<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Offering(s)</th>
<th>Prerequisite(s)</th>
<th>Department(s)</th>
<th>Location(s)</th>
<th>Graduate Credit</th>
<th>Department(s)</th>
<th>Location(s)</th>
<th>Graduate Credit</th>
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<tbody>
<tr>
<td>ANSC*6010</td>
<td>Topics in Comparative Animal Nutrition</td>
<td>Fall Only [0.50]</td>
<td>MCGB<em>2050 or MBB</em>2040 or ANSC*4050</td>
<td>Department of Animal Biosciences</td>
<td>Guelph</td>
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<td>ANSC*6030</td>
<td>Modelling Metabolic Processes</td>
<td>Fall Only [0.50]</td>
<td></td>
<td>Department of Animal Biosciences</td>
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<tr>
<td>ANSC*6050</td>
<td>Biometry for Animal Sciences</td>
<td>Winter Only [0.50]</td>
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<td>ANSC*6070</td>
<td>Metabolic Regulation of Reproduction</td>
<td>Fall Only [0.50]</td>
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<td>ANSC*6100</td>
<td>Special Project</td>
<td>Summer, Fall, and Winter [0.50]</td>
<td></td>
<td>Department of Animal Biosciences</td>
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<td>ANSC*6210</td>
<td>Principles of Selection in Animal Breeding</td>
<td>Winter Only [0.50]</td>
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<td>Department of Animal Biosciences</td>
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<td>ANSC*6240</td>
<td>Topics in Animal Genetics and Genomics</td>
<td>Winter Only [0.50]</td>
<td></td>
<td>Department of Animal Biosciences</td>
<td>Guelph</td>
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<td>ANSC*6250</td>
<td>Growth and Metabolism</td>
<td>Winter Only [0.50]</td>
<td></td>
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<td>ANSC*6300</td>
<td>Topics in Computational Biology and Bioinformatics</td>
<td>Fall and Winter [0.50]</td>
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<td>ANSC*6360</td>
<td>Techniques in Animal Nutrition Research</td>
<td>Winter Only [0.50]</td>
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<td>ANSC*6370</td>
<td>Quantitative Genetics and Animal Models</td>
<td>Fall Only [0.50]</td>
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<td>ANSC*6390</td>
<td>QTL and Genetic Markers</td>
<td>Winter Only [0.50]</td>
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<td>ANSC*6400</td>
<td>Mammalian Reproduction</td>
<td>Winter Only [0.50]</td>
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<td>ANSC*6440</td>
<td>Advanced Critical Analysis in Applied Ethology</td>
<td>Fall Only [0.50]</td>
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<tr>
<td>ANSC*6450</td>
<td>Topics in Animal Biotechnology</td>
<td>Fall Only [0.50]</td>
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<td>Department of Animal Biosciences</td>
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ANSC*6460 Lactation Biology Fall Only [0.50]
An in-depth systems analysis of lactation, comparing the cow, pig, rat, human and seal. Mammary development from conception through to lactogenesis, lactation and involution will be covered. Hypotheses of regulation of the biochemical pathways of milk synthesis will be tested in relation to experimental observations.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6470 Advanced Animal Nutrition and Metabolism I Fall Only [0.50]
A systematic review of key aspects of energy, protein, amino acid and carbohydrate utilization and metabolism in farm animals.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6480 Advanced Animal Nutrition and Metabolism II Winter Only [0.50]
A systematic review of key aspects of lipid, vitamin and mineral utilization and metabolism in farm animals.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6490 Advanced Dairy Management Winter Only [0.50]
A comprehensive systems science and integrative capstone course that encompasses the "closing of the loop" education of dairy production systems. Students will be exposed to real-time issues relating to dairy production from, environment, economics, nutrition, housing, health, welfare, society and agrology. This course will allow the student to practice their training from the courses they have been exposed to as undergraduates into many case study evaluations on farms provincially, nationally and internationally.
Restriction(s): Instructor consent required.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6550 Systematic Review and Meta-Analysis for Animal Biosciences Winter Only [0.50]
Major topics and methods in the systematic review of the scientific literature, meta-analysis, and empirical modeling for animal sciences will be covered. Students learn via hands-on 'doing' with reflection on their work via the execution of a meta-analysis in their topic area and preparation of a meta-analysis manuscript.
Restriction(s): Instructor consent required.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6610 Scientific Communication, Knowledge Dissemination and Professional Development Unspecified [0.50]
This course helps to foster graduate student career success in academia, government or industry by enhancing student skills in scientific communication and knowledge dissemination and by providing opportunities for personal growth in a chosen area of professional development.
Restriction(s): Restricted to Animal Biosciences students.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6700 Animals in Society: Historical and Global Perspectives on Animal Welfare Fall Only [0.50]
A seminar course covering society's duties to animals. Students will learn about the major ethical theories that deal with society's duties towards animals, the main scientific approaches to animal welfare, and the relationship of science to ethics. A brief history of human-animal relationships will be covered and cultural differences described. Students will use this to analyze some current issues.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6710 Assessing Animal Welfare in Practice Winter Only [0.50]
A lecture/seminar course covering the principles of applied animal welfare assessment. Students will learn what influences an animal welfare assessment and will understand the components necessary to create an effective and targeted animal welfare program for industry or regulatory application.
Offering(s): Winter offering on-campus, Summer offering Distance Education.
Prerequisite(s): ANSC*6700
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6720 Scientific Assessment of Affective States in Animals Winter Only [0.50]
Graduate students will explore the biology and validity of behavioural and physiological techniques used in animal welfare assessment such as: sympathetic activation, HPA functioning, stereotypic behaviour and preference responses. A combination of lecture, instructor-led discussion and student-led discussion will explore these methods of animal welfare assessment.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6730 Applied Environmental Physiology and Animal Housing Winter Only [0.50]
A lecture/seminar course covering the principles of applied environmental physiology including temperature regulation, space requirements, animal responses to light and other aspects of the physical environment. Students pursue a topic in depth to develop or update recommended codes of practice and resource-based standards.
Restriction(s): Cannot take if credit received for ANSC*4080 or ANSC*4100.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6740 Special Topics in Applied Animal Welfare Science Summer Only [0.50]
A lecture/seminar course covering in depth topics in applied animal welfare science. The course will review the scientific research into the welfare of a specific animal species or a specific animal welfare problem common across species, focusing on the main threats to welfare, relevant indicators of welfare, and possible solutions to improve welfare.
Department(s): Department of Animal Biosciences
Location(s): Guelph

ANSC*6900 Major Paper in Animal Biosciences Summer, Fall, and Winter [1.00]
A detailed, critical review of an area of study related to the specialization of students in the MSc by course work and major paper option that includes analysis and interpretation of relevant data.
Department(s): Department of Animal Biosciences
Location(s): Guelph