

Animal Science Department

COURSE OUTLINE – Winter 2026

AG2200 – Introduction to Advances in Livestock Farming – 6 (10-0-15) 125 hours for 9 weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR:	Blaine Leitch	PHONE:	780-835-6670
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OFFICE HOURS:	By Appointment only		

CALENDAR DESCRIPTION: In an era characterized by rapid technological advancements and growing global demand for high-quality animal products, staying informed about the latest trends and innovations in livestock farming is essential for success in the agricultural industry. This course is designed to provide students with a comprehensive understanding of the cutting-edge practices, technologies, and sustainable approaches that are reshaping modern livestock production. Through a blend of theoretical insights and practical applications, this course will explore a wide range of topics, including genetics and breeding, nutrition, health management, animal welfare, and environmental sustainability. Students will delve into the innovative solutions that are transforming traditional farming methods into efficient, ethical, and environmentally conscious systems.

PREREQUISITE(S)/COREQUISITE: N/A

REQUIRED TEXT/RESOURCE MATERIALS: TBA

DELIVERY MODE(S): On-campus (face-to-face) – This type of course will be delivered on campus in a specific location which will be indicated on the student timetable. Students are expected to fully attend in person.



LEARNING OUTCOMES:

1. Explore how understanding traits like birth weight and growth rate can help you select the right animals and make better breeding decisions to improve herd performance and farm efficiency, and overall animal well-being.
2. Explore the science behind animal nutrition, and the use of supplements to support animal health and performance, including how feed sampling, testing, and harvest timing can impact nutritional value and overall efficiency
3. Discover practical approaches to animal health management, including emerging technologies for early disease detection, vaccination strategies, and biosecurity. Learn the basics of vaccines, deworming, and pharmaceuticals, what to use, when to use it, and how it works
4. Explore livestock anatomy to better understand where and how to safely administer injections and medications by building practical skills for effective and humane treatment.
5. Examine evolving standards in animal welfare and ethical livestock practices, including housing, bedding, and humane treatment. Learn about low-stress cattle handling, minimizing pain in livestock, and key considerations for cattle hauling, such as water access, timing, and transport techniques. Students may also take part in hands-on activities when animals are being moved
6. Investigate sustainable approaches to livestock farming that minimize environmental impact and utilize land management strategies.
7. Gain insights into consumer preferences, market trends, and the increasing demand for ethically produced, traceable, and high-quality animal products.
8. Engage with real-world case studies and industry experts who will share their experiences and expertise in implementing advanced livestock farming techniques.
9. Identify and describe common difficulties during calving and lambing, including dystocia and malpresentation.
10. Explore calving and calf care through hands-on experience and lab simulations. Gain insights into when and how to treat sick calves to processing, tubing, and banding. Learn how to identify serious conditions like prolapses or difficult births, and understand when to call for veterinary support.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.alberta.ca>.

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

GRADING CRITERIA

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Grading Chart for courses with Alpha Grading:

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100		C+	2.3	67-69
A	4.0	85-94		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE: TBA

STUDENT RESPONSIBILITIES:

Enrolment at NWP assumes that the student will become a responsible citizen of the Polytechnic Institute. As such, each student will display a positive work ethic, take pride in and assist in the maintenance and preservation of Institute property, and assume responsibility for his/her education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting instructor expectations concerning attendance, assignments, deadlines, and appointments.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

****Note:** all Academic and Administrative policies are available on the same page.

Attendance will not be assigned a mark in this class; however, attendance will be taken, and unexplained or unexcused absences will result in mark deductions. A student who is not present for a lecture period in which a quiz or exam occurs, scheduled or not, will not be given a chance to make up that quiz and will be awarded a mark of zero for that quiz/exam. Assignments **MUST** be submitted by the scheduled due date and time: a mark of zero will be given for any late assignment.

Situations which may also result in mark deductions (at the instructor's discretion):

- Unexplained or unexcused absence (at the instructor's discretion)
- Coming late to class, especially if this is a regular occurrence
- Use of cell phone in class
- Use of computer or other electronics in class, unless approved beforehand by instructor. If use is approved, students using laptops or tablets must sit at the back of the class, without headphones or earbuds, so as not to distract other students. If students are using these devices for reasons other than what is required for class, deductions may occur
- Any handwritten material submitted to an instructor must be in blue or black pen
- Use of any unapproved electronics during quizzes or exams will be considered cheating and will result in an academic misconduct
- This course may involve field tours to businesses off-campus. If students have unexplained or unexcused absence along with disruptive behavior during tours, will result in grade deductions.

A personal laptop computer will be required for some exams and quizzes, but plug-in availability is limited so charge your computer ahead of time.



	Mark Distribution %
A. Quizzes & Assignments & Projects	20%
B. Labs	40%
C. Final Project and Presentation	25%
D. Final Written Exam	15%
Total	100%

A minimum of 60% must be obtained in order to successfully pass AG2200

COURSE SCHEDULE/TENTATIVE TIMELINE: This course will run over nine weeks. Each day will include 3.0 hours of lab time or lecture time, for a total of 125 hours.

STUDENT RESPONSIBILITIES:

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ADDITIONAL INFORMATION:

Students will be expected to come to labs with proper work wear attire. Some labs will be outdoors, you will be required to dress for the weather conditions.