ANS 3043 Growth & Development of Farm Animals (3 Cr) – Fall 2022

Course Instructor

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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 gender, 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); must be 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. However, we recommend the following textbooks, which the student 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* and *pdf* files, will be posted in CANVAS. The lesson material will be organized by topic within modules. The lesson material will have blanks and missing information that need to be completed by you during the lectures. We will not post completed lesson material. The completion will be your responsibility!

➢ To make sure you are not missing any announcement 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 (90%) with the remainder (10%) coming from readings or other assigned materials. The exams and quizzes will consist of multiple choice questions, short essay answers, 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 us as early in the semester as possible so the problems can be addressed.

Assessment schedule

1. Exam schedule:

Table 2: Fall 2022 Exam Schedule*

Assessment	Date
Exam 1	M Sept. 19
Exam 2	F Oct. 14
Exam 3	W Nov. 9
Exam 4	W Dec. 7

Note the last exam (#4) will be during the last regular day of class, Wed. Dec. 7th.
*Tentative dates – exam dates may be changed at the instructor's discretion

2. Quizzes

Weekly quizzes will be available on Canvas and occur every Friday (first quiz on Sept. 2). You are responsible for logging into Canvas and taking the quizzes (they will be available for ~24h, from 10:40 am on Friday to noon on Saturday, Eastern Time). The quiz will include 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. 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. For information on current UF policies for assigning grade points: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

iClicker sessions

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

Instructions for the iClicker student app (formerly iClicker Reef):
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

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

Attendance is not required. However, it is highly recommended that you attend class.

Missing an assessment

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

Week[1]	Topic
1	**Introduction** **to the course**
2	**Cells and principles of cell growth**: ➢ Cell structure ➢ Mitosis ➢ Origins of individual variation ➢ Cell signaling
3	**Embryo development:** from zygote to embryo: pre-implantation embryo, implantation, early embryogenesis (incl. neurulation, somitogenesis)
4-8	**Basic structure, development and function of select tissues:** ➢ Muscle: prenatal development, structural organization, pathologies, excitation-contraction coupling, muscle fiber types & metabolism, postnatal growth ➢ Connective tissue: general structure and types, cartilage, ➢ Bone as connective tissue type: types, structure and anatomy, prenatal development, ➢ Adipose tissue: types, structure and anatomy, prenatal development, regulation
9-10	**Hormonal influences on growth**: ➢ General characteristics of hormones ➢ Growth hormone and IGF-1 ➢ Sex hormones ➢ Insulin and Glucagon ➢ Leptin ➢ Catecholamines ➢ Glucocorticoids ➢ Thyroid hormones
11-12	**Whole animal development**: ➢ Phases of the growth curve ➢ Models of growth ➢ Types of growth curves ➢ Components of whole body growth ➢ Allometric growth ➢ Types of growth curves ➢ Whole body composition ➢ Types of growth curves ➢ Chemical composition of body tissues
13-14	**Genetic factors affecting growth**: ➢ Species effects on growth ➢ Breed effects on growth ➢ Sex effects on growth
15	**Environmental factors affecting growth**: ➢ Nutritional effects on growth ➢ Microbial effects on growth ➢ Stress effects on growth ➢ Physical activity and growth
Special topics[2]	*For example: Muscle to Meat; Poultry Development; New Technologies in Embryo Growth; Development of the Mammary Gland*

[1] Please note that the syllabus is an evolving animal. Contents, topics, and timeline listed in the syllabus may be subject to slight modifications, in part tailored to you.

[2] Contents and timing of special topics lectures are subject to guest speaker availability

Other important dates (besides quizzes and exams)

First class: Wed. Aug. 24th   Last class: Wed., Dec. 7th (4th exam on this day)
No class: Mon. Sept. 5th (Labor Day), Friday, Oct. 7th (Homecoming), Friday, Nov. 11th (Veteran's Day), Wed. Nov. 23rd and Fri. Nov. 25th (Thanksgiving)

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. It is **strongly recommended** to not use a wireless connection, phone, tablet, or notepad for critical course tasks such as exams and discussions.
Canvas currently supports the following browsers: Chrome, Safari, Firefox, Edge. Canvas supports the last two versions of most browsers. It is **highly recommend** updating to the **newest version** of whatever browser you are using. 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.**

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. Students should share their accommodation letter with the instructors and discuss their access needs as early as possible in the semester.

0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/students/get-started/

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 ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/

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.

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. Visit the Student Honor Code and Student Conduct Code webpage for more information.

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 consent of the instructors.

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 instructors in 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 Honor Code and Student Conduct Code.

Campus Resources

Health and Wellness

Students experiencing crises or personal problems that interfere with their general well-being 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.

➢ *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. Includes counseling services, groups and workshops, outreach and consultation, self-help library, and wellness coaching.

➢ *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.

➢ *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.

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.

- ➤ Student Success Initiative, https://studentsuccess.ufl.edu/

- ➤ Student Complaints On-Campus: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/