

ANIMAL SCIENCE (MPS)

Graduate School

Program Website (<https://cals.cornell.edu/education/degrees-programs/graduate-field-animal-science/master-professional-studies-mps-animal-science/>)

CIP: 01.0901 | HEGIS: 01.04 | NYSED: 42461

Graduate Field

Animal Science (<https://catalog.cornell.edu/graduate-school/animal-science/>)

Program Description

The Master of Professional Studies (MPS) in Animal Science is a one-year, STEM-designated, course-based master's degree program ideal for career-focused students interested in the thorough study of issues and advancements in animal science.

Though similar to a Master of Science (MS) degree in its academic rigor, the MPS degree differs from a traditional MS degree in its structure and focus. An MS prepares students for a research-based career, with students developing an original research thesis over the course of two or three years. In contrast, the MPS degree is a one-year, course-based program, designed to impact knowledge and skills in a given area of concentration. Instead of a thesis or research project, MPS students complete a capstone project which allows them to apply their knowledge and skills in a practical manner.

A hallmark of the MPS program is the balanced portfolio of technical knowledge, analytical skills, and professional development built into the curriculum, designed to equip students with the skill set and knowledge necessary for careers in industry, government, or non-profit agencies.

Concentrations

- Animal health
- Animal nutrition
- Animal production sustainability
- Animal science (general)
- Dairy management

Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 30

Program Requirements

Coursework

- 30 credits in graduate-level courses at least 20 of which must be taken in the College of Agriculture and Life Sciences.
- Capstone project: 2 to 6 credits of the required 30 credits.
- Enrollment in a minimum of 12 credits each semester. It is advised that students enroll in 15 credits each semester to stay on track for this one-year program.
- Additional requirements:

- A minimum cumulative grade point average of 2.5
- A minimum of 18 letter-graded credits
- Completion of the degree within 1 year from admission date

Field-specific requirements

- Check with the field director for details.

Animal Science MPS Concentrations

Animal Health

Code	Title	Hours
Core Courses		9-13
ANSC 5220	Professional Development Seminar (fall & spring)	2
ANSC 6220	Graduate Student Research Updates (fall or spring)	1
ALS 5900	Project Development: CALS Professional Master's Programs	1-5
ALS 5910	Project Completion: CALS Professional Master's Programs	1
Statistics: 5000 or above - Selected with advisor		4

Code	Title	Hours
Concentration Competency		13
ANSC 5300	Fish Physiology	3
ANSC 5310	Animal Genomics and Epigenomics	3
ANSC 5410	Biology of the Mammary Gland in Health and Disease (spring, even years)	2
ANSC 5450	Reproductive Physiology and Management of Dairy Cattle	3
ANSC 5500	Model Organisms in Reproductive Sciences (fall, odd years)	2
ANSC 5540	Dairy Cattle Herd Health	3
ANSC 5920	Mechanisms of Animal Growth and Development (spring, odd years)	2
ANSC 6270	Fundamentals of Endocrinology	3
ANSC 6310	Applied Dairy Cattle Genetics (spring, odd years)	2
ANSC 6410	Metabolic Physiology	3
ANSC 6700	Immunology in Animal Health and Disease	3
BIOMG 5350	Introductory Biology: Cell and Developmental Biology	3
BIOMI 6090	Principles of Virology	3
BIOMG 6300	Principles of Biochemistry, Individualized Instruction	4
VTPEH 6121	Food Systems and Health	3
VTPMD 6640	Introduction to Epidemiology	3
VTPMD 6650	Study Designs	2
VTBMS 7030	The Biology and Diseases of Laboratory Animals	2

Code	Title	Hours
Free Electives		4-8
5000 and up - Selected with advisor		

Animal Nutrition

Code	Title	Hours
Core Courses		9-13
ANSC 5220	Professional Development Seminar (fall & spring)	2

ANSC 6220	Graduate Student Research Updates (fall or spring)	1
ALS 5900	Project Development: CALS Professional Master's Programs	1-5
ALS 5910	Project Completion: CALS Professional Master's Programs	1
Statistics: 5000 or above - Selected with advisor		4

Code	Title	Hours
Concentration Competency		13
ANSC 5550	Dairy Cattle Nutrition	3
ANSC 5920	Mechanisms of Animal Growth and Development (spring, odd years)	2
ANSC 6110	Integrated Cattle Nutrition	4
ANSC 6190	Division of Nutritional Sciences Seminar	1
ANSC 6200	Nutrition of Cats and Dogs	3
ANSC 6280	Comparative Nutrition of the Horse and Pig	4
ANSC 6290	Management of Nutrient Disorders in Cats and Dogs	1
ANSC 6410	Metabolic Physiology	3

Code	Title	Hours
Free Electives		4-8
5000 and up - Selected with advisor		

Animal Production Sustainability

Code	Title	Hours
Core Courses		9-13
ANSC 5220	Professional Development Seminar (fall & spring)	2
ANSC 6220	Graduate Student Research Updates (fall or spring)	1
ALS 5900	Project Development: CALS Professional Master's Programs	1-5
ALS 5910	Project Completion: CALS Professional Master's Programs	1
Statistics: 5000 or above - Selected with advisor		4

Code	Title	Hours
Concentration Competency		13
ANSC 5100	Animal Welfare	3
ANSC 5140	Ethics and Animal Science	3
ANSC 5510	Dairy Herd Management	4
ANSC 6120	Whole-Farm Nutrient Management	4
ANSC 6880	Global Food, Energy, and Water Nexus – Engage the US, China, and India for Sustainable Future	3-4
GDEV 5400	Agriculture, Food, Sustainability and Social Justice	3
GDEV 5680	Environmental Decision Making	3
PLSCI 5210	Soil and Crop Management for Sustainability	3
PLSCI 5660	Soil Ecology	3-4
PLSCI 6100	Plant Responses to Environmental Stresses and Global Climate Change	3
PLSCI 6720	Nutrient and Carbon Cycling and Management in Ecosystems (fall, even years)	3

Code	Title	Hours
Free Electives		4-8
5000 and up - Selected with advisor		

Dairy Management

Code	Title	Hours
Core Courses		9-13
ANSC 5220	Professional Development Seminar (fall & spring)	2
ANSC 6220	Graduate Student Research Updates (fall or spring)	1
ALS 5900	Project Development: CALS Professional Master's Programs	1-5
ALS 5910	Project Completion: CALS Professional Master's Programs	1
Statistics: 5000 or above - Selected with advisor		4

Code	Title	Hours
Concentration Competency		13
AEM 5040	Dairy Markets and Policy	3
ANSC 5450	Reproductive Physiology and Management of Dairy Cattle	3
ANSC 5540	Dairy Cattle Herd Health	3
ANSC 5550	Dairy Cattle Nutrition	3
ANSC 6110	Integrated Cattle Nutrition	4
ANSC 6120	Whole-Farm Nutrient Management	4
ANSC 6310	Applied Dairy Cattle Genetics	2
ANSC 6510	Dairy Herd Business Management	4

Code	Title	Hours
Free Electives		4-8
5000 and up - Selected with advisor		

General Animal Science

Code	Title	Hours
Core Courses		9-13
ANSC 5220	Professional Development Seminar (fall & spring)	2
ANSC 6220	Graduate Student Research Updates (fall or spring)	1
ALS 5900	Project Development: CALS Professional Master's Programs	1-5
ALS 5910	Project Completion: CALS Professional Master's Programs	1
Statistics: 5000 or above - Selected with advisor		4

Code	Title	Hours
Concentration Competency		13
AEM 5040	Dairy Markets and Policy	3
ANSC 5100	Animal Welfare	3
ANSC 5140	Ethics and Animal Science	3
ANSC 5210	Principles of Animal Genetics	4
ANSC 5300	Fish Physiology	3
ANSC 5310	Animal Genomics and Epigenomics	3
ANSC 5410	Biology of the Mammary Gland in Health and Disease (spring, even years)	2
ANSC 5450	Reproductive Physiology and Management of Dairy Cattle	3

ANSC 5500	Model Organisms in Reproductive Sciences (fall, odd years)	2
ANSC 5510	Dairy Herd Management	4
ANSC 5540	Dairy Cattle Herd Health	3
ANSC 5550	Dairy Cattle Nutrition	3
ANSC 5900	Animal Welfare Science Journal Club	1
ANSC 5920	Mechanisms of Animal Growth and Development (spring, odd years)	2
ANSC 6110	Integrated Cattle Nutrition	4
ANSC 6120	Whole-Farm Nutrient Management	4
ANSC 6200	Nutrition of Cats and Dogs	3
ANSC 6230	Reproductive Biology Journal Club	1
ANSC 6270	Fundamentals of Endocrinology	3
ANSC 6280	Comparative Nutrition of the Horse and Pig	3-4
ANSC 6290	Management of Nutrient Disorders in Cats and Dogs	1
ANSC 6310	Applied Dairy Cattle Genetics (spring, odd years)	2
ANSC 6410	Metabolic Physiology	3
ANSC 6510	Dairy Herd Business Management	4
ANSC 6700	Immunology in Animal Health and Disease	3
ANSC 6880	Global Food, Energy, and Water Nexus – Engage the US, China, and India for Sustainable Future	3-4
ANSC 7570	Current Concepts in Reproductive Biology (fall, even years)	3
BIONB 7201	Research Design in the Study of Animal Social Behavior	1
VTPEH 6121	Food Systems and Health	3

Code	Title	Hours
Free Electives		4-8
5000 and up - Selected with advisor		

University Graduation Requirements

Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

Non-academic Requirements

Conduct Matters. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

Financial Obligations. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

Learning Outcomes

- Problem-Solving and Analytical Skills
- Specialized Subject Matter Competence
- Writing Skills
- Group Work, Management and Leadership Skills
- Communication and Presentation Skills