ANIMAL SCIENCE B.S.

All students must meet the University Requirements.

All students must meet the College Requirements.

Major Requirements - Common to all Concentrations

<table>
<thead>
<tr>
<th>Animal and Veterinary Sciences</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 001 Introductory Animal Sciences</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 110 Animal Nutrit, Metab &amp; Feeding</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 122 Animals in Soc/Animal Welfare</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 141 Anat&amp;Physiol Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 181 Animal Science Career Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ASCI 215 Physiology of Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>One additional Animal and Veterinary Sciences elective at the 200-level</td>
<td>3 or 4</td>
</tr>
</tbody>
</table>

Animal Health

Choose one of the following health options: 3 or 4

- ASCI 117 Horse Health and Disease
- ASCI 118 Appl Animal Health
- ASCI 263 Clin Top:Companion Animal Med
- ASCI 264 Clin Topics:Livestock Medicine
- ASCI 277 Animal and Human Parasitology
- MMG 101 Microbiol & Infectious Disease
- MMG 222 Clinical Microbiology I
- MMG 223 Immunology
- MMG 225 Eukaryotic Virology
- MLRS 242 Immunology

Genetics

Choose one of the following genetics options: 3

- ASCI 168 Animal Genetics
- BCOR 101 Genetics

Biology

- BIOL 001 & BIOL 002 Principles of Biology and Principles of Biology 8
- or BCOR 011 & BCOR 012 Exploring Biology and Exploring Biology

Chemistry

- CHEM 023 Outline of General Chemistry 4
- or CHEM 031 General Chemistry 1
- CHEM 026 Outline of Organic & Biochem 4
- or CHEM 042 Intro Organic Chemistry
- or CHEM 141 Organic Chemistry 1

Mathematics

- MATH 009 College Algebra (or higher) 3

Statistics

- STAT 111 Elements of Statistics 3
- or STAT 141 Basic Statistical Methods
- or STAT 211 Statistical Methods 1

Additional courses are selected with the help of the faculty advisor. See specific academic offerings for additional course requirements. In addition, each student must complete all college and university requirements for graduation.

PLAN OF STUDY

This page includes descriptions of the four Animal and Veterinary Sciences concentrations:

- Dairy Production Concentration
- Equine Science Concentration
- Zoo, Exotic, and Companion Animal Concentration
- Pre-Veterinary/Pre-Professional Science Concentration

DAIRY PRODUCTION CONCENTRATION

Designed for the student seeking in-depth training in dairy herd management and milk production with strong links to agribusiness. Experiential learning is emphasized through the Cooperative for Real Education in Agricultural Management (CREAM) program and the Vermont Technical College/UVM 2+2 FARMS program. Students with an interest in agribusiness could also consider a minor in Community Entrepreneurship (CEnt) from the Department of Community Development and Applied Economics (CDAE).

For students interested in dairy production, the Vermont Technical College/UVM 2+2 FARMS program provides Vermont residents with scholarships and the opportunity to earn a bachelor’s degree after a two-year associate degree in Dairy Farm Management from the Vermont Technical College.

A potential plan of study for the dairy production concentration is outlined below but programs are highly individualized by students working with the faculty advisors.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALS 001 Foundations:Communication Meth</td>
<td>3</td>
</tr>
</tbody>
</table>
**EQUINE SCIENCE CONCENTRATION**

Specialized courses are offered on the care, management, breeding, training, and health of horses. Students can focus in either equine management and industry and/or equine health.

The world-famous Morgan Horse Farm at Weybridge, VT, about 45 minutes from campus, is also part of the department and offers opportunities for study and research. Students may also enroll in equine courses at the Miner Agricultural Research Institute in Chazy, New York. Students with an interest in equine business could also consider a minor in Community Entrepreneurship (CEnt) from the Department of Community Development and Applied Economics (CDAE).

A potential plan of study for the equine science concentration is outlined below but programs are highly individualized by students working with the faculty advisors.

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CALS 001 Foundations:Communication Meth</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 001 Introductory Animal Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics or Diversity or Sustainability</td>
<td>6</td>
</tr>
<tr>
<td>ENGS 001 Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 002 Principles of Biology or BCOR 012 Exploring Biology</td>
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**Year Total:**

<table>
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<tr>
<th>Credits</th>
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<tr>
<td>31</td>
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**Sophomore**

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASCI 122 Animals in Soc/Animal Welfare</td>
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</tr>
<tr>
<td>ASCI 181 Animal Science Career Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ASCI 141 Anat&amp;Physiol Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 168 Animal Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 001 Principles of Biology or BCOR 011 Exploring Biology</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 118 Appl Animal Health</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 134 CREAM</td>
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<tr>
<td>Statistics</td>
<td>3</td>
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<tr>
<td>ASCI 177 Animal Plagues &amp; Global Health</td>
<td>3</td>
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<tr>
<td>Electives</td>
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**Year Total:**

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**Junior**

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<tr>
<td>ASCI 156 Dairy Management Seminar</td>
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<tr>
<td>ASCI 135 CREAM</td>
<td>4</td>
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<tr>
<td>ASCI 143 Forage and Pasture Mgmnt</td>
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<td>ASCI 234 Advanced Dairy Management</td>
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**Year Total:**

<table>
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<th>Credits</th>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ASCI 156 Dairy Management Seminar</td>
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<tr>
<td>ASCI 216 Endocrinology</td>
<td>3</td>
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<tr>
<td>ASCI 215 Physiology of Reproduction</td>
<td>3</td>
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<tr>
<td>ASCI 220 Lactation Physiology</td>
<td>3</td>
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<tr>
<td>ASCI 230 Agricultural Policy &amp; Ethics</td>
<td>3</td>
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<tr>
<td>ASCI 252 FARMS Senior Project</td>
<td>4</td>
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<tr>
<td>Mathematics or Diversity or Sustainability</td>
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<tr>
<td>ASCI 264 Clin Topics:Livestock Medicine</td>
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<tr>
<td>Electives</td>
<td>6</td>
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</tbody>
</table>

**Year Total:**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
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</tbody>
</table>
### ZOO, EXOTIC, AND COMPANION ANIMAL CONCENTRATION

This concentration is designed for students who are primarily interested in zoo, exotic, and companion animals and are interested in transitioning to jobs in these industries after graduation. Courses are offered on the management, care, breeding, health, and training of zoo, exotic, and companion animals with hands on experiences available locally and through summer course work and internships. A potential plan of student is outlined below but individual plans will ultimately be designed by the student and advisor. Students could also consider a minor in either Psychological Science from the Department of Psychological Science or a minor in Community Entrepreneurship (CEnt) from the Department of Community Development and Applied Economics (CDAE) or a minor in Wildlife Biology from the The Rubenstein School of Environment and Natural Resources.

A potential plan of study for the zoo, exotic and companion animal concentration is outlined below but programs are highly individualized by students working with the faculty advisors.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CALS 001 Foundations:Communication Meth</td>
<td>3</td>
</tr>
<tr>
<td>CALS 002 Foundation:Information Tech</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 001 Introductory Animal Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ENGS 001 Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 002 Principles of Biology or BCOR 012 Exploring Biology</td>
<td>4</td>
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<tr>
<td>ASCI 006 Companion Animal Care &amp; Mgmt</td>
<td>3</td>
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<tr>
<td>Year Total:</td>
<td>31</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ASCI 122 Animals in Soc/Animal Welfare</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 181 Animal Science Career Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ASCI 141 Anat&amp;Physiol Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 168 Animal Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 001 Principles of Biology or BCOR 011 Exploring Biology</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 117 Horse Health and Disease</td>
<td>3</td>
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<tr>
<td>ASCI 108 Equine Enterprise Management</td>
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<tr>
<td>ASCI 119 Equine Training Techniques</td>
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<table>
<thead>
<tr>
<th>Junior</th>
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</thead>
<tbody>
<tr>
<td>ASCI 110 Animal Nutrit, Metab &amp; Feeding</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 215 Physiology of Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 121 Equus</td>
<td>8</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 143 Forage and Pasture Mgmnt</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 208 Equine Industry Issues</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 217 Physiology of Reproduction Lab</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Year Total:</td>
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<table>
<thead>
<tr>
<th>Senior</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASCI 221 Lameness in Horses</td>
<td>4</td>
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<tr>
<td>Equine Internship</td>
<td>6</td>
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<tr>
<td>ASCI 125 Equine Instructing Techniques</td>
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<tr>
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<tr>
<td>Electives</td>
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<tr>
<td>Year Total:</td>
<td>30</td>
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<tr>
<td>Total Credits in Sequence:</td>
<td>123-126</td>
</tr>
</tbody>
</table>
A potential plan of study for the pre-veterinary/pre-professional science concentration is outlined below but programs are highly individualized by students working with the faculty advisors.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALS 001 Foundations: Communication Meth</td>
<td>3</td>
</tr>
<tr>
<td>CALS 002 Foundation: Information Tech</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 001 Introductory Animal Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Inorganic Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics (MATH 019) or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ENGS 001 Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 002 Principles of Biology or BCOR 012 Exploring Biology</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 005 Intro to the Horse</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 006 Companion Animal Care &amp; Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>Year Total:</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 122 Animals in Soc/Animal Welfare</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 181 Animal Science Career Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ASCI 141 Anat&amp;Physiol Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 168 Animal Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 001 Principles of Biology or BCOR 011 Exploring Biology</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics (MATH 019) or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 117 Horse Health and Disease</td>
<td>3</td>
</tr>
<tr>
<td>ASCI 118 Appl Animal Health</td>
<td>3</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>ASCI 177 Animal Plagues &amp; Global Health</td>
<td>3</td>
</tr>
<tr>
<td>Year Total:</td>
<td>35</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Junior</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 110 Animal Nutrit, Metab &amp; Feeding</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics (MATH 019) or Diversity or Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>MMG 101 Microbiol &amp; Infectious Disease</td>
<td>4</td>
</tr>
<tr>
<td>BCOR 103 Molecular and Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>ENGS 050 Expository Writing or ENGS 053 Intro to Creative Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

PRE-VETERINARY/PRE-PROFESSIONAL SCIENCE CONCENTRATION

This option is for students who intend to enter veterinary, professional or graduate school. It provides the necessary background in the sciences, as well as opportunities for advanced study related to production, companion, and zoo animals.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>STAT 141</td>
<td>Basic Statistical Methods</td>
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<tr>
<td>ASCI 277</td>
<td>Animal and Human Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
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<td><strong>Year Total:</strong></td>
<td><strong>32-34</strong></td>
<td></td>
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</table>

**Senior**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ASCI 185</td>
<td>Biochem for Life &amp; Health Sci</td>
<td>3</td>
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<tr>
<td>Or BIOC 295</td>
<td>Foundations of Biochemistry</td>
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<tr>
<td>ASCI 187</td>
<td>BiochemLab for Life&amp;Health Sci</td>
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<tr>
<td>ASCI 215</td>
<td>Physiology of Reproduction</td>
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<td>ASCI 216</td>
<td>Endocrinology</td>
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<tr>
<td>ASCI 263</td>
<td>Clin Top:Companion Animal Med</td>
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<td>ASCI 264</td>
<td>Clin Topics:Livestock Medicine</td>
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**Total Credits in Sequence:** 135-137