

ANSC*4260 - Beef Cattle Nutrition

Winter 2025 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 for students to evaluate problems in feeding beef cattle. Relevant aspects of digestion and metabolism of nutrients as well as current issues of feeding beef cattle and diagnosing nutritional deficiencies will be included.

Department(s): Department of Animal Biosciences

Lecture Schedule

Lab / Seminar Schedule

Day	Time	Location
Fridays	11:30-2:20pm	MCKN 029

Instructor Information

Katie Wood

Associate Professor

Additional Support

Teaching Assistant: Katie Kroeze

Contact: kkroeze@uoguelph.ca

Learning Resources

Required Resources

Course materials will be provided on CourseLink. A partially complete copy of all lectures slides will be posted on Courselink prior to the start of class. Students will be responsible for making their own notes to augment those provided. Guest lecture material will be provided only at discretion of the guest speaker.

Please check Courselink regularly for all course news, updates, and schedule changes

There is no required textbook for this course.

Course Resources

This course will use the ration balancing program: CowBytes Beef Ration Balancer Program [developed by Alberta Agriculture, Food and Rural Development (currently owned by BCRC)] for exercises in the class. The program, which is based on National Research Council (NRC) formulas, is

installed on computers in the Animal & Poultry Science Computer Lab (Room 102 ANNU). An online version will be made available, however this is windows-based software and will not run on Mac computers.

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

There are no required textbooks for this course. The CowBytes program will be made available at no cost to students in the course and is available on computers in ANNU 102.

Textbook / Learning Resource	Required / Recommended	Cost
NA	NA	NA

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

Field Trip Fees

For those courses in the Department of Animal Biosciences that have a field trip component - an associated fee for each field trip in the amount of \$20 will apply. Further details on how these fees will be collected will be provided in class/on CourseLink; along with a waiver form that will need to be completed prior to the trip(s).

Course Learning Outcomes

1. Understand the fundamentals of beef cattle production and nutrition and identify the major challenges and opportunities within this industry.
2. Interpret scientific data/concepts/findings using quantitative, qualitative and analytical methods and effectively communicate those findings to a lay audience.
3. Understand nutritional requirements of beef cattle, identify factors influencing requirements, and demonstrate knowledge of strategies to meet these requirements.
4. Critically evaluate production practices and feeding programs in beef cattle production and make recommendations for improved production.
5. Use mathematical models to estimate TDN, feed intake, and basic nutrient requirements of cattle for growth and performance using equations and formulation software.
6. Understand the impacts of diet and nutrition in animal health, performance, and disease.

Other Class Information

Assignments

All assignments will be posted on Courselink under the "assignments" tab.

Announcements:

The instructor will use Announcements on the Course Home page to provide you with course reminders and updates. Please check this section frequently for course updates from your instructor.

Email:

If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send your instructor a private message by email. The instructor and/or TAs will attempt to respond to your email within 1 business day. The course e-mail address is the best way to contact the TAs and instructors. ansc4260@uoguelph.ca

Lecture schedule (Tentative- see Courselink for updates)

Teaching and Learning Activities

Lecture Content (in order of delivery):

Review of the Structure of the Canadian Beef Industry

Anatomy and Physiology of the bovine digestive system

Rumen fermentation

Fibre digestion

Postruminal digestion

Energy metabolism

Protein Metabolism

Feeds and feed processing

Feeding and feed analysis

Vitamin and mineral nutrition

Cow/calf and heifer nutritional requirements

Background cattle

Forages and pastures

Feedlot Nutrition

Rumen dysfunction

Implants and feed additives

Alternative feeds and feeding strategies

Meat quality and grading

There will also be a number of guest lectures in this course (Specific dates: TBA). All material presented in class (including those from guest lecture) is considered testable material. Please check Courselink regularly for updates on the course schedule.

Assessment Breakdown

Description	Weighting (%)	Due Date
Feed Sheet Assignment	15%	Feb 14
Cattle and the Environment Assignment	10%	Feb 7
Online Quizzes (3 x 10%)	30%	Wk 4, 8, 11
Case Study Assignment	25%	April 4
Final Exam	20%	April 17

Assessment Details

Assignment

Feed Sheet Assignment

Course Learning Outcomes Assessed: 3, 4, 5, 6

15%

Cattle and the Environment

Course Learning Outcomes Assessed: 1, 2, 4, 6

10%

Quizzes

Quizzes

30%

Online Quizzes (3 x 10%) in Wk 4, 8, 11

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

Case Study

Case Study

25%

Due April 4 on Courselink Dropbox

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

Exam

Final Exam

20%

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

Final Exam

Date: Apr 17

Time: Th 11:30am-1:30pm

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.

Last Day to Drop Course

The final day to drop Winter 2025 courses without academic penalty is the last day of classes: April 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 Grading Policies

Submission of Assignments

Completion of the final exam and the case study assignment is required to receive credit for the course. The course will follow Undergraduate Grading Procedures found under Grades for Undergraduate Degree regulations and Procedures in the 2023-2024 undergraduate calendar.

Exam questions will be based ENTIRELY on the lectures and lab materials. The format of the exam will include short and long answer questions. Students may require a basic calculator for the quizzes/exams, however cellular phones and/or smart watches will not be permitted as a calculator. For students who have missed an exam, we reserve the right to change the format of the exam for students who miss the scheduled midterm and final.

Assignments are to be submitted online via Courselink Dropbox

Any re-grading of assignments will be done by the course instructor and the whole assignment will be reassessed. Therefore the grade may increase, decrease, or stay the same, and the re-grade will be considered a final decision. Regrading of quiz/exam questions can be submitted to the instructor, by highlighting the question to be regraded. This must be done before the last class day. Note: only questions written in pen can be submitted for regrading.

Late Assignments

Course policy regarding late submission of projects/assignments: there are assigned due dates for students to hand in the assignments. **Marks will be deducted for late assignments with a 10%-mark reduction for every day the assignment is not handed in.** Students will receive a zero for the

assignment if the assignment has not been handed in within 7 days after the due date has passed. Special circumstances will be considered without late deduction if instructor is contacted prior to the assignment due date.

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/navigation/>) 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/>)