



ANSC*4260 Beef Cattle Nutrition

Winter 2022

Section(s): C01

Department of Animal Biosciences

Credit Weight: 0.50

Version 1.00 - January 10, 2022

1 Course Details

1.1 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.

Pre-Requisites: ANSC*3120

1.2 Course Description

This course is designed for students to gain knowledge and address challenges in beef cattle

production. Relevant aspects of digestion, metabolism of nutrients, diagnosing nutritional deficiencies, as well as current issues feeding cows, replacement heifers, and growing and finishing cattle will be addressed in the course

1.3 Timetable

Lecture: M W 11:30 am -12:20 pm in MCKN 223

Lab: F 12:30 pm -2:20 pm in ANNU 102

COVID Protocols

When University COVID policy dictates, this course will be offered via synchronous delivery (recorded) format, delivered via Zoom.

Please see WebAdvisor for the latest information and information and links to lectures

Students should login to Zoom using their U of G account for security purposes. These live lectures will be recorded and links to the recordings will be available via the "lecture recordings" tab on Courselink. Note that recording links take about 24h to become available on the Zoom cloud and therefore will be delayed about 24 hours from the live lecture.

Note that to ensure security on the platform the Zoom links will be changing periodically throughout the course, so please follow Courselink links to access live lectures and or lab sessions

Students are highly encouraged to attend live lecture and participate in discussions and polls

In the event of technical difficulties during the live lecture (Internet, Zoom outages, etc.) the lecture will be recorded and made available for students as soon as possible. Students will be responsible for viewing the lecture recording on their own time, ideally before the next scheduled class day. Timetable is subject to change. Please see WebAdvisor for the latest information

1.4 Final Exam

Date: April 23, 2022

Time: 2:30-4:30

Location: TBD

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Katharine Wood
Email:	kwood@uoguelph.ca
Telephone:	+1-519-824-4120 x53695
Office:	ANNU 236
Office Hours:	Office hours: By appointment via Virtual Zoom/Teams etc.

2.2 Teaching Assistants

Teaching Assistant (GTA):	Kortney Acton
Email:	acton@uoguelph.ca
Office Hours:	Office hours by appointment

2.3 Communication with Course Instructors

Course e-mail address: ansc4260@uoguelph.ca

During the course, your instructor will interact with you on various course matters on the course website using the following ways of communication:

· 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 24 hours. The course e-mail address is the best way to contact the TAs and instructors

· Video Call: If you have a complex question you would like to discuss with your instructor, you may book a video meeting on Teams (or alternate platform being used by your instructor). Video meetings depend on the availability and are booked on a first come first served basis.

3 Learning Resources

3.1 Required Resources

Required Texts (Textbook)

Course materials will be provided on CourseLink. (Website)

All lectures and lecture recordings will be posted on Courselink. Please note that links to lecture recordings take approximately 24 hours to render on the Zoom cloud server, and therefore will be about a day behind the date in which they were recorded.

There is no required textbook for this course

3.2 Recommended Resources

Recommended Texts (Textbook)

Nutrient Requirements of Beef Cattle (NRC, 1996). SF95.N32 no. 4 can be attained online through the University of Guelph library. Supplementary readings also may be provided in class or via Courselink.

Ration Balancing Program: CowBytes Beef Ration Balancer Program developed by Alberta Agriculture, Food and Rural Development will be used for ration balancing exercises. 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).

3.3 Lab Manual

Handouts provided in lab and/or Courselink

3.3 Other Resources

-Simple calculator

-A laptop computer configured to run windows based software

System and Software Requirements

This course will use a variety of technologies including;

- CourseLink (main classroom)
- Zoom
- Respondus LockDown Browser

To help ensure you have the best learning experience possible, please review the list of system and software requirements. <https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

CourseLink System Requirements

You are responsible for ensuring that your computer system meets the necessary system requirements. Use the browser check tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window).

<http://spaces.uoguelph.ca/ed/system-requirements/>

<https://courselink.uoguelph.ca/d2l/systemCheck>

This course is being offered using CourseLink (powered by D2L's Brightspace), the University of Guelph's online learning management system (LMS). By using this service, you agree to

comply with the University of Guelph's Access and Privacy Guidelines. Please visit the D2L website to review the Brightspace privacy statement and Brightspace Learning Environment web accessibility standards.

<http://www.uoguelph.ca/web/privacy/> <https://www.d2l.com/legal/privacy/>
<https://www.d2l.com/accessibility/standards/>

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Email: courselink@uoguelph.ca

Tel: 519-824-4120 ext. 56939 Toll-Free (CAN/USA): 1-866-275-1478

Support Hours (Eastern Time): Page 4 of 15

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Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

Zoom

This course will use Zoom for lectures. Check your system requirements to ensure you will be able to participate.

<https://opened.uoguelph.ca/student-resources/system-and-software-requirementsSystem>
and Software Requirements

3.3 Additional Costs

Costs of printing off lecture outline notes and cost of printing for assignment

3.3 Library Access

As a student, you have access to the University of Guelph's library collection, including both physical and electronic materials. For information on checking out or couriering physical library items, accessing electronic journals and returning items to the library, visit the library's

website.

If you are studying off campus and would like to access the library's electronic resources, use 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/>

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

Ares

How to access reserve materials through the University of Guelph McLaughlin Library, 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](#).

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

<https://www.lib.uoguelph.ca/find/course-reserves-ares/how-get-course-reserve-material>

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

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
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5 Teaching and Learning Activities

5.1 Lecture

Topics:

Lecture Content (in order of delivery):

- 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. All material presented in class (including those from guest lecture) is considered testable material

5.2 Labs

Lab Schedule:

Jan 14: Virtual Field Trip- OBRC (posted online- watch on own time)

Jan 21: Lecture/Lab - Alternative Feeds Assignment

Jan 28: Lecture/Lab

Feb 4: Lecture/Feed Sheet Assignment

Feb 11: Lecture/Lab

Feb 18: READING WEEK

Feb 25: Cattle and Environment

Mar 4: Case Study Assignment Lab

Mar 11: Lecture/Lab

Mar 18: Lecture/Lab

Mar 25: Lecture/Lab

April 1: Lecture/Case Study Drop-in help with TAs

April 8: Review

Note: All dates are tentative, please see Courselink for any changes to lab schedule.

Labs are set up to continue lecture material and add supporting learning activities. Some lab lectures will be guest speakers and the schedule is TBD. All material presented by guest speakers is considered testable material.

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Alternative Feed Assignment	10
Feed Sheet Assignment	10
Online Quizzes	30
Cattle and the Environment Assignment	10
Case Study Project	25
Final Exam	15
Total	100

6.2 Assessment Details

Alternative Feed Assignment (10%)

Date: Fri, Jan 28

Learning Outcome: 1, 2, 3, 4, 5, 6

Assignment details will be provided via Courselink

Feed Sheet Assignment (10%)

Date: Mon, Feb 21

Learning Outcome: 3, 4, 5

Online Quizzes (30%)

Date: Fri, Jan 28 - Fri, Apr 1, Online

Learning Outcome: 1, 2, 3, 4, 5, 6

3 Quizzes worth 10% each (3x10=30%)

Quiz dates: Jan 28, March 4, April 1

Cattle and the Environment Assignment (10%)

Date: Wed, Mar 9

Learning Outcome: 1, 2, 3, 4, 6

See Courselink for Assignment details

Case Study Project (25%)

Date: Fri, Apr 8

Learning Outcome: 3, 4, 5

Final Exam (15%)

Date: Sat, Apr 23

Learning Outcome: 1, 2, 3, 4, 5, 6

See WebAdvisor and Courselink for exam time and date details

Final will be online using the Respondus Lockdown Browser

6.3 Additional Notes

All assignments will be distributed via Courselink under the "assignments" section and submitted work will be collected using the Dropbox function on Courselink

The case study project may be completed individually or in pairs. Details will be provided on assignment sheet posted on Courselink the week after winter break. Students will be required to use the Cowbytes program to complete this project (which uses a windows based software), **Please ensure you have computer capabilities to complete this assignment**

Online Quizzes to be completed online via Courselink.

7 Course Statements

7.1 Grading Policies

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

VIII. Undergraduate Degree regulations and Procedures in the 2020-2021 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 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

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, unless there are extenuating circumstances.

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.

7.2 Course Policy regarding use of electronic devices and recording of Lectures

Electronic recording of classes is expressly forbidden without consent of the instructor. **This includes photography of course materials and lecture slides.** When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

This includes distribution of course material to co-sharing websites like CourseHero

7.3 Course Policy on Group Work

Students are expected to work individually on all quizzes and assignments, with the exception of the case study assignment, which may be completed in pairs or as an individual. Partner conflicts must be addressed in writing to the course instructors within 24h of the due project date.

7.4 Online Behaviour

The course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply. **Inappropriate online behaviour will not be tolerated.** Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students

- Using obscene or offensive language online

- Copying or presenting someone else's work as your own

- Adapting information from the Internet without using proper citations or references

- Buying or selling term papers or assignments

- Posting or selling course materials to course notes websites

- Having someone else complete your quiz or completing a quiz for/with another student

- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online
- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your user name and password
- Recording lectures without the permission of the instructor

Students are highly encouraged to participate in online classes and labs via the chat function. Please keep the chat focused on course materials. The instructor and the TAs reserve the right to remove students from class or lab if they are being disruptive to the learning environment

7.5 Dropbox Submissions

Assignments should 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 was complete, you can view the 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 back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommend you save your assignments to a cloud-based file storage (e.g., OneDrive), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

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 an excuse not to turn in your assignment on time**. Don't wait until the last minute as you may get behind in your work.

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

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

8 University Statements

8.1 Email Communication

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

8.2 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. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 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 students (undergraduate, graduate and diploma) 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 their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 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.

8.5 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 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website

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

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 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 encourages academic integrity. 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.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 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.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website

(<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

8.10 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).

8.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
