**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. For additional information and answers to questions regarding the option in dairy management, email Dr. Peter Erickson.

**Requirements**

### Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 11</td>
<td>Introductory Biology: Molecular and Cellular</td>
<td>4</td>
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<tr>
<td>BIOL 412</td>
<td>Introductory Biology Evolution, Biodiversity and Ecology</td>
<td>4</td>
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<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>CHEM 404</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 528</td>
<td>Applied Biostatistics I</td>
<td>4</td>
</tr>
<tr>
<td>BMS 503</td>
<td>General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BMS 504</td>
<td>and General Microbiology Laboratory</td>
<td></td>
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<tr>
<td>BMCB 501</td>
<td>Biological Chemistry</td>
<td>4.5</td>
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<tr>
<td>or BMCB 658</td>
<td>General Biochemistry</td>
<td></td>
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<tr>
<td>&amp; BMCB 659</td>
<td>and General Biochemistry Lab</td>
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Select from the following:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ANSC 406</td>
<td>Animal Rights and Societal Issues</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 627</td>
<td>Animal Health Applications</td>
<td>4</td>
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<tr>
<td>ANSC 650</td>
<td>Dairy Industry Travel Course</td>
<td>1</td>
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<tr>
<td>ANSC 698</td>
<td>Cooperative for Real Education in Agricultural Management (CREAM) (two-semester course)</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 710</td>
<td>Dairy Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 715</td>
<td>Physiology of Lactation</td>
<td>4</td>
</tr>
<tr>
<td>or ANSC 724</td>
<td>Reproductive Management and Artificial Insenination</td>
<td>4</td>
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<tr>
<td>ANSC 727</td>
<td>Advanced Dairy Management I</td>
<td>4</td>
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<tr>
<td>ANSC 728</td>
<td>Advanced Dairy Management II (will also fulfill the Capstone requirement)</td>
<td>4</td>
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<tr>
<td>EREC 411</td>
<td>Environmental and Resource Economics Perspectives (SS DISC, ANSC elective) or First-Year Writing</td>
<td>4</td>
</tr>
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**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.

**Degree Plan**

### Sample Student Schedule by Semester: Dairy Management

#### First Year

**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** | Environmental and Resource Economics Perspectives (SS DISC, ANSC elective) or First-Year Writing | 4

**Credits**

16

#### Spring

- **AAS 423** | Dairy Selection (Little Royal) | 2
- **BIOL 412** | Introductory Biology: Evolution, Biodiversity and Ecology | 4
- **CHEM 404** | General Chemistry II | 4
- **Discovery Course** | 4
- **Elective** | 4

**Credits**

18

#### Second Year

**Fall**

- **AAS 432** | Introduction to Forage and Grassland Management | 3

**Credits**

18

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1 ENGL 501 Introduction to Creative Nonfiction, ENGL 502 Professional and Technical Writing, ENGL 503 Persuasive Writing or ENGL 419 How to Read Anything (WI)
ANSC 511 Anatomy and Physiology 4
BMS 503 General Microbiology 3
BIOL 528 Applied Biostatistics I 4
Discovery Course 4

Credits 18

Spring
AAS 439 Fundamentals of Animal Health 2
ANSC 406 Careers in Animal Science 1
ANSC 512 Anatomy and Physiology 4
BMCB 501 Biological Chemistry 4
Discovery Course 4

Credits 15

Third Year
Fall
ANSC 543 Technical Writing in Animal Sciences 1 2
ANSC 609 Principles of Animal Nutrition 4
ANSC 612 Genetics of Animals 4
ANSC 698 Cooperative for Real Education in Agricultural Management (CREAM) 4

Credits 14

Spring
ANSC 602 Animal Rights and Societal Issues 4
ANSC 698 Cooperative for Real Education in Agricultural Management (CREAM) 4
ANSC 710 Dairy Nutrition 4
Discovery Course 4
Elective 2

Credits 18

Fourth Year
Fall
ANSC 727 Advanced Dairy Management I 4
ANSC Recommended Elective 4
ANSC Reproductive Course 4
Discovery Course 4

Credits 16

Spring
ANSC 650 Dairy Industry Travel Course (repeated) 1
ANSC 627 Animal Health Applications 4
ANSC 728 Advanced Dairy Management II (WI) 4
Discovery Course 4

Credits 13

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 and quantitative 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.