

ANS3319C – Reproductive Physiology and Endocrinology in Domestic Animals

Course coordinator:

Dr. John Bromfield

Office Hours: M, W, F @ 12:35 PM and by appointment.

Room 122D Dairy Science building.

jbromfield@ufl.edu

Ph: 352-294-6991



Laboratory instructor:

Justin Callaham

Office Hours: Before and after class, by appointment (see lab syllabus)

Room 210E Animal Science building

callaham@ufl.edu

Ph: 352-294-6754

Lectures:

Monday, Wednesday, & Friday (Period 5) 11:45 – 12:45 PM, Animal Sciences, Room 156.

Labs:

Monday, 12:50 – 2:45 (Periods 6 & 7), 3:00 – 4:50 (Periods 8 & 9);

Tuesday, 12:50 – 2:45 (Periods 6 & 7), 3:00 – 4:50 (Periods 8 & 9);

Wednesday, 12:50 – 2:45 (Periods 6 & 7), 3:00 – 4:50 (Periods 8 & 9)

Course Objectives:

- 1) Familiarize students with the reproductive anatomy, physiology, & endocrinology of male & female domesticated animals including the cow, pig, horse, sheep, cat, dog, and human.
- 2) Introduce and discuss the interrelationships between reproductive hormones produced by the brain and reproductive glands and how they interact to control the reproductive processes of male and female domesticated animals including the cow, pig, horse, sheep, cat, dog, and human.
- 3) Utilize the knowledge learned from Objectives 1 and 2 to introduce and discuss reproductive management practices that optimize reproductive efficiency of domesticated animals and humans.

Textbook:

"Pathways to Pregnancy and Parturition" (3rd Edition 2012, P. L. Senger) is required since we will lecture directly from it in addition to extensive use of pictures & diagrams. There is a copy of the textbook on reserve in the Marston Science Library on main campus. A laboratory manual will be distributed in class and posted on Canvas. Students are responsible for reading handouts before lab and bringing handouts to lab.

Grading & Exams:

Your final grade will consist of lecture exams, online quizzes, lab exercises, and a comprehensive final exam.

All exams and quizzes are closed book and do not permit any additional resources.

Actual grades on all exercises will be the sum of the points received for correct responses as a percentage of total points possible. Final course grades will be based on the following percentage grade scale:

	B+	≥87 to <90	C+	≥77 to <80	D+	≥67 to <70	F	< 60
A	≥94	B	≥80 to <87	C	≥70 to <77	D	≥60 to <67	
A-	≥90 to <94							

Final Grade Components	% final grade
Three lecture exams (100 pts each)	40%
Four online quizzes (25 pts each)	10%
Lab grade (10 labs @ 50 pts each, two lab exams @ 200 pts each)	30%
Comprehensive final exam (200 pts)	20%

Information regarding University Policy on grade point equivalencies and calculation of grade points is located at (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>).

Lecture exam dates:

Exam 1: Feb 9th (Friday); Exam 2: March 8th (Friday); Exam 3: April 12th (Friday). *Lecture exam dates are tentative and can change at the discretion of the instructor.*

Final Exam: May 3rd (Friday @ 7:30 – 9:30 AM).

Exam and quiz questions will be true/false, multiple choice, matching, short answer, and essay. For short answer and essay questions, a legible, organized, concise and grammatically correct answer will be expected in order to receive full credit. Outlining answers into pertinent points is acceptable and the suggested method of answering questions provided that the interrelationships between points are indicated. Lecture exams/quizzes will cover all material presented in the textbook, lecture, and labs.

Exams, quizzes and assignments will be posted under the Assignment tab on the Canvas website <https://ufl.instructure.com/>. All quizzes will be conducted on Canvas using LockDown Browser. Reliability and preparation of internet connections are the student's responsibility. Approximately one weeks' notice will be given for the due date of quizzes. Quizzes will be available online for a 24 hour period and can only be taken once.

All exams will be held in person on the specified date during normal classroom hours. The use of different interfaces for graded activities may change at the instructor's discretion.

Important Dates:

No class

Jan 15th (Martin Luther King Jnr Day).

Mar 9th to 16th (Spring break).

Other significant dates:

Jan 8th: Class begins.

Jan 12th: End of drop/add.

Feb 2nd: Deadline to withdraw and receive a 25% fee refund (W assigned).

April 12th: Deadline to withdraw without receiving failing grades.

April 24th: Last day of class.

April 25th & 26th: Reading days.

April 27th to May 3rd: Final exams.

Lecture Schedule

The schedule below is tentative regarding the dates and topics to be covered; this schedule can change at the instructor's discretion.

Week	Date	Assignment	Topic
1	01/08 – 01/12		Introduction / Female Anatomy
2	01/15 – 01/19	<i>MLK Day</i>	Female Anatomy / Male Anatomy
3	01/22 – 01/26		Male Anatomy / Reproductive Endocrine System
4	01/29 – 02/02		Reproductive Endocrine System
5	02/05 – 02/09	Exam 1 (Fri)	Puberty
6	02/12 – 02/16		Spermatogenesis
7	02/19 – 02/23		Spermatogenesis / Semen Collection
8	02/26 – 03/01		Mating behavior / Estrous Cycle
9	03/04 – 03/08	Exam 2 (Fri)	Estrous Cycle
	03/11 – 03/15	<i>Spring Break</i>	
10	03/18 – 03/22		Estrous Cycle / Sperm Transport
11	03/25 – 03/29		Early Pregnancy – Ovulation, Corpus Luteum, Maternal Recognition of Pregnancy
12	04/01 – 04/05		Embryo Development, Placentation
13	04/08 – 04/12	Exam 3 (Fri)	Placentation / Fetal Growth
14	04/15 – 04/19		Parturition and Postpartum Period / Lactation
15	04/22 – 04/26	<i>Reading Days</i>	Reproductive Management / Reproductive Technologies
	05/03	Final Exam	Friday 7:30 – 9:30 AM

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Laboratory

Instructor:

Justin Callaham

Office Hours: M, W, F @ 10:00 AM, By appointment, or before and after lab.

Room 210E Animal Sciences (BLDG 459)

callaham@ufl.edu

Ph: 352-294-6754

Getting Help

If you are having problems comprehending lecture and (or) lab material or have other academic, university, or personal issues that are affecting your academic performance, please feel free to visit with the instructors to address the problem(s). Please do not wait until the end of the semester to address any difficulties you may be having.

Laboratory Schedule, Instructor(s), & TA's:

Monday, 12:50 – 2:45 PM (RM67) Justin Callaham Teaching Assistant(s): TBD	Tuesday, 12:50 – 2:45 PM (RT67) Justin Callaham Teaching Assistant(s): TBD	Wednesday, 12:50 – 2:45 PM (RW67) Justin Callaham Teaching Assistant(s): TBD
Monday, 3:00 – 4:55 PM (RM89) Justin Callaham Teaching Assistant(s): TBD	Tuesday, 3:00 – 4:55 PM (RT89) Justin Callaham Teaching Assistant(s): TBD	

Laboratory Objectives

- The primary objectives of lab are to provide hands-on activities with live animals, dissection of tissues harvested from deceased animals, and operating laboratory and technical equipment frequently used in reproductive biology.
- To provide experiential learning that includes manipulation, dissection, animal handling and laboratory techniques concerning the anatomy and physiology of reproductive physiology in large animals.
- To develop skills and understanding of the basic principles of collection, evaluation, extension, and freezing of semen from farm animals.
- To introduce the concept of early embryonic development and provide hands-on experience dissecting pregnant reproductive tracts from the bovine and porcine.
- To develop skills and understanding of estrous synchronization, artificial insemination, embryo collection, embryo freezing, reproductive ultrasonography, and pregnancy diagnosis in the bovine, porcine, and equine species.

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Lab Policies

- Communication is very important. If you have any questions or problems, please reach out to your **lab** instructor(s) as soon as possible.
- Class begins promptly at the designated start times. Students will be marked absent if more than 10 minutes late. Students with course conflicts should notify an instructor as soon as possible if you have an issue.
- **Working with livestock** will require students to adhere to handling practices provided by the instructor either in written or verbal format. Animals are capable of injuring people, especially when they are in the flight or fight mode inspired by a stressful situation. The instructor will work to provide students with the ability to manage livestock with minimal stress, thus lowering the risk of injury to people and animals.

Weekly Laboratory Activities

- **Reading** – the lab utilizes a lab manual that provides general reading about each week’s lab topic. Lab manual chapters are released each week in CANVAS in the laboratory home page.
- **Take Home Messages** – each lab topic has an associated homework assignment designed to ensure students retention of important information that should be taken away from each week’s lab. These assignments will assist students in preparing for the 2 lab practical examinations.
- **In lab experiential activities** – each lab topic has an associated hands-on learning component to expose students to laboratory bench top skills and concept reinforcement. Review the laboratory schedule for dates, locations, and topics for these F-2-F sessions. **Students must attend their specific enrolled section** to participate in each week’s lab activities. **Attendance is required to receive credit for weekly graded exercises.**
- **Pre-Lab Activities** – students will be presented with various activities both in lab and in CANVAS. These activities may include in lab quizzes, videos, and augmented reality exercises.
- Lab activities will include dissection of reproductive tissues including brain, male, female animal tracts obtained from the abattoir. You will be required to dissect and study these tissues in lab. The utilization of live animals and dissection of tissues are central to effective learning and enhancement of your lab experience.

Laboratory Deadlines and Policies

- All assignments must be completed and uploaded into Canvas by **11:59 PM on the DUE DATE** specified for each section in the lab schedule.
- All readings, worksheets, and Take Home Messages will be available the Thursday prior to each scheduled lab.
- Review Lab Schedule for specific course section dates and deadlines. This information is listed on the Canvas assignment as well.

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Lab Grading:

- Lab is worth **30%** of your **final** course grade.
- Each lab is worth a total of 50 points each with 2 practical exams worth 200 points each. *The table below details assignments and point value specifics.*
- Your lowest lab grade during the semester (**excluding the lab practicum and final lab exam**) will be dropped from your lab grade.
- Attendance is vital to students’ success and understanding of lab materials in preparation for the 2 lab practical exams. **If you have 2 or more unexcused lab absences your lab grade will be lowered by 1 letter grade.**

Grading Points and Percentages

	<u># of Assignments</u>	<u>Points</u>	<u>Total Sem. Points</u>
1. Experiential Learning Labs	11	50	600 pts
2. Practical Exams	2	200	400 pts
3. Lab Attendance	1	100	100 pts
Total Points Available			1,100 pts

Lab Policies:

- Lab grade will be **lowered one letter grade with excessive unexcused absences (>2).**
- There will be **no make-up labs** during the semester. Any lab missed for reasons other than those allowed by university policy (see Absences section in the syllabus) will not be excused and a grade of “0” will be recorded.
- If you need to **attend a lab other than your scheduled lab**, please contact Mr. Callaham either in person, or by email to request a change of lab giving a reasonable reason for the change. Failure to do so will result in a “0” grade for that lab.
- See General Course Policies

Locations:

Laboratories will be held at several locations including room 155 Animal Sciences, Dairy Unit, Swine Unit, and Horse Teaching Unit. Please refer to the lab schedule to determine where lab will be each week. Refer to this link for unit locations <https://animal.ifas.ufl.edu/facilities/>.

Transport is NOT provided to the farm units.

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Laboratory Schedule

Lab #	Date/Location	👁️ Topic(s)	📄 Assignments	
			What To Upload	Due Date
1	1/8 - 1/12 ANS155	Getting Started with Success in Repro.	No assignments due this week.	
	1/15 - 1/19	NO LABS - HOLIDAY MARTIN LUTHER KING JR		
2	1/22 - 1/26 ANS155	Female Anatomy & Physiology	<ul style="list-style-type: none"> • Online Pre-Lab Activity - Review the female in 3D. • In lab diagramming prompt • In Lab Worksheet • Take Home Message 	RM67, RM89 - 1/23 RT67, RT89 - 1/24 RW67 - 1/25 BY 11:59 PM
3	1/29 - 2/2 ANS155	Male Anatomy & Physiology	<ul style="list-style-type: none"> • Online 3D Male Anatomy Activity • Pre- Lab QUIZ (Female Histology) • In lab diagramming prompt • In Lab Worksheet • Take Home Message 	RM67, RM89 - 1/30 RT67, RT89 - 1/31 RW67 - 2/1 BY 11:59 PM
4	2/5 - 2/9 ANS155	Brain Anatomy & Endocrinology	<ul style="list-style-type: none"> • Pre- Lab QUIZ (Male Histology) • In lab diagramming prompt • In Lab Worksheet • Take Home Message 	RM67, RM89 -2/6 RT67, RT89 - 2/7 RW67 - 2/8 BY 11:59 PM
5	2/12 - 2/16 ANS155	Exam Review	<ul style="list-style-type: none"> • Pre- Lab QUIZ (Cummulative (Fe)male Histology) • Exam review questions packet. 	RM67, RM89 -2/13 RT67, RT89 - 2/14 RW67 - 2/15 BY 11:59 PM
	2/19 - 2/23	NO LAB - FLEX WEEK/STUDY WEEK		
6	2/26 - 3/1 ANS155	Lab Practical Exam 1		
7	3/4 - 3/8 Swine Unit	Porcine Reproduction	<ul style="list-style-type: none"> • Pre- Lab AR Semen Densimeter Tutorial • In Lab Worksheet • Take Home Message 	RM67, RM89 -2/27 RT67, RT89 - 2/28 RW67 - 2/29 BY 11:59 PM
	3/11 - 3/15	NO LABS - SPRING BREAK		
8	3/18 - 3/22 HTU	Equine Breeding Mgmt	<ul style="list-style-type: none"> • Pre- Lab Semen Calculation Worksheet • In Lab Worksheet • Take Home Message 	RM67, RM89 -3/5 RT67, RT89 - 3/6 RW67 - 3/7 BY 11:59 PM
9	3/25 - 3/29 ANS155	Semen Processing	<ul style="list-style-type: none"> • Pre- Lab Semen Calculation Quiz • In Lab Worksheet • Take Home Message 	RM67, RM89 -3/19 RT67, RT89 - 3/20 RW67 - 3/21 BY 11:59 PM
10	4/1 - 4/5 ANS155	Early Embryology	<ul style="list-style-type: none"> • In Lab Worksheet • Take Home Message 	RM67, RM89 -3/26 RT67, RT89 - 3/27 RW67 - 3/28 BY 11:59 PM
11	4/8 - 4/12 ANS155	Late Gestation and Placentation	<ul style="list-style-type: none"> • In Lab Worksheet • Take Home Message 	RM67, RM89 -4/2 RT67, RT89 - 4/3 RW67 - 4/4 BY 11:59 PM
12	4/15 - 4/19 Dairy Unit	Palpation	<ul style="list-style-type: none"> • Take Home Message 	RM67, RM89 -4/16 RT67, RT89 - 4/17 RW67 - 4/18 BY 11:59 PM
13	4/22 - 4/24 ANS155	Lab Practical Exam 2		

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General Course Policies

Absences:

Excused absences are consistent with university policy. Confirmed illnesses, family emergencies, military/jury duty, religious observances, and university-sponsored events will be excused with proper documentation. Link to university policy <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/#religiousholidaystext>.

Requirements for class attendance and make-up exams, assignments, and other work in this course are outlined herein and consistent with university policies.

Please review the excuse note policy of the Student Health Care Center (<http://shcc.ufl.edu/forms-records/excuse-notes/>)

Make-up work:

A student missing an exam will be allowed to make up the exam provided that a documented, valid reason for missing it exists. Whenever possible, these problems should be discussed with the instructor in advance, preferably by email, excuse note, or handwritten note. A missed exam with no valid excuse will be considered as a “0”.

Materials and Supplies Fee:

Instructors may require that students supply their own personal protection equipment (PPE) as well as rubber boots and coveralls for lab-related activities.

Course Expectations:

Lecture and lab attendance are highly correlated with your final grade, so it is expected that you attend both on a regular basis. Class and lab are “No Cell Phone Areas”. Class and lab decorum require that you act socially, professional, treat fellow students with respect, and appreciate their viewpoints and beliefs.

Working with Livestock

Working with livestock will require students to adhere to handling practices provided by the instructor either in written or verbal format. Animals are capable of injuring people, especially when they are in the flight or fight mode inspired by a stressful situation. The instructors will work to provide students with the ability to manage livestock with minimal stress, thus lowering the risk of injury to people and animals.

Biosafety and Biosecurity

The biosafety and biosecurity of animals and students is a top priority for laboratory activities. Disease transmission can have severe negative consequences on animal and human health that can also be fiscally taxing. Some laboratory activities may require you to bring clean rubber boots that must be washed and disinfected prior to laboratory activities. You must also complete the biosecurity exercise prior to participation in labs conducted at animal units. The use of cell phones or cameras at animal facilities is not permitted without receiving written permission. Instructors and TA’s may dismiss students from a lab for violation of biosecurity procedures.

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ADDITIONAL COURSE INFORMATION

Academic Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Academic Honesty:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code. 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 specifies a number of behaviors that are in violation of this code and the possible sanctions. [Click here to read the Honor Code](#). 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.

Students 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: <https://sccr.dso.ufl.edu/process/student-conduct-code/>

In Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student

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Software Use and Privacy Policies:

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.

Campus Assistance Resources:

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

Health and Wellness Resources

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).

University Police Department: [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: [Visit the Student Honor Code and Student Conduct Code webpage for more information](#).

On-Line Students Complaints: [View the Distance Learning Student Complaint Process](#)