expectations, and Make-Up Policy**

Lectures can be viewed at their convenience. Conflicts that prevent students from taking an exam as scheduled should be discussed with the instructor.

## **University Honesty Policy**

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

## **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. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

## Certificate of Completion

*A Certificate of Completion will be awarded upon successful completion of all modules and viewing of all required videos. This course is designed for self-paced learning, allowing students to progress through the material at their own speed. Students will have indefinite access to the course, enabling them to revisit the content at any time for continued learning and reference. We encourage students to engage with the material thoroughly to maximize their understanding of information provided.*

### *Dairy AdvanCE Continuing Education*

Students earning continuing education credit through Dairy AdvanCE will be awarded credit only after course has been 100% completed. Please allow time for processing. Contact [fida@ifas.ufl.edu](mailto:fida@ifas.ufl.edu) for any questions or concerns.

This course will award 16 CEUs.