

ANIMAL SCIENCE MAJOR: DAIRY MANAGEMENT OPTION (B.S.)

<https://colsa.unh.edu/agriculture-nutrition-food-systems/program/bs/animal-science-major-dairy-management-option>

Description

The ANSC: dairy management option is designed to provide students with solid training in areas important to the successful management of a dairy enterprise, for employment in related agribusinesses (e.g., pharmaceutical and feed industries), or for those wishing to pursue additional training leading to the M.S. or Ph.D. degree in dairy science or its related disciplines. Dairy management students receive training in areas such as nutrition, reproduction, diseases, genetics, lactation physiology, forages, agribusiness finance, personnel management, computer science, and public relations. The Fairchild Dairy Teaching and Research Center and the Burley-DeMerritt Organic Dairy Research Farm are modern dairy facilities. The Fairchild Dairy houses 100 lactating Holstein cows plus a similar number of non-lactating animals. The Burley-DeMerritt Farm houses 50 lactating Jersey cows plus a small number of non-lactating animals.

Requirements

Degree Requirements

Minimum Credit Requirement: 128 credits

Minimum Residency Requirement: 32 credits must be taken at UNH

Minimum GPA: 2.0 required for conferral*

Core Curriculum Required: Discovery & Writing Program Requirements

Foreign Language Requirement: No

All Major, Option and Elective Requirements as indicated.

*Major GPA requirements as indicated.

Major Requirements

GPA requirements for All Students in Animal Science: Students will be required to earn a C- or better in the foundation courses and all required courses for the animal science major to receive credit toward graduation. Students failing to do this will need to retake the course in order to receive credit.

Code	Title	Credits
Foundation Courses		
BIOL 411	Introductory Biology: Molecular and Cellular	4
BIOL 412	Introductory Biology: Evolution, Biodiversity and Ecology	4
CHEM 403	General Chemistry I	4
CHEM 404	General Chemistry II	4
BIOL 528	Applied Biostatistics I	4
BMS 503 & BMS 504	General Microbiology and General Microbiology Laboratory	5
Select from the following:		
BMCB 501	Biological Chemistry	4-5

or BMCB 658 & BMCB 659	General Biochemistry and General Biochemistry Lab	
Requirements for All Animal Science/Dairy Management Option Majors		
AAS 425	Introduction to Dairy Herd Management	4
AAS 439	Fundamentals of Animal Health	2
ANSC 406	Careers in Animal Science	1
ANSC 511	Anatomy and Physiology	4
ANSC 512	Anatomy and Physiology	4
ANSC 543	Technical Writing in Animal Sciences (or equivalent) ¹	2
ANSC 609	Principles of Animal Nutrition	4
ANSC 612	Genetics of Animals	4
Total Credits		54-55

¹ ENGL 501 Introduction to Creative Nonfiction, ENGL 502 Professional and Technical Writing, ENGL 503 Persuasive Writing, or ENGL 419 How to Read Anything.

Students are responsible for the completion of the animal science foundation courses and the requirements for all animal science majors (both lists of courses above).

Students interested in graduate school should take two semesters of Organic Chemistry and one semester of Biochemistry.

Animal Science: Dairy Management Option B.S. students must also complete:

Code	Title	Credits
AAS 423	Dairy Selection	2
AAS 432	Introduction to Forage and Grassland Management	3
ANSC 602	Animal Rights and Societal Issues	4
ANSC 627	Animal Health Applications	4
ANSC 650	Dairy Industry Travel Course	1
ANSC 698	Cooperative for Real Education in Agricultural Management (CREAM) (two-semester course)	4
ANSC 710	Dairy Nutrition	4
ANSC 715 or ANSC 724	Physiology of Lactation Reproductive Management and Artificial Insemination	4
ANSC 727	Advanced Dairy Management I	4
ANSC 728	Advanced Dairy Management II (will also fulfill the Capstone requirement)	4
EREC 411	Environmental and Resource Economics Perspectives	4
Total Credits		38

Degree Plan

Sample Student Schedule by Semester: Dairy Management

First Year

		Credits
Fall		
AAS 425	Introduction to Dairy Herd Management	4
BIOL 411	Introductory Biology: Molecular and Cellular	4
CHEM 403	General Chemistry I	4
EREC 411 or ENGL 401	Environmental and Resource Economics Perspectives (SS DISC) or First-Year Writing	4
Credits		16

Spring

AAS 423	Dairy Selection (Little Royal)	2
ANSC 406	Careers in Animal Science	1
BIOL 412	Introductory Biology: Evolution, Biodiversity and Ecology	4
CHEM 404	General Chemistry II	4

EREC 411 or ENGL 401	Environmental and Resource Economics Perspectives (SS DISC) or First-Year Writing	4
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Credits **15**

Second Year

Fall

AAS 432	Introduction to Forage and Grassland Management	3
ANSC 511	Anatomy and Physiology	4
ANSC 612	Genetics of Animals	4
ANSC 650	Dairy Industry Travel Course	1
Discovery course		4

Credits **16**

Spring

AAS 439	Fundamentals of Animal Health	2
ANSC 512	Anatomy and Physiology	4
ANSC 543	Technical Writing in Animal Sciences (WI) ¹	2
BIOL 528	Applied Biostatistics I	4
Discovery course		4

Credits **16**

Third Year

Fall

ANSC 625	Animal Diseases	4
ANSC 698	Cooperative for Real Education in Agricultural Management (CREAM)	4
BMS 503 & BMS 504	General Microbiology and General Microbiology Laboratory	5
Discovery course		4

Credits **17**

Spring

ANSC 609	Principles of Animal Nutrition	4
ANSC 627	Animal Health Applications	4
ANSC 698	Cooperative for Real Education in Agricultural Management (CREAM)	4
BMCB 501	Biological Chemistry	4

Credits **16**

Fourth Year

Fall

ANSC 715	Physiology of Lactation (or Discovery course)	4
ANSC 727	Advanced Dairy Management I	4
Discovery course		4
Elective		4

Credits **16**

Spring

ANSC 602	Animal Rights and Societal Issues (WI)	4
ANSC 710	Dairy Nutrition	4
ANSC 724	Reproductive Management and Artificial Insemination (or Discovery course)	4
ANSC 728	Advanced Dairy Management II (WI, capstone)	4

Credits **16**

Total Credits **128**

¹ ENGL 419, ENGL 501, ENGL 502 and ENGL 503 may be substituted.

Student Learning Outcomes

Students will gain a fundamental knowledge of the animal science related disciplines of:

Anatomy & Physiology

- Students will be able to recognize the complimentary relationship of anatomic structure and function and accurately describe the basic physiologic processes of mammalian organ systems.

Nutrition

- Students will be able to identify, compare, contrast, and link different concepts regarding animal feeding and metabolism of carbohydrates, lipids, and protein in major livestock species and equine.

Genetics

- Students will understand basic principles and applications of inheritance, the difference between qualitative genetics, and be able to discuss the various disciplines within genetics.

Disease

- Students will understand the modes of transmission of infectious diseases, recognize signs of illness associated with notable diseases in livestock species, and be able to appropriately apply general concepts of disease prevention and biosecurity to a variety of management situations.

Reproduction

- Students will comprehend the mechanisms and endocrine control of gametogenesis, fertilization, pregnancy, and lactation and understand the variety of factors that can influence reproductive success.

Animal Ethics

- Students will recognize the numerous ways that humans use, benefit from, and conflict with non-human animals and have an awareness of the variety of motivations and influences that drive these relationships.
- Students will be able to develop critical questions that facilitate their independent investigation of topics related to animal science and demonstrate an integration of discipline specific knowledge through engaging in experiential education opportunities.
- Students will be able to conduct literature searches using relevant databases to critically evaluate both academic and popular press resources pertinent to the animal sciences.
- Students will be able to construct well-supported, effectively organized written arguments to express informed perspectives on animal science related topics. These writings will demonstrate professional style, appropriate mechanics (grammar, punctuation, and spelling), and the correct use of citations.