

## ANIMAL SCIENCE B.S.

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

All students must meet the College Requirements.

### MAJOR REQUIREMENTS - COMMON TO ALL FOCUS AREAS

Requirement Description		Credits
ANIMAL AND VETERINARY SCIENCES		
ASCI 1000	Introductory Animal Sciences	3
ASCI 1040	Intro to Animal Nutrition	3
ASCI 2110	Animal Anatomy	4
ASCI 2120	General Physiology	3
ASCI 2130	Animals in Soc/Animal Welfare	3
ASCI 2160	Animal Genetics	3
ASCI 3150	Physiology of Reproduction	3
RESTRICTED ELECTIVES		
Choose 12 credits from the following options with at least 3 credits at 3000-level:		12
ALE 2610	Fundamentals of Soil Science	4
ASCI 2180	Appl Animal Health	3
ASCI 2240	Forage and Pasture Mgmt	4
ASCI 2300	CREAM 1	4
ASCI 2310	CREAM 2	4
ASCI 2330	Winter Dairy Travel Course	1
ASCI 2400	Equus	Up to 4
ASCI 2410	Intermediate Horseback Riding	1
ASCI 2420	Equine Training Techniques	3
ASCI 2430	Equine Instructing Techniques	2
ASCI 2480	Horse Health and Disease	3
ASCI 2490	Equine Practicum	2
ASCI 2510	Canine Behavior	3
ASCI 2700	Wildlife Hlth & Consvration	3
ASCI 2600	Zoos, Exotics & Endang Species	3
ASCI 2990	Special Topics	1-18
ASCI 2991	Internship	1-18

ASCI 2993	Independent Study	1-18
ASCI 2994	Teaching Assistantship	1-3
ASCI 2995	Undergraduate Research	1-18
ASCI 3040	Advanced Animal Nutrition	4
ASCI 3080	Molecular Epidemiol Infect Dis	3
ASCI 3160	Topics in Applied Reproduction	1
ASCI 3180	Endocrinology	3
ASCI 3200	Lactation Physiology	3
ASCI 3280	Clin Topics:Livestock Medicine	3
ASCI 3300	CREAM Advising	4
ASCI 3355	Advanced Dairy Management	15
ASCI 3470	Equine Industry Issues	3
ASCI 3480	Clin Topics Equine Med & Surg	3
ASCI 3490	Lameness in Horses	4
ASCI 3600	Adv Top:Zoo,Exotic,Endang Spec	3
ASCI 3605	Bootcamp in Alpaca Husbandry	4
ASCI 3990	Special Topics	1-18
ASCI 3991	Internship	1-18
ASCI 3993	Independent Study	1-18
ASCI 3994	Teaching Assistantship	1-3
ASCI 3995	Undergraduate Research	1-18
ASCI 4990	Special Topics	1-18
BIOL 4245	Mammalogy	4
CDAE 2020/ ENVS 2470	Sustainable Community Dev	3
CDAE 2570	Consumer Law and Policy	3
CDAE 2660	Intro to Comm Entrepreneurship	3
CDAE 2670	Fin Mgmt: Comm Entrepreneurs	4
CDAE 2680	Marketing:Com Entrepreneurs	3
CDAE 3660	Dec Making:Comm Entrepreneurs	3
CDAE 3670	Strat Plan:Comm Entrepreneurs	4
FS 2010/ NFS 2113	U.S. Food Policy and Politics	3
MMG 2010	Microbiol & Infectious Disease	4
MMG 3230	Immunology	3
NFS 3204	Food Microbiology Lab	1

NFS 5253	Food Regulation	3
NR 2030	Ecology, Ecosystems & Environ	3
PSYS 2100	Learning, Cognition & Behavior	3
PSYS 2200	Biopsychology	3
WFB 2310	Field Ornithology	2
WFB 2410	Field Herpetology	4
WFB 2740	Prin of Wildlife Management	3
WFB 3240	Conservation Biology	4
WFB 3990	Special Topics	1-18
WFB 4320	Ichthyology	3
WFB 4750	Wildlife Behavior	3
WFB 4830	Terrestrial Wildlife Ecology	4
<b>ANIMAL HEALTH</b>		
Choose 1 of the following health options:		3 or 4
ASCI 2180	Appl Animal Health	
ASCI 2480	Horse Health and Disease	
ASCI 3280	Clin Topics:Livestock Medicine	
ASCI 3480	Clin Topics Equine Med & Surg	
MMG 2010	Microbiol & Infectious Disease	
INTRODUCTORY BIOLOGY. Choose 1 of the following options:		8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BIOL 1000 & BIOL 1005	AP Biology 1 and AP Biology 2	
Option C:		
BIOL 1000 & BCOR 1425	AP Biology 1 and Accelerated Biology	
<b>CHEMISTRY</b>		
CHEM 1100	Outline: General Chem w/lab	4
or CHEM 1400	General Chemistry 1	
CHEM 1150	Outline: Organic & BIOC w/lab	4
or CHEM 1580	Intro Organic Chemistry w/lab	
or CHEM 2580	Organic Chemistry 1	
<b>MATHEMATICS</b>		

MATH 1077	Exploring Modern Mathematics (or higher)	3
<b>STATISTICS</b>		
STAT 1110	Elements of Statistics	3
or STAT 1410	Basic Statistical Methods 1	

Additional courses are selected with the help of the faculty advisor. See specific academic offerings for additional course requirements.

### RESTRICTIONS

Ineligible Minors: Animal Science

### PLAN OF STUDY

This page includes descriptions of the four Animal & Veterinary Sciences focus areas:

Dairy Production (p. 2)

Equine Science (p. 3)

Zoo, Exotic, and Companion Animal (p. 4)

Pre-Veterinary/Pre-Professional (p. 5)

### DAIRY PRODUCTION

Designed for students 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. Students may also enroll in dairy courses at the Miner Agricultural Research Institute in Chazy, New York. Students with an interest in agribusiness could also consider a minor in Community Entrepreneurship from the Department of Community Development and Applied Economics (CDAE).

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

First Year	Credits
ASCI 1000 Introductory Animal Sciences	3
ASCI 1990 Special Topics (When title is Intro to Dairy Management)	3
ASCI 1040 Intro to Animal Nutrition	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4

Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-6
Year Total:	31-37
<b>Sophomore</b>	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ASCI 2300 CREAM 1	4
STAT 1110 Elements of Statistics	3
ENGL 1001 Written Expression	3
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-7
Year Total:	23-30
<b>Junior</b>	<b>Credits</b>
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmt	4
Upper-level Animal Nutrition Elective	3
ASCI 2310 CREAM 2	4
ASCI 3150 Physiology of Reproduction	3
ASCI 3355 Advanced Dairy Management (@ Miner Institute)	15
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-1
Year Total:	32-33
<b>Senior</b>	<b>Credits</b>
ASCI 3160 Topics in Applied Reproduction	1
ASCI 3180 Endocrinology	3
ASCI 3280 Clin Topics:Livestock Medicine	3
ASCI 3200 Lactation Physiology	3
ASCI 3355 Advanced Dairy Management (@ Miner Institute)	15
Year Total:	25
<b>Total Credits in Sequence:</b>	<b>111-125</b>

## EQUINE SCIENCE

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 Ellen A. Hardacre Equine Center, located on the UVM campus, services many experiential equine courses such as EQUUS.

The UVM Morgan Horse Farm in 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 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 their faculty advisors.

<b>First Year</b>	<b>Credits</b>
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
ASCI 1400 Intro to the Horse	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-4
Year Total:	31-35
<b>Sophomore</b>	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2420 Equine Training Techniques	3
ASCI 2480 Horse Health and Disease	3
ASCI 2490 Equine Practicum	2
STAT 1110 Elements of Statistics	3
ENGL 1001 Written Expression	3

Choose either Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-10
Year Total:	24-34
<b>Junior</b>	<b>Credits</b>
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmt	4
ASCI 2400 Equus	2-4
ASCI 2430 Equine Instructing Techniques	2
ASCI 3150 Physiology of Reproduction	3
ASCI 3160 Topics in Applied Reproduction	1
ASCI 3480 Clin Topics Equine Med & Surg	3
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	5-9
Year Total:	23-29
<b>Senior</b>	<b>Credits</b>
ASCI 2991 Internship	1-15
ASCI 2994 Teaching Assistantship	1-3
ASCI 3470 Equine Industry Issues	3
ASCI 3490 Lameness in Horses	4
ASCI 3990 Special Topics (When the topic applies to Equine Studies)	2-6
Year Total:	11-31
<b>Total Credits in Sequence:</b>	<b>89-129</b>

### ZOO, EXOTIC, AND COMPANION ANIMAL

This concentration is designed for students who are primarily interested in zoo, exotic, and companion animal focused careers. Courses are offered on the management, care, breeding, health, and training of zoo, exotic, and companion animals. Hands-on experiences are available locally and through summer and winter course work and internships. A potential study plan is outlined below but individual plans can be designed by the student and advisor. Students could also consider a minor in either Psychological Science from the Department of Psychological Science, a minor in Community Entrepreneurship 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 their faculty advisors.

First Year	Credits
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
ASCI 1100 The World of Working Animals or ASCI 1500 Intro to the Cat and Dog	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-3
Year Total:	31-34
<b>Sophomore</b>	<b>Credits</b>
ASCI 1510 Understanding & Speaking Dog	3
ASCI 1990 Special Topics (When title is Intro to Research Skills)	1
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ASCI 2600 Zoos, Exotics & Endang Species	3
ENGL 1001 Written Expression	3
STAT 1110 Elements of Statistics	3
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	3-12
Year Total:	29-38
<b>Junior</b>	<b>Credits</b>
ASCI 1990 Special Topics (When title is Intro to Research Skills)	1
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmt	4
ASCI 2510 Canine Behavior	3
ASCI 2700 Wildlife Hlth & Consvation	3

ASCI 3150 Physiology of Reproduction	3
MMG 2010 Microbiol & Infectious Disease	4
WFB 2740 Prin of Wildlife Management	3
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-7
Year Total:	24-31
<b>Senior</b>	<b>Credits</b>
ASCI 3180 Endocrinology	3
ASCI 3600 Adv Top:Zoo,Exotic,Endang Spec	3
ASCI 3990 Special Topics (When title is Applied Animal Behavior)	3
WFB 2300 Ornithology	3
WFB 4830 Terrestrial Wildlife Ecology	4
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	4-14
Year Total:	20-30
<b>Total Credits in Sequence:</b>	<b>104-133</b>

### PRE-VETERINARY/PRE-PROFESSIONAL

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. For students with interest in pursuing their veterinary technology certification, UVM and Vermont Technical College offer a 2+2 Vet Tech program.

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 their faculty advisors.

First Year	Credits
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
CHEM 1400 General Chemistry 1	4
CHEM 1450 General Chemistry 2	4
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-3

Year Total:	28-31
<b>Sophomore</b>	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ASCI 2480 Horse Health and Disease	3
CHEM 2580 Organic Chemistry 1	4
CHEM 2585 Organic Chemistry 2	4
ENGL 1001 Written Expression	3
STAT 1410 Basic Statistical Methods 1	3
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	0-5
Year Total:	30-35
<b>Junior</b>	<b>Credits</b>
ASCI 2160 Animal Genetics	3
ASCI 3150 Physiology of Reproduction	3
Upper-level Animal Nutrition Elective	
MMG 2010 Microbiol & Infectious Disease	4
BIOC 3001 Fundamentals of Biochemistry	3
BIOC 3003 Fundamentals of Biochem Lab	1
BCOR 2500 Molecular & Cell Biology w/lab or BCOR 2505 Molecular & Cell Biology	3-4
ENGL 1730 Intro to Creative Writing or ENGL 1740 The Art of the Essay	3
Choose either Mathematics (MATH 1077 or higher) or Catamount Core or Electives	6-8
Year Total:	26-29
<b>Senior</b>	<b>Credits</b>
ASCI 3180 Endocrinology	3
ASCI 3200 Lactation Physiology	3
ASCI 3280 Clin Topics:Livestock Medicine	3
ASCI 3480 Clin Topics Equine Med & Surg	3
ASCI 3490 Lameness in Horses	4

ASCI 3990 Special Topics (When title is Applied Animal Behavior)	3
PHYS 1400 Elementary Physics I & PHYS 1450 Elementary Physics II	4-8
Mathematics (MATH 1077 or higher) or Catamount Core or Electives	3-5
Year Total:	26-32
<b>Total Credits in Sequence:</b>	<b>110-127</b>