

ANSC*2340 - Structure of Farm Animals

Winter 2026 Course Outline

Section: 01

Credits: 0.50

Calendar Description

This course is an introduction to anatomy and carcass structure of farm animals. Consideration is given to the major systems in the body and the whole range of animal structure from molecular biology to commercial carcass grading. The course provides a basic understanding of factors such as meat tenderness, adipose development in the carcass, abnormalities of meat quality such as PSE pork and dark-cutting beef, and carcass composition.

Prerequisite(s): 2 of BIOL*1050, BIOL*1070, BIOL*1080, BIOL*1090

Department(s): Department of Animal Biosciences

Lecture Schedule

MonWedFri 2:30pm-3:20pm in ROZH*101 (1/5 to 4/21)

- **Monday:** 2:30 PM – 3:20 PM (Online, recorded)
- **Wednesday & Friday:** 2:30 PM – 3:20 PM (ROZH 101; in-person, online, and recorded)
- **March (16th–23rd; dates subject to change):** Guest lectures by Dr. Marcio Duarte (online attendance required; lectures will not be recorded)

Lab / Seminar Schedule

All laboratory sessions will take place online. Additionally, interactive demonstration sections will be conducted on Tuesdays and Thursdays throughout the semester. The schedule for these sections, along with the designated time and location, will be prominently communicated via Courseslink. While attendance to the demonstration section is open to all students, participation in these sessions is voluntary and not mandatory.

Instructor Information

Nadia Golestan

Dr

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Office: ANNU

Office Hours:

Available upon scheduling

Additional Support

Course Coordinator: Julie Kim

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2.2 Teaching Assistants

Teaching Assistant (GTA): Madeline McLennan

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Teaching Assistant (GTA): Kyla Lewis

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Teaching Assistant (GTA): Paul Waliaula

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Teaching Assistant (GTA): Taylor Burwell

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Textbooks

Group	Title	Author	ISBN
Required	Clinical Anatomy and Physiology for Veterinary Technicians	Thomas Colville and Joanna M. Bassert	978-0323227933
Recommended	The Science of Animal Growth and Meat Technology	Steve M Lonergan, David G Topel, & Dennis N. Marple	978-0-12-815277-5

Cost of Textbooks and Learning Resources

Textbook / Learning Resource	Required / Recommended	Cost
Clinical Anatomy and Physiology for Veterinary Technicians	Required	from \$100
The Science of Animal Growth and Meat Technology	Recommended	Free

Students are advised that prices are often determined by the publisher or bookstore and may be subject to change.

Library Course Reserve (Ares)

For this course, you will be required to access course reserve materials through the University of Guelph McLaughlin Library. To access these items, select **Ares** on the navbar in CourseLink. Note that you will need your Central Login ID and password in order to access items on reserve.

For further instructions on accessing reserve resources, visit How to Get Course Reserve Materials (<https://www.lib.uoguelph.ca/find/course-reserves-ares/>).

If at any point during the course you have difficulty accessing reserve materials, please contact the e-Learning Operations and Reserve Services staff at:

Tel: 519-824-4120 ext. 53621 | Email: libres2@uoguelph.ca | Location: McLaughlin Library, First Floor, University of Guelph

Course Learning Outcomes

1. Identify the major structures and recognize the function(s) of these structures found in major mammalian and avian systems.
2. Explain how muscle contraction and relaxation occurs and the involvement of the nervous system in the processes.
3. B.Sc.(ABIO) major specific: Demonstrate knowledge encompassing genetics, nutrition, physiology and behavior and their interactions on the health and welfare of domesticated, companion and wildlife animal species.
4. B.Sc.(ABIO) major specific: Apply an integrated and broad foundation of life sciences (from molecules to populations) to appreciate and further explore the relationship of animals within society. Demonstrate knowledge encompassing genetics, nutrition, physiology and behavior and their interactions on the health and welfare of domesticated, companion and wildlife animal species.
5. Describe the conversion of muscle to meat and the factors affecting the process.
6. Differentiate the major connective tissues found in animals and how they influence animal function and production, and meat quality
7. Identify animal differences in structure(s) which are responsible for species specific "lifestyles" in regards to digestive, reproductive, and transportation functions.
8. Recognize the importance of carcass grading and the factors responsible for differentiating carcass quality.
9. Identify the processes involved in the slaughter of meat animals and the rationale behind species differences for dressing the carcass.
10. B.Sc.(AGR) major specific: Acquire and develop relevant, practical, and theoretical skills based on the needs of the agricultural animal industry to support future employment and / or continued studies (e.g. graduate studies, veterinary medicine and care, professional certification)

11. B.Sc.(AGR) major specific: Demonstrate advanced, contemporary and relevant knowledge in animal nutrition, physiology, welfare, genetics and biotechnology
12. B.Sc.(ABIO) major specific: Acquire and develop relevant practical and theoretical skills to support continued studies (e.g. graduate studies, veterinary medicine, etc.) and/or potential employment (e.g. veterinary care, animal industry, zoological institutions, etc.)

Tentative Schedule of Lectures

Week of	Topic	Activities	Due
1/5	Overview of the course Basic Concepts of Animal Structure Integument	Required Textbook readings: Pages 1-10. Required Textbook readings: Chapter 6 excluding clinical application	
1/12	Integument Digestive system	Required Textbook readings: Chapter 6 excluding clinical application Required Textbook readings: Chapter 16 excluding clinical application	
1/19	Cardiovascular system	Required Textbook readings: Chapter 14 (excluding sections on Abnormal Heart Sounds, Cardiac Output, Blood Circulation in the Fetus, Pulse Points, Echocardiography, and Venipuncture).	
1/26	Respiratory system Urinary system	Required Textbook readings: Chapter 15 excluding clinical application Required Textbook readings: Chapter 18 excluding clinical application	
2/2	Urinary system	Required Textbook readings: Chapter 18 excluding clinical application	
2/9	Reproductive system	Required Textbook readings: Chapter 19 pages Starting from Male Reproductive System (excluding Ovarian Cycle)	
2/16		Winter Break	
2/18		Winter Break	
2/20		Winter Break	
2/23	Nervous system	Required Textbook readings: Chapter 9.	
3/2	Endocrine system	Textbook readings: Chapter 11.	
3/9	Skeletal muscle growth and development Skeletal muscle organization Muscle contraction	Recommended textbook readings: Chapter 2, Chapter 4, and Chapter 11. Required Textbook readings: Chapter 8.	
3/16	Muscle contraction Conversion of muscle to meat Factors affecting meat quality Growth curves and carcass composition	Required Textbook readings: Chapter 8 and 17 Recommended Textbook readings: Chapter 10. Recommended Textbook readings: Chapter 6.	
3/23	Fat deposition and types Bone growth and development Cartilage versus bone	Recommended Textbook readings: Chapter 5 and 3. Required Textbook readings: Chapter 5	
3/30	Avian systems: Reproduction and Laying of eggs		
4/3		Holiday	
4/6	Exam week		
4/13	Exam		

Lab / Seminar Schedule

Lab 01: Beef Slaughter

Week 2 of the course

Lab 02: Pig Slaughter

Week 4 of the course

Lab 03: Sheep Slaughter

Week 6 of the course

Lab 04: Poultry Slaughter

Week 8 of the course

Lab 05: Forequarter muscles & skeleton

Week 10 of the course

Lab 06: Hindquarter muscles & skeleton

Week 12 of the course

All lab materials will be accessed on-line and will include written materials from the course website and video presentations. Labs for the course can be found under "Content" on CourseLink; there are 6 labs in the course.

You can access the video presentations from any personal computer with web access, or at computers in the library. There are no designated lab sections; you access the lab materials on your own. Students are responsible for the written, video, and audio contents of the labs. Courselink will be used to provide supplementary lab materials that will be provided over the semester. Unless otherwise stated, students are responsible for learning all materials presented in the video presentations, the accompanying written text, and supplementary materials found on Courselink

Assessment Breakdown

Description	Weighting (%)	Due Date
Final Exam	(50%)	Thursday April 16, 2024, 8:30-10:30 AM (Only in person, Paper-based)
Midterm 1	25%	Friday, February 6, 2:30 PM - 3:20 PM (Only in person, Paper-based)
Midterm 2	25%	Monday, March 11, 2:30 PM - 3:20 PM (Only in person, Paper-based)

Assessment Details

Bonus Quizes

5 %

Date:

Quiz 1: Friday, January 23nd, 2:30-3:20 PM

Quiz 2: Friday, January 30th 2:30-3:20 PM

Quiz 3: Friday, March 6th, 2:30-3:20 PM

Quiz 4: Friday, March 27th, 2:30-3:20 PM

Quiz 5: Friday, April 3th, 2:30-3:20 PM

Time: 2:30 - 2:40 PM

Location: In person, Online

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6, 7, 8

Midterm 1**25%****Date:** February 6th, 2024**Time:** 2:30 - 3:20 PM**Location:** ROZH*101- Paper-based exam**Course Learning Outcomes Assessed:** 1, 3, 4, 6, 9**Midterm 2****25%****Date:** March 11th, 2025**Time:** 2:30 - 3:20 PM**Location:** ROZH*101- Paper-based exam**Course Learning Outcomes Assessed:** 1, 3, 4, 6, 7, 8, 9**Final exam****50 %****Date:** April 16th, 2024**Time:** 8:30 - 10:30 AM**Location:** TBA (See the final exam section)**Course Learning Outcomes Assessed:** 2, 3, 6, 7, 8, 9, 10, 11, 12**Final Exam**

Date: Apr 16

Time: Th 8:30am-10:30am

Location: TBA *Please see Web Advisor closer to the date of scheduled final for location.*

To understand rules and regulations regarding Examinations students are encouraged to read Student's Responsibilities (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/examinations/>)

If the student is unable to meet the final exam requirements due to medical, psychological or compassionate circumstances they are encouraged to review Student's Responsibilities in the Academic Consideration, Appeals and Petitions (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>) section of the Academic Calendar.

Only in person

Grading Schemes

Optional Bonus Quizzes (5%) - Optional multiple-choice quizzes will be conducted during scheduled lecture time on specific dates using the Courselink platform. Students are fully responsible to bring their own device (Laptop or Tablet) . Each quiz will be 10 minutes in length and completed online in class. Quiz content will be based on lecture and laboratory material covered up to the date of the quiz. Participation in quizzes is optional; however, completed quizzes will contribute to the final course grade. Missing a quiz is not going to affect the final grade.

Midterm 1 (25%) - A comprehensive midterm exam, consisting of short-answer and multiple-choice questions, will take place on Friday, February 6, from 2:30 to 3:20 PM. The exam will be paper-based and conducted in person only. Exam content will cover material presented in lectures and laboratories prior to the midterm. Students who are absent due to a documented medical condition must submit official documentation to justify their absence. Approved absences will result in the reallocation of the midterm weight to the final exam. Failure to provide acceptable documentation for a missed exam will result in a grade of 0%.

Midterm 2 (25%) - A comprehensive midterm exam, consisting of short-answer and multiple-choice questions, will take place on Wednesday, March 11th, from 2:30 to 3:20 PM. The exam will be paper-based and conducted in person only. Exam content will cover material presented in lectures and laboratories prior to the midterm. Students who are absent due to a documented medical condition must submit official documentation to justify their

absence. Approved absences will result in the reallocation of the midterm weight to the final exam. Failure to provide acceptable documentation for a missed exam will result in a grade of 0%.

Final Exam (50%) - A comprehensive in-person final exam, consisting of short-answer and multiple-choice questions, is scheduled for Thursday, April 16, from 8:30 to 10:30 AM. The exam will be paper-based and conducted in person only. Exam content will cover material presented in lectures and laboratories from the midterm through the end of the course. Students who are absent from the final exam due to a documented medical condition must submit official documentation to justify their absence. Approved absences will result in the reallocation of the final exam weight in accordance with university policy. Failure to provide acceptable documentation for a missed final exam will result in a grade of 0%.

Last Day to Drop Course

The final day to drop Winter 2026 courses without academic penalty is the last day of classes: April 06

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

Standard Statements for Undergraduate Courses

Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability. Use of the SAS Exam Centre requires students to make a booking at least 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas/>)

Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all undergraduate students except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available

in the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

Email Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly. e-mail is the official route of communication between the University and its students.

Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigators/>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing resources (<https://wellness.uoguelph.ca/shine-this-year/>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

Recording of Materials

Presentations that are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)