

ANIMAL SCIENCE (ANSC)

Department of Animal Biosciences, Ontario Agricultural College

The animal science curriculum is designed to provide a broad opportunity to study animal physiology, nutrition, genetics, behaviour and welfare across a range of large and small domestic animal species. The program is designed around an option to follow a Production and Management focus or a Research focus in semesters 5-8 with additional flexibility to allow for a semester of study abroad.

Code	Title	Credits
Semester 1		
AGR*1110	Introduction to the Agri-Food Systems	1.00
BIOL*1050	Biology of Plants & Animals in Managed Ecosystems	0.50
CHEM*1040	General Chemistry I	0.50
MATH*1080	Elements of Calculus I	0.50
Semester 2		
AGR*2050	Agroecology	0.50
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50
CHEM*1050	General Chemistry II	0.50
FARE*1400	Economics of the Agri-Food System	1.00
Semester 3		
AGR*2320	Soils in Agroecosystems	0.50
AGR*2350	Animal Production Systems, Health and Industry	0.50
AGR*2470	Introduction to Plant Agriculture	0.50
MBG*2400	Fundamentals of Plant and Animal Genetics	0.50
FARE*2700 or MBG*2040	Survey of Natural Resource Economics Foundations in Molecular Biology and Genetics	0.50
Semester 4		
ANSC*1210	Principles of Animal Care and Welfare	1.00
ANSC*2340	Structure of Farm Animals	0.50
BIOC*2580	Introduction to Biochemistry	0.50
STAT*2040	Statistics I	0.50
Semester 5 to 8		
Select one of the following options:		10.00
Option A - Production and Management		
Option B - Research		

Option A - Production and Management

Code	Title	Credits
Semester 5		
ANSC*3080	Agricultural Animal Physiology	0.50
ANSC*3120	Introduction to Animal Nutrition	0.50
NUTR*3210	Fundamentals of Nutrition	0.50
1.00 electives or restricted electives		1.00
Semester 6		
ANSC*3040	Animal Reproduction	0.50
ANSC*3270	Animal Disorders	0.50
MBG*3060	Quantitative Genetics	0.50

1.00 electives or restricted electives	1.00
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Semester 7

2.50 electives or restricted electives	2.50
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Semester 8

AGR*4600	Agriculture and Food Issues Problem Solving	1.00
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1.50 electives or restricted electives	1.50
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Restricted Electives - Option A

Students should note that some restricted electives require other courses not included among the required courses for the major as prerequisites. Students should consult the most recent undergraduate calendar for specific requirements.

- A minimum of 1.00 credits from the list:

Code	Title	Credits
AGR*2500	Field Course in International Agriculture	0.50
AGR*3010	Special Studies in Agricultural Science I	0.50
AGR*3450	Research Methods in Agricultural Science	0.50
ANSC*4010	Animal Welfare Judging and Evaluation	0.50
ANSC*4230	Challenges and Opportunities in Dairy Cattle Production	0.50
ANSC*4610	Critical Analysis in Animal Science	0.50
CROP*4260	Crop Science Field Trip	0.50
EDRD*2020	Interpersonal Communication	0.50
EDRD*3050	Agricultural Communication	0.50
EDRD*3140	Organizational Communication	0.50
FARE*3310	Operations Management	0.50
FARE*4220	Advanced Agribusiness Management	0.50
FARE*4310	Resource Economics	0.50
FARE*4360	Marketing Research	0.50
FARE*4550	Independent Studies I	0.50
IAEF*3500	Experiential Education	0.50

- A minimum of 3.00 credits is required from the following lists:

Code	Title	Credits
Select a minimum of 0.50 credits from the following:		
ANSC*4050	Biotechnology in Animal Science	0.50
MBG*4020	Genetics of Companion Animals	0.50
MBG*4030	Animal Breeding Methods and Applications	0.50

Select a minimum of 1.00 credits from the following:

ANSC*3170	Nutrition of Fish and Crustacea	0.50
ANSC*3180	Wildlife Nutrition	0.50
ANSC*4260	Beef Cattle Nutrition	0.50
ANSC*4270	Dairy Cattle Nutrition	0.50
ANSC*4280	Poultry Nutrition	0.50
ANSC*4290	Swine Nutrition	0.50
ANSC*4470	Animal Metabolism	0.50
ANSC*4560	Pet Nutrition	0.50
EQN*4020	Advanced Equine Nutrition	0.50

Select a minimum of 1.00 credits from the following:

AGR*3200	Computing for Bioscientists	0.50
ANSC*3090	Principles of Animal Behaviour	0.50

ANSC*4090	Applied Animal Behaviour and Welfare	0.50
ANSC*4100	Applied Environmental Physiology and Animal Housing	0.50
ANSC*4490	Applied Endocrinology	0.50
ANSC*4650	Comparative Immunology	0.50

- A minimum of 7.00 credits must be at the 3000 level or higher, of which 5.00 credits must be in agricultural science and of which 3.50 credits must be at the 4000 level. Refer to Program Counsellor for list of agricultural science courses.
- A humanities or social science courses (0.50 credits) at the 1000-level or above. See Program Counsellor for acceptable list of courses.

Option B - Research

Code	Title	Credits
Semester 5		
AGR*3450	Research Methods in Agricultural Science	0.50
ANSC*3080	Agricultural Animal Physiology	0.50
ANSC*3120	Introduction to Animal Nutrition	0.50
NUTR*3210	Fundamentals of Nutrition	0.50
0.50 electives or restricted electives		0.50
Semester 6		
ANSC*3040	Animal Reproduction	0.50
ANSC*3270	Animal Disorders	0.50
MBG*3060	Quantitative Genetics	0.50
1.00 electives or restricted electives		1.00
Semester 7		
2.50 electives or restricted electives		2.50
Semester 8		
2.50 electives or restricted electives		2.50

Restricted Electives - Option B

Students should note that some restricted electives require other courses not included among the required courses for the major as prerequisites. Students should consult the most recent undergraduate calendar for specific requirements.

- A minimum of 1.00 credits from the following list (normally to be taken during semesters 7 and 8):

Code	Title	Credits
ANSC*4350	Experiments in Animal Biology	0.50
ANSC*4610	Critical Analysis in Animal Science	0.50
ANSC*4700	Research in Animal Biology I	0.50
ANSC*4710	Research in Animal Biology II	0.50

- A minimum of 3.00 credits is required from the following lists:

Code	Title	Credits
Select a minimum of 0.50 credits from the following:		
ANSC*4050	Biotechnology in Animal Science	0.50
MBG*4020	Genetics of Companion Animals	0.50
MBG*4030	Animal Breeding Methods and Applications	0.50
Select a minimum of 1.00 credits from the following:		
ANSC*3170	Nutrition of Fish and Crustacea	0.50
ANSC*3180	Wildlife Nutrition	0.50
ANSC*4260	Beef Cattle Nutrition	0.50

ANSC*4270	Dairy Cattle Nutrition	0.50
ANSC*4280	Poultry Nutrition	0.50
ANSC*4290	Swine Nutrition	0.50
ANSC*4470	Animal Metabolism	0.50
ANSC*4560	Pet Nutrition	0.50
EQN*4020	Advanced Equine Nutrition	0.50
Select a minimum of 1.00 credits from the following:		
AGR*3200	Computing for Bioscientists	0.50
ANSC*3090	Principles of Animal Behaviour	0.50
ANSC*4090	Applied Animal Behaviour and Welfare	0.50
ANSC*4100	Applied Environmental Physiology and Animal Housing	0.50
ANSC*4490	Applied Endocrinology	0.50
ANSC*4650	Comparative Immunology	0.50

- A minimum of 7.00 credits must be at the 3000 level or higher, of which 5.00 credits must be in agricultural science and of which 3.50 credits must be at the 4000 level. Refer to Program Counsellor for list of agricultural science courses.
- A humanities or social science courses (0.50 credits) at the 1000-level or above from the College of Arts or College of Social and Applied Human Sciences. See Program Counsellor for acceptable list of courses.