



ANSC*4290 - Swine Nutrition

Fall 2026 Course Outline

Section: 01

Credits: 0.50

Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

Calendar Description

This course is designed to explore details of evaluating feed ingredients and formulating diets for swine. Students will use models to evaluate various aspects of nutrient partitioning for growth and reproduction in pigs.

Prerequisite(s): ANSC*3120

Department(s): Department of Animal Biosciences

Course Description

This is a course designed to explore details of evaluating feed ingredients and feeding programs for swine, as well as the use of pigs as models for other non-ruminant animals and humans, to better understand nutrition concepts. Students will use models to evaluate aspects of nutrient partitioning for growth and reproduction in swine.

Course Fit Within Program/Curriculum

Students will apply digestive physiology and metabolism concepts taught in previous courses to evaluating and creating feeding programs for swine.

Lecture Schedule

MonFri 10am-11:20am in MCKN*236 (9/10 to 12/22)

Instructor Information

Lee-Anne Huber

Email: huberl@uoguelph.ca

Additional Support

Announcements: The instructor will use the Announcements on the course home page to provide you with course reminders and updates. Please check this sections frequently for course updates.

Office hours: Office hours can be arranged via email and held on Teams or in-person.

Email: If you have a conflict that prevents you from completing course requirements or have a question concerning a personal matter, you can send the instructor a private message via email, OR if you have a question regarding course content. *The instructor will attempt to respond to your email within 24 hours.*

In-person meetings or video calls: if you have a complex question you would like to discuss with your instructor, you may book a meeting. Meetings will depend on instructor availability and are booked on a first come first served basis.

Textbooks

Group	Title	Author	ISBN
Optional	Nutrient Requirements of Swine	National Research Council (U.S.). Committee on Nutrient Requirements of Swine	9780309224239, 0309224233

Learning Resources

Resources

Course Content: will be posted on Course link

Assignment guidelines: Assignments will be discussed in class and rubrics and further instructions (including examples when applicable) will be posted on Course link.

Course Resources

Library Access: As a student you have access to the University of Guelph's library collection, including both physical and electronic materials. You will need this resource to complete your literature review assignment. For information on checking out of couriership physical library items, accessing electronic journals and returning items to the library, visit the library's website. If you are working off campus you can access the library's electronic resources by using the Off Campus Login and login using your Single Sign On credentials or using your last name and library barcode.

<https://www.lib.uoguelph.ca/>

<http://www.lib.uoguelph.ca/campus-login>

Campus Resources

If you are concerned about any aspect of your academic program: Make an appointment with a Program Counsellor (<https://www.uoguelph.ca/uaic/programcounsellors>) in your degree program. If you are struggling to succeed academically: There are numerous academic resources offered by the Learning Commons (<https://www.lib.uoguelph.ca/using-library/spaces/learning-commons>) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills.

Cost of Textbooks and Learning Resources

Textbook / Learning Resource	Required / Recommended	Cost
Nutrient Requirements of Swine	Optional - (Not Required)	\$111.18 on Amazon (Kindle)

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. Become familiar with means to evaluate and manipulate the feeding value of swine feed ingredients.
2. Become familiar with the basic concepts of nutrient utilization for growth and reproduction in swine.
3. Develop skills to critically evaluate swine feeding programs, including preparation of reports.
4. Develop awareness of current issues, challenges and opportunities in swine nutrition, including use of pigs as models for other non-ruminant animals and humans to better understand nutrition concepts.
5. Cultivate a basis for continued acquisition of knowledge and further development of skills in swine and non-ruminant nutrition.



Schedule of Topics and Assignments

Day	Date:	Topic	Activities	Due
Fri	9/11	Introduction & Lecture 1 - Digestive anatomy and physiology		
Mon	9/14	Lecture 2 - Nutrients and anti-nutrients I		
Fri	9/18	Lecture 3 - Nutrients and anti-nutrients II		
Mon	9/21	Lecture 4 - Principles of nutrient partitioning for growth and reproduction I		
Fri	9/25	Lecture 5 - Principles of nutrient partitioning for growth and reproduction II		
Mon	9/28	MIDTERM; in-class		
Fri	10/2	Lecture 6 - Swine feed ingredients I		
Mon	10/5	Lecture 7 - Swine feed ingredients II; feed additives		
Fri	10/9	Case study: Part 1 - Ingredient evaluation - in-class work period		
Mon	10/12	Thanksgiving Holiday		
Fri	10/16	INTRODUCTION TO LAB ASSIGNMENT		Due Oct 26, 2026; in class
Mon	10/19	LAB ASSIGNMENT WORK PERIOD		
Fri	10/23	Lecture 8 - Feed manufacturing		
Mon	10/26	Lecture 9 - Integrated nutrition; Starter pigs I		
Fri	10/30	Case study: Part 2 - Ingredient testing - in-class work period		Due Nov 6, 2026; dropbox
Mon	11/2	NO CLASS		
Fri	11/6	Lecture 9b - Integrated nutrition; Starter pigs II		
Mon	11/9	Case study: Part 3 - Logistics - in-class work period		Due Nov 19, 2026; dropbox
Fri	11/13	Lecture 10 - Integrated nutrition; Growing-finishing pigs		
Mon	11/16	Lecture 11 - Integrated nutrition; Sows		
Fri	11/20	Practical swine management – Jan Huisman, production manager, Cedar Villa Farms		
Mon	11/23	Practical industry nutrition challenges – speaker TBD		
Fri	11/27	Lecture 12 - Current scientific swine nutrition issues and review		
Mon	11/30	Oral defense of case studies		
Fri	12/4	Oral defense of case studies		

Assessment Breakdown

Description	Weighting (%)	Due Date
Midterm exam	20%	September 28, 2026
Laboratory assignment	20%	October 26, 2026
Case study: Part 2 report	10%	November 6, 2026
Case study: Part 3 report	20%	November 19, 2026



Oral defense	10%	Nov 30 or Dec 4, 2026
Final exam	20%	TBD

Assessment Details

Midterm

Midterm

During class time; covering content from lectures 1-5 (approximately)

Course Learning Outcomes Assessed: 1, 2, 4, 5

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Lab assignment

Lab assignment

Use simple mathematical models to describe nutrient utilization by swine and create/evaluate feeding programs.

Course Learning Outcomes Assessed: 1, 2, 3

20

Case study: Part 2 report

Case study: Part 2 report

In small groups, students will develop methods to test novel feed ingredients. Critical thinking will be evaluated via a written report. All students will receive the same grade.

Course Learning Outcomes Assessed: 1, 3, 4, 5

10

Case study: Part 3 report

Case study: Part 3 report

In small groups, students will develop a full proposal to evaluate a novel feed ingredient for use in swine rations including ingredient composition, diet formulation, experimental design, and consideration of logistical constraints and cost-benefit. Critical thinking will be evaluated via a written report. All students will receive the same grade.

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5

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Oral defense

Oral defense

Individual students will be asked questions based on the content generated by the group with respect to evaluation of novel swine feed ingredients. Students will be responsible for understanding, interpreting, and applying all of the components presented in the group report.

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5

10

Final exam

Final exam

The exam will be cumulative but with a focus on application and critical thinking.

Course Learning Outcomes Assessed: 1, 2, 3, 4, 5

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Last Day to Drop Course

The final day to drop Fall 2026 courses without academic penalty is the last day of classes: December 04

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.

Course Standard Statements

Course Policies

Submission of Assignments

Some assignments will be submitted electronically via the online Dropbox tool. When submitting your assignments using the Dropbox tool, do not leave the page until your assignment has successfully uploaded. To verify that your submission history immediately after the upload to see which files uploaded successfully, the system will also email you a receipt. Save this email receipt as proof of submission.

Be sure to keep a backup of all your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommends you save your assignments to a cloud-based file storage (i.e., OneDrive), or on an external hard drive or USB, or sending a copy of it to your email account, so that if something were to happen to your computer, the assignment can still be submitted or re-submitted on time.

It is your responsibility to submit your assignments on time as specified on the schedule. Be sure to check the technical requirements and make sure you have the proper computer, that you have a supported browser, and that you have reliable internet access. Remember that technical difficulty is not a reason to turn assignments in late. Don't wait until the last minute as you may get behind in your work.

If, for some reason, you have any technical difficulty when submitting your assignment electronically, please contact your instructor or CourseLink Support.

<http://spaces.uoguelph.ca/ed/contact-us/>

Late Assignments

If you choose to submit an assignment late, the full mark allocation will be **reduced by 10%-points per day after the deadline for submission of the assignment to a limit of two days after which late submission will not be accepted and a mark of 0% will be given.**

Extensions will be considered for medical reasons or other extenuating circumstances. If you require an extension **you must discuss with your instructor as soon as possible and prior to the submission deadline.** Barring exceptional circumstances, extensions will not be granted once the due date has passed. These rules are not designed to be arbitrary, nor are they inflexible. They are designed to keep you organized, to ensure all students have the same amount of time to work on assignments, and to help return marked materials to you in a timely manner and prior to mark deadlines enforced by the University.

Group Work

Students working together for the case study assignment will be given the same mark, unless students within the group all agree -in writing- to an uneven distribution of marks. Questions will be asked to individuals based on the final report submitted by the group. Students should work together to establish expectations and dates to complete work by to allow enough time for revisions from all group members. Should students fail to meet group expectations, send an email to the instructor to discuss.

Artificial Intelligence Systems, ChatGPT and Academic Integrity

Artificial intelligence (AI) systems are powerful tools that promise to revolutionize research, teaching and learning. In all three areas and in the future of work, there exist creative and forward-thinking opportunities for the use of AI.

At the same time, the development of increasingly sophisticated AI systems such as ChatGPT poses potential threats to academic integrity. Unauthorized student use of AI systems undermines student learning, the achievement of learning outcomes and violates the University's academic misconduct policies.

The University is committed to ensuring that the use of AI in teaching and learning complies with existing policies and regulations that govern academic and scholarly integrity. We continue to engage the University community, including students, as we work to refine academic integrity policies and their intersection with AI tools. We affirm the following:

1. **Students' work must reflect their unique intellectual capacity and demonstrate the application of critical thinking and problem solving.** Unauthorized use of AI to complete assessments violates the fundamental intellectual purposes of the University and does not demonstrate student achievement of course learning objectives.
2. Submission of materials completed by or with significant help of AI, without permission of the instructor, constitutes an offence under the University's academic misconduct policies, either as a form of plagiarism or the use of unauthorized aids.
3. **Acceptable use of AI will be communicated by the course instructor for specific assignments** and may vary across disciplines, programs and types of assessments. In setting out course requirements and assessment criteria, the instructor should specify allowable uses of AI, if any through the course outline and/or the learning management system (e.g., Courselink). Clarity about the acceptable use of AI is critical for students and instructors. **Students are responsible for appropriately referencing how and to what extent they have used AI in assessments in keeping with University and course requirements.**

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 business days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). 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/>)