



ANSC*4230 - Challenges and Opportunities in Dairy Cattle Production

Fall 2026 Course Outline

Section: 01

Credits: 0.50

Calendar Description

This course will provide senior level students with experience in working as a team to propose solutions to dairy cattle industry problems. Teams of students will critically assess dairy cattle-related businesses at the farm or industry level under the supervision of a faculty member.

Prerequisite(s): ANSC*3080, ANSC*3120, MBG*3060

Restriction(s): Instructor consent required.

Department(s): Department of Animal Biosciences

Lecture Schedule

Monday class sessions, 11:30 a.m. to 2:20 p.m., ANNU 102

Dairy farm challenges will occur in ANNU 102 on:

1. Friday, October 2nd, 1:30pm*-10:00pm and Saturday, October 3rd, 9:00am to 1:00pm
2. Friday, October 30th, 2:00pm*-10:00pm and Saturday, October 31st, 9:00am to 1:00pm
3. Friday, November 20th, 9:00am**-10:00pm and Saturday, November 21st, 9:00am to 1:00pm
4. Friday, December 4th, 11:30am***-10:00pm and Saturday, December 5th, 9:00am to 1:00pm

*Departure times for farms will vary depending on distance of farm from university

**Farm visit in New York will require an earlier departure time, likely 9:00am. Note, a valid passport will be needed for entry into the US.

***Given a Monday schedule that date, farm visit will leave at 11:30am

Instructor Information

Trevor DeVries

Email: tdevries@uoguelph.ca

Additional Coaches/Judges

Mark Carson, Semex, Guelph Email: mcarson@semex.com

Matt Groen, Purina-Cargill, Guelph Email: Matt_Groen@cargill.com

Graduates from ANSC*4230 in previous years are also invited to return as judges. These individuals are usually employed in the Ontario Dairy Industry or are graduate students in Animal Science or Animal Health Management.

Learning Resources

Course Resources

In the week prior to each of the 4 farm challenges, Dairy Comp health and production data and information for each farm will be provided (by download from a secure site). A detailed farm description, Lactanet milk recording reports, and ration formulations will also be provided (by download from Courselink).



Cost of Textbooks and Learning Resources

Textbook / Learning Resource	Required / Recommended	Cost
N/A		

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).

With sufficient industry sponsorship of this class, these fees may be waived for students.

Course Learning Outcomes

1. The appraisal of dairy enterprises together with their relevant production, nutrition and health information in the context of increasing economic return utilizing skills related to analysis, problem solving and critical thinking.
2. Course participants will evaluate dairy operations and their data from Dairy Comp 305 and other records in teams of 4 to 5 students. Each team will create and deliver a presentation of their findings and recommendations to a panel of judges, composing a presentation as a team and utilizing presentation skills.
3. Interested students will also be evaluated for selection to represent the University of Guelph in the NorthEast regional and National Intercollegiate Dairy Challenge competitions. See www.dairychallenge.org.

Lab / Seminar Schedule

Weekly seminars:

A series of lectures and seminars (Mondays at 11:30 a.m.) is designed to provide helpful background for the Challenges as the semester progresses. Topics that we expect to cover are listed below, but since these will be organized during the semester, the timing/content might vary somewhat according to timely relevance and availability of speakers.

- Introduction to Dairy Comp 305
- Finding answers using Dairy Comp 305
- Benchmarking, observations and data creation
- Practical nutrition of lactating dairy cows
- Calf feeding and health
- Transition cows
- Cow comfort
- Udder health and milk quality: Mastitis prevention, diagnosis and treatment, milking routines, SCCs
- Reproduction: Natural vs timed
- Hoof health and lameness

Labs:

Farm 1 - October 2/3
Farm 2 - October 30/31
Farm 3 - November 20/21
Farm 4 - December 4/5

Labs
Topics:



Labs consist of 4 (challenges), which include farm tours*, along with health and production information, followed by analysis and report preparation/presentation. Each occasion will begin Friday afternoon through late Friday evening, with presentations beginning at 9:00am on the Saturday morning.

*In person farms tours will occur in accordance with University guidelines

Assessment Breakdown

Description	Weighting (%)	Due Date
Challenge #1	25%	October 3rd
Challenge #2	25%	October 31st
Challenge #3	25%	November 21st
Challenge #4	25%	December 5th

Assessment details

Learning outcomes assessed:

Challenge 1: Learning outcomes 1, 2, and 3-optional

Challenge 2: Learning outcomes 1, 2, and 3-optional

Challenge 3: Learning outcomes 1, 2, and 3-optional

Challenge 4: Learning outcomes 1, 2, and 3-optional

There will be NO formal evaluation of the seminars beyond the team performance during challenges. We expect to have a range of interesting speakers from industry and the University and anticipate the class will want to attend out of interest in the topics being presented.

The course will be scheduled as four separate “challenges”, each involving a unique dairy farm, with each challenge occurring approximately every 3rd week of the semester.

Each challenge is focused and time-limited over a period of 10 days:

Day 1-6: Release of FarmBiosketch and Dairy Comp 305 data to teams.

Day 9: Farm visits (see above) and opportunity to ask questions of dairy producer (30 min), followed by team analysis of farm information and development of presentation (limited to 6 hours, Friday afternoon and evening).

Day 10: Team presentations (20 minutes/team) will be made to a panel of judges on Saturday morning and early afternoon.

Each team will be scored on the basis of their presentation (see NAIDC scorecard – at the end of this course outline). Each member of each team will be assigned the same score; so, we expect to see equal contribution by team members. The instructors believe that attendance (and/or viewing) throughout the presentations is important to the overall learning outcomes for this course. Therefore, attendance/viewing is mandatory unless previous approval for absence has been granted. Students arriving late or leaving the presentation early will be deducted one mark for each presentation missed.

The use of laptop computers and cellular phones by the audience during presentations is expressly forbidden.

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 Grading Policies

Grading Policies:

Each team will be scored on the basis of their presentation (see NAIDC scorecard on class Courselink site). The instructors believe that attendance throughout the presentations is important to the overall learning outcomes for this course. Attendance is therefore mandatory at the presentations



unless previous approval for absence has been granted. Students arriving late or leaving the presentation early will be deducted one mark for each presentation missed. The use of laptop computers and cellular phones by the audience during presentations is expressly forbidden.

Group work:

The aggregate performance of the group will be assessed using the NAIDC scorecard (www.dairychallenge.org) with this score being awarded to each group member.

Course Standard Statements

Course Policies

Code of conduct:

You will be provided one opportunity to ask questions of the farm owner/manager, under supervision of the instructors, otherwise you are not allowed to make any individual contact to discuss the farm with the owner or farm staff.

Contact with the other teams is discouraged. Within the teams, be respectful of the ideas of others, be committed to the task and exercise leadership without domination.

All farm-related information provided to you is to be treated as strictly confidential. Please do not discuss farm details with other classmates not participating in Dairy Challenge or with family or friends. After each exercise is completed, any remaining information (data, videos, pictures, files) should be securely destroyed. The only remaining evidence of your participation will be the team's PowerPoint presentation. This will be returned to Dr. DeVries, who will forward these to the participating farm for information.

For farm visits, any student with obvious signs of alcohol intoxication will not be allowed to board the bus for the farm visit and will forfeit the grade for that challenge (zero out of 25). On farm, please recognize your status as guests and respect the need for biosecurity. Avoid upsetting the livestock or getting in the way of normal farm operations.

Safety:

You are responsible for your own safety and that of those around you. Avoid any potentially risky situations (bull-pens, slippery floors, do not climb gates/silo ladders etc.). SPECIAL WARNING: Bunker silos represent an unseen danger and we would ask you to be especially careful when evaluating these. While the face of the silage material may appear stable, there have been many accidents reported after the silage face has collapsed with an avalanche of dense/heavy material. This rush of material is completely unpredictable and impossible to escape. Individuals caught in such slippages have had broken limbs, life-threatening injuries or died as a consequence. DO NOT underestimate the risk of serious injury from this cause.

As a guide: NEVER get closer to a silage face than the height of the face itself. The instructors will provide you with samples of each silage for you to assess more closely at a separate location away from the silage face.

Course Technology Requirements

For the first few classes (and **ALL** of the 4 farm challenges) we are going to be using a program called DCTeach...it is an academic version of Dairycomp. You will be provided a link to download that program. It is important to note that the program will **ONLY** run on a Windows based laptop/PC (or a Mac with a Windows partition/virtual platform). The nice thing is that it can run on pretty well any old windows laptop...so, if you are a Mac user (and do not have ability to run Windows on your Mac), but have an old PC clunker at home that still boots up, you should be fine - please have that ready to use for the first class.

Experiential Learning Component

Experiential Learning (EL) at the University of Guelph means learning through action. EL activities provide students with the opportunity to apply course material to real-world, meaningful contexts.

This course has integrated the following Experiential Learning Components: Course-Integrated Learning, Research or Scholarly Creation (<https://www.uoguelph.ca/experientiallearning/students/search-experiential-learning-opportunities/curricular-and-course-based-opportunities-0>).

Upon successful completion, this experiential learning course will be reflected on the student's Professional and Career Development Record (PCDR). Learn about the PCDR and experiential learning at www.uoguelph.ca/pcdr (<https://www.uoguelph.ca/experientiallearning/pcdr>).

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/>)