

ANS 3043 Growth & Development of Farm Animals (3 Cr) – Fall 2025

Course Instructor

Tracy Scheffler, Ph.D.

Office: Animal Sci. (#459), Room 210F

Phone: (352) 392-7529

Email: tscheffler@ufl.edu

Teaching Assistant: Carolina Moreno carolina.moreno@ufl.edu

Office hours: appointments can be scheduled on demand. We will respond to emails within 48 hours.

Time & Location

MWF 10:40 – 11:30 am (4th period)

ANS 156

Course Description & Objectives

An integration of the physiological, genetic, and nutritional bases of animal growth, development, and body composition with application to livestock production.

At the end of the course, the student will be able to

- ✓ Explain the core concepts of animal growth;
- ✓ Describe the dynamic forces that influence early embryonic, prenatal, and postnatal growth and development of domesticated livestock and other mammalian species;
- ✓ Discuss the fundamentals of cell biology, and connective tissue, muscle, bone and fat anatomy, formation and function;
- ✓ Place tissue growth in the context of endocrine, paracrine and autocrine modifiers;
- ✓ Summarize factors that control and influence animal growth and development including sex, genotype, nutrition, environment, endocrine, growth promotants, and genetic engineering.

Prerequisites

BSC 2010 and 2010L (or equivalent); BSC 2011 or 2011L (or equivalent), ANS 3006C (or equivalent); and AL major.

Supporting texts

There is no assigned textbook. Some reading assignments and suggestions will be provided and will come from research and popular press articles, online resources, and book chapters. The following are recommended textbooks, which you may wish to consult:

- ✓ *Principles of Animal Growth and Development*. Gerrard and Grant; ISBN13:978-0-7575-2986-3; Kendall Hunt Publishing, Dubuque, Iowa 52002.
- ✓ *Growth of Farm Animals* Lawrence, Fowler, and Novakofski; 3rd ed. (2012); ISBN-13:

978-1-84593-558-0 (paperback); CABI Cambridge, MA

- ✓ College level *Biology* textbook
- ✓ *Physiology* textbook, for example: Color Atlas of Physiology, Silbernagl and Despopoulos; ISBN-13: 978-3135450063; Thieme Publishing, 6th edition 2008

Course website on Canvas

The course Canvas website (login via <https://elearning.ufl.edu/>) will be the communication and information hub for this course. Syllabus, resources, and lesson material, provided as *PowerPoint* or *pdf* files, will be posted in CANVAS. I will not post completed lesson material. The completion is your responsibility!

- To make sure you are not missing any announcements or email, your CANVAS settings must be set to receive emails and announcements related to this class as soon as possible. To change these settings: Go to your general **CANVAS Settings** (upper right corner within CANVAS) > **Notifications** (left menu bar) > **Notification Preferences**: here set to “**ASAP**” (at least) the following activities: Announcements and Conversations (all three subcategories).
- For more information on how to use Canvas, see [Canvas Student Guide](#). The e-learning site and the CANVAS site also provide links to more help options.

Assessments

Exams and short quizzes will be used to assess your performance and knowledge. A majority of the exam and quiz material will come from lecture notes. The exams and quizzes may include ‘multiple multiple’ choice questions, short essays, fill-in the blanks, labeling of drawing and schemes, and free drawings. Table 1 outlines the assessments and their respective point and % values.

Table 1. Assessment types and points

Assessment type	Number per semester	Points for each	Total points per assessment type	% of overall grade
Exam	4	100	400	80
Quiz	10	10	100	20
			Total pts: 500	Total score: 100%

Request to re-grade a quiz or exam must be made within one week from the date the grades were assigned. Grade challenges must be submitted in writing and returned to the instructor.

If for any reason you are having problems understanding the course material and/or are having other academic, university, or personal problems that are affecting your performance in class, please make an appointment with me as early in the semester as possible.

Assessment schedule

1. Exam schedule (held during normal class time in ANS 156):

Table 2: Fall 2025 Exam Schedule*

Assessment	Date
Exam 1	W Sept. 17
Exam 2	F Oct. 10
Exam 3	W Nov. 5
Exam 4	W Dec. 3

Note the last exam (#4) will be during the last regular day of class, Wed. Dec. 3rd.

*Tentative dates – exam dates may be changed at the instructor's discretion

2. Quizzes

Weekly quizzes will be available on Canvas and occur on most Fridays (first quiz on Aug. 29). You are responsible for logging into Canvas and taking the quizzes. Quizzes will be available for ~36h, from 11:30 am on Friday to 11:59 pm on Saturday, Eastern Time; due dates for quiz on Homecoming may be adjusted. The quiz will typically focus on material from the previous Friday (or since the end of the previous quiz material) through Wednesday (end of class), or as indicated by the instructor; questions may necessitate recall of concepts discussed earlier in the course. Note that 10 quizzes will count toward your final grade. In the event that there will be more than 10 quizzes during the semester, your ten highest quiz scores will count toward your grade.

*Note: LockDown Browser (but NOT webcam/respondus monitor) will be used for quizzes. LockDown Browser is a locked browser that prevents you from printing, copying, going to another URL, or accessing other applications during an assessment.

- If LockDown Browser has not previously been installed on your device, you will be prompted to download and install the browser. Return to the quiz and open it to launch LockDown Browser. If prompted to close a blocked program, choose **Yes**.
- Once you have started a quiz with the LockDown Browser, you cannot exit until the quiz has been submitted for grading.

Grades and Grading Policy

Grades are based on performance in the assessments (exams and quizzes). Grade assignment and corresponding percentage and point ranges are shown in **Table 3**.

Table 3: Grade assignment and point range

Grade	% score range	Point range
A	90.0 – 100.0	450 – 500
B+	85.0 – 89.99	425 – 449
B	80.0 – 84.99	400 – 424
C+	75.0 – 79.99	375 – 399
C	70.0 – 74.99	350 – 374
D+	65.0 – 69.99	325 – 349
D	60.0 – 64.99	300 – 324
E	≤ 59.99	≤ 299

* Please note that no minus grades will be used.

Other important dates (besides quizzes and exams)

First class: Fri., Aug. 22

Last class: Wed. Dec. 3rd (4th exam on this day)

No class: Mon. Sept. 1st (Labor Day); Fri., Oct. 17th (Homecoming); MWF Nov. 24th – 28th (Thanksgiving)

iClicker sessions

The iClicker system will be used during class to help me understand what you know and give everyone a chance to participate. Points earned from these sessions are not included in your final grade but will be used for **extra credit** or bonus points.

Instructions for the iClicker student app:

1. [Create an iClicker Student account](#). You can do this by downloading and opening the iClicker Student mobile app via the App Store or Google Play, or by visiting iclicker.com. If you already have an account, DO NOT create a new account; just proceed to the next step.
2. Add my course to your iClicker Student account. Use the + sign to search for my course in iClicker Student.
 - In the “Find Your Institution” field, enter University of Florida
 - In the “Find Your Course” field, enter ANS 3043
 - Click “Add this Course” and it will be added to the main screen of your iClicker Student account
3. Set up the device you plan to use in class to participate in my sessions. You can download the iClicker Student mobile app via the App Store or Google Play.
4. Participate in my sessions during class.
 - Each time our class meets, make sure you have selected my course from the main screen of your iClicker Student account.
 - When I start a session, click the “Join” button that appears on your screen, then answer each question I ask in iClicker Student.
 - For short answer and numeric questions, make sure you press “Send”.
5. Review your work in iClicker Student.
6. You can review your performance and participation in iClicker Student.

Need help with your iClicker Student account?

- Find answers to many of your questions and contact the iClicker Tech Support Team by visiting iclicker.com/support at any time.
- If you are having issues connecting to iClicker Student, check out these [iClicker Student Connectivity Tips](#).
- If you are having issues seeing your iClicker Student points, check out this [troubleshooting guide](#).

Academic Integrity Information

iClicker activities fall under the provisions of our campus academic honesty policy. Students must not engage in academic dishonesty while participating in iClicker activities.

Attendance & Missing an assessment

Attendance for regular class lectures (does not include exams) is not required. However, it is highly recommended that you attend class.

Exams are held during the scheduled class time. An exam or quiz may not be missed without an excused absence or prior consent of the instructor. All requests to miss an assessment must be submitted in writing and signed by the student regardless of the reason. Any assessment missed for reasons other than those listed below or as outlined in the [UF attendance policy](#) will not be excused and a grade of zero will be recorded. In general, acceptable reasons for absence from or failure to participate in class include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, and professional conferences), military obligation, severe weather conditions, religious holidays and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Other reasons also may be approved. **No make-up exams or quizzes will be granted without a valid excuse.**

Course topics

Please note that the contents, topics, and timeline listed in the syllabus may be subject to slight modifications, in part tailored to you.

Week	Topic
1	Introduction
2 - 3	Cells & Principles of Cell Growth • Cell structure • Origins of individual variation • Mitosis • Cell signaling
4	Embryo development: from zygote to embryo: pre-implantation embryo, implantation, early embryogenesis (incl. neurulation, somitogenesis)
5 - 9	Basic structure, development and function of select tissues: • Connective tissues: general structure and types, including connective tissue proper, cartilage and bone • Muscle: development, structural organization, pathologies, excitation-contraction coupling, muscle fiber types & metabolism, postnatal growth • Adipose tissue: types, structure and anatomy, development, regulation
10 – 12	Hormonal influences on growth • General characteristics of hormones • Growth hormone and IGF-1, sex hormones, insulin and glucagon, leptin, catecholamines, glucocorticoids, thyroid hormones
13	Whole animal development • Phases of the growth curve, types of growth curves, components of whole body growth

	• Allometric growth • Whole body composition and chemical composition of body tissues
14	Genetic factors affecting growth • Species, breed, sex
15	Environmental factors affecting growth • Nutrition, stress, physical activity, and other factors

**Special topics lectures may be included and are subject to guest speaker availability

Other important information

Technology requirements

Computer requirements for this course are consistent with UF policy for student computing requirements, and likely similar to your other classes:

<https://it.ufl.edu/policies/studentcomputing-requirements/>

This course uses Canvas for providing course content. Please see links below for further information regarding privacy and accessibility of Canvas:

- Canvas (Infrastructure) privacy policy: <https://www.instructure.com/policies/privacy>
- Canvas (Infrastructure) accessibility statement: <https://www.instructure.com/canvas/accessibility>

Canvas Technology Requirements

Computers, Internet, and Web browsers: Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser. It is recommended to use a computer less than five years old with at least 1GB of RAM. It is recommended to have a minimum Internet speed of 512kbps.

Canvas currently supports the following browsers: Chrome, Safari, Firefox, Edge. Canvas supports the last two versions of most browsers. It is **highly recommended** that your browser is updated to the **newest version**. Note that your computer's operating system may affect browser function. Failure to use one of these browsers will cause problems.

For more information on approved computers and browsers please visit:

<https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66> On this web page there is an area titled "Is My Browser up to Date?" Use it to check each computer and browser you may use in this course. There is another important area on "Browser Privacy Settings." Read the section(s) for any browser intended for use. For example, **note that** in browsers such as Safari, insecure content will never be displayed in the browser. Return to the page to check for updates on technology issues in Canvas.

If you encounter technical difficulties in this course, **contact the UF Computing Help Desk** right away to troubleshoot. <https://helpdesk.ufl.edu/> or (352) 392-HELP. If the problem cannot

be fixed immediately, **notify your instructor, and provide them with the Help Desk ticket number.**

Academic Policies and Resources

Academic policies for this course are consistent with university policies. Please see <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/> for further information including:

- Class attendance
- Students with disabilities, learning barriers; and to request academic accommodations
- UF grading policies and grade points
- Course feedback
- University's Honesty Policy regarding cheating, plagiarism, etc.
- In-class recording
- Academic resources, such as e-learning technical support, library resources, etc.

Campus health & wellness resources

Visit <https://one.uf.edu/whole-gator/topics> for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact [UMatterWeCare](#) for additional and immediate support.