Utah State University

Department of Animal, Dairy and Veterinary Sciences
College of Agriculture

Animal, Dairy and Veterinary Sciences Major

Animal and Dairy Science Emphasis
Biotechnology Emphasis
Bioveterinary Science Emphasis
Equine Science and Management Emphasis

Published June 2007 **Effective for students beginning degree Summer Sem. 2007 thru Spring Sem. 2008**

Admission Requirements For This Major

1. New freshmen admitted to USU in good standing qualify for admission to this major.

2. Transfer students from other institutions need a 2.2 transfer GPA and students transferring from other USU majors need a 2.0 total GPA for admission to this major in good standing.

The Programs and Career Opportunities

The Department of Animal, Dairy and Veterinary Sciences prepares students for careers in animal and dairy science production, management and research, biotechnology, preveterinary study, and equine science and management.

The curricula in the **Animal and Dairy Science Emphasis** is designed to prepare students for a variety of rewarding careers in the dynamic disciplines of animal and dairy agriculture. Teaching and research facilities, as well as the USU livestock herds and flocks, are available for hands-on practical laboratory experiences, along with faculty-mentored research projects. Graduates from this emphasis may seek careers in animal or dairy production and management; in state or federal government agricultural agencies; and in fields that support or interact with animal agriculture, such as corporate agribusiness, wholesale and retail marketing and sales, commodity trading, animal product processing, agricultural cooperatives, and producer/commodity associations. This emphasis may also prepare students for advanced degrees in areas such as animal research in genetics, reproductive biology, nutrition, and management. An especially close student-advisor relationship is required to help students develop, schedule, and accelerate their personal undergraduate degree program and is essential for professional success in these areas.

The **Biotechnology Emphasis** is designed to prepare students who earn a bachelor's degree for careers in the expanding biotechnology industry or for graduate study in related fields. Nationwide there are more than 1,200 biotechnology/biopharmaceutical companies with additional start-ups developing every year. Increases in federal funding for research in animal biotechnology, along with heightened private sector activity, have led to unprecedented career prospects in molecular biology, genomics, bioinformatics, developmental biology, and associated areas. USU has made a major commitment to biotechnology since 1986. The ADVS Department is heavily involved in biotechnology research and teaching, and the resources of the Center for Integrated BioSystems are also available to support this emphasis.

The ADVS Department offers a strong program in preveterinary study leading to the BS degree in the **Bioveterinary Science Emphasis**. This is not a college of veterinary medicine, but a preveterinary program. The degree is a nonterminal program designed primarily for those students who intend to apply to veterinary school. This program consists of three to four years of study, after which the student is eligible to apply to several veterinary schools. The preveterinary program can be individually tailored to maximize a student's chances of gaining acceptance into a school of veterinary medicine. If a student is uncertain of his or her interests and aptitudes for veterinary medicine, the program is an excellent opportunity to gain experience and make career choices. The student who wants to test his or her potential in a veterinary career should first enroll in the preveterinary program and then later can simultaneously develop a major in another field. Students should consult with the ADVS academic advisor and the preveterinary program coordinator to develop a program of study which best meets their needs and requirements.

There are many exciting career paths in the equine industry, and the ADVS Department has the resources and courses to prepare students to determine their path. The **Equine Science and Management Emphasis** provides an education that will place students among the most sought-after graduates in the equine industry. The program offers courses, internships, volunteer activities, and clubs that prepare students specifically for careers in various aspects of the equine industry. Students will be able to obtain hands-on experiences in the classroom, arena, and stabling facilities. Opportunities will be available in horsemanship, training, managing horses of all ages, stallion handling and breeding, and mare and foal care.

Degrees and Programs Offered Through This Department

Animal, Dairy and Veterinary Sciences: Bachelor of Science (BS)
Animal Science: Master of Science (MS), and Doctor of Philosophy (PhD)
Dairy Science: MS
Bioveterinary Science: MS and PhD
Dairy Herdsman: Vocational Technology One-year Certificate

Academic Advising

Successful completion of a bachelor's degree program in the ADVS Department requires that a very close student-academic advisor relationship be established and continued through each student's bachelor's degree program. Each student must take the responsibility of establishing this close working relationship with his or her advisor. Doing this soon after a student's acceptance into the department can keep academic problems to a minimum.

Graduation Requirements: BS Degree in Animal, Dairy and Veterinary Sciences

Minimum University Requirements*

Total credits	120
Grade point average (most majors require higher GPA)	2.00 GPA
Credits of *C*- or better	100
Credits of upper-division courses (#3000 or above)	40
USU credits	30
(20 of which must be upper division, including 10 required by major)	
Completion of approved major program of study	See department
Credits in minor (if required by department)	12
Credits in American Institutions (ECON 1500; HIST 1700, 2700, or 2710; POLS 1100; or USU 1300)	3
University Studies requirements	See below

*Colleges and departments may require more credits or a higher GPA. See requirements on this sheet.

University Studies Requirements for Animal, Dairy and Veterinary Sciences Major

Note: Approved University Studies courses and requirements are listed in the back section of each semester's *Schedule of Classes*.

General Education Requirements (27-28 credits)

Competency Requirements (9-10 credits)

Communications Literacy (CL1 and CL2) (6 credits)

ENGL 1010 (CL1) (3 credits) or satisfactory AP, CLEP, IBO, ACT, or SAT score

AND

ENGL 2010 (CL2) (3 credits) or satisfactory IBO score

Quantitative Literacy (QL) (3-4 credits)

MATH 1030 or 1050 or STAT 1040 (3-4 credits)

OR

One MATH or STAT course requiring MATH 1050 as a prerequisite

OR

Satisfactory AP, CLEP, IBO, ACT, or SAT score

Computer and Information Literacy (0 credits)

Passing grade on six computer and information literacy related examinations.

Breadth Requirements (18 credits)

Select at least one approved course from each of the following six categories: **American Institutions (BAI), Creative Arts (BCA), Humanities (BHU), Life Sciences (BLS), Physical Sciences (BPS),** and **Social Sciences (BSS)**. At least two of the six breadth courses must be University Studies courses with a **USU prefix** (excluding USU 1000, 1010, 1100, 3330, 4900, and 6900). (CLEP or AP credit may be used.) BIOL 1010 or 1620 will fufill the Life Sciences requirement, and CHEM 1120 or 1220 will fulfill the Physical Sciences requirement for students in the Animal, Dairy and Veterinary Sciences major. ECON 1500 will fulfill the American Institutions requirement for students in the Animal and Dairy Science emphasis and the Equine Science and Management emphasis who wish to get an Agribusiness Management minor.

Depth Education Requirements

Communications Intensive (CI) (2 courses)

ADVS 4200 and 4920 will meet this requirement.

Quantitative Intensive (QI) (1 course)

ADVS 3510, 4560, BIOL 3060, or STAT 2000 will meet this requirement.

Depth Course Requirements (4 credits minimum)

Complete at least 2 credits in approved 3000-level or above courses from each of the following two categories: **Humanities and Creative Arts (DHA)** and **Social Sciences (DSS)**.

Departmental Requirements

All graduates from the department must have completed one of the four emphases described on this sheet, and must have met the following minimum requirements:

1. Attain a grade point average of at least 2.50 in all ADVS courses.
2. ADVS courses required for the major may be repeated only *once* to improve a grade.
3. Courses required for the major may *not* be taken for a *pass-fail* grade.
4. To graduate with a degree in this major, students must attain an overall GPA of at least 2.25.

Note: Effective Summer Semester 2006, some course numbers changed, due to House Bill 320 (Common Course Numbering). Course numbers used *prior to* Summer Semester 2006 are shown in parentheses, following *formerly*.

Animal and Dairy Science Emphasis Curriculum

Freshman Year

Fall Semester **Credits**

- ☐ **ADVS 1110** Introduction to Animal Science 4
- ☐ **ADVS 1910** Orientation to Animal and Dairy Science 0.5
- ☐ **ADVS 2130**[1] Dairy Production Practices (3 cr) **or**
- ☐ **ADVS 2190**[1] Horse Production Practices (2 cr) . . . . . 2 or 3
- ☐ **MATH 1050 (QL)** College Algebra 4
- ☐ University Studies Breadth Course 3

Spring Semester

- ☐ **ADVS 2200** Anatomy and Physiology of Animals 4
- ☐ **ENGL 1010 (CL1)** Introduction to Writing: Academic Prose 3
- ☐ **ADVS 2080**[1] Beef Production Practices (2 cr) **or**
- ☐ **ADVS 2090**[1] Sheep Production Practices (2 cr) **or**
- ☐ **ADVS 2120**[1] Swine Production Practices (2 cr). 2
- ☐ **STAT 1040 (QL)** Introduction to Statistics (3 cr) **or**
- ☐ **STAT 2000 (QI)** Statistical Methods (3 cr) 3
- ☐ University Studies Breadth Course 3

Sophomore Year

Fall Semester

- ☐ **CHEM 1210** Principles of Chemistry I 4
- ☐ **CHEM 1215** Chemical Principles Laboratory I 1
  (formerly CHEM 1230)
- ☐ Two University Studies Breadth Courses 6
- ☐ Directed Elective Course 3

Spring Semester

- ☐ **CHEM 1220 (BPS)** Principles of Chemistry II 4
- ☐ **CHEM 1225** Chemical Principles Laboratory II 1
  (formerly CHEM 1240)
- ☐ **ADVS 3000** Animal Health and Hygiene 3
- ☐ **ENGL 2010 (CL2)** Intermediate Writing: Research Writing in a Persuasive Mode. 3
- ☐ Directed Elective Course 3

Junior Year

Fall Semester

- ☐ **BIOL 1610** Biology I 4
  (formerly BIOL 1210)
- ☐ **ADVS 3500** Principles of Animal Nutrition 3
- ☐ **ADVS 4910** Preprofessional Orientation 0.5
- ☐ Two Directed Elective Courses 6
- ☐ University Studies Depth Course 3

Spring Semester

- ☐ **BIOL 1620 (BLS)** Biology II 4
  (formerly BIOL 1220)
- ☐ **ADVS 3510 (QI)** Applied Animal Nutrition 3
- ☐ **ADVS 4200 (CI)** Physiology of Reproduction and Lactation 4
- ☐ Directed Elective Course 3

Senior Year

Fall Semester

- ☐ **ADVS 4560 (QI)** Principles of Animal Breeding 3
- ☐ **ADVS 4920 (CI)** Undergraduate Seminar 2
- ☐ **ADVS 5120**[2] Swine Management 3
- ☐ **ADVS 4250** Internship in Animal Industry (3 cr) **or**
- ☐ **ADVS 4800** Undergraduate Research or Creative Opportunity (3 cr) 3
- ☐ Directed Elective Course 3

Spring Semester

- ☐ **ADVS 5080**[2] Beef Management (3 cr) **or**
- ☐ **ADVS 5090**[2] Sheep Management and Wool Technology (4 cr) **or**
- ☐ **ADVS 5130**[2] Dairy Cattle Management (3 cr) **or**
- ☐ **ADVS 5190**[2] Horse Management (3 cr) 3-4
- ☐ Two Directed Elective Courses 6
- ☐ University Studies Depth Course 3

Directed Electives

Students must choose eight courses from the following: **Credits**

- ☐ **ACCT 2010**[3] Survey of Accounting I (F,Sp,Su) . . . 3
- ☐ **ADVS 3650** Live Animal and Carcass Evaluation (F) . . . 3
- ☐ **ADVS 5030** Sustainable Agricultural Production Systems with Animals (F) . . . 3
- ☐ **ADVS 5520** Grazing Livestock Nutrition and Management (Sp) . . . 2
- ☐ **ADVS 5530** Nutritional Management of Farm Animals (Sp) . . . 3
- ☐ **ADVS 5860** Poisonous Range Plants Affecting Livestock (Sp) . . . 3
- ☐ One additional management course (ADVS 5080, 5090, 5120, 5130, or 5190) . . . 3-4
- ☐ **BIOL 3060 (QI)** Principles of Genetics (F,Sp,Su) . . . 4 **(formerly BIOL 3200)**
- ☐ **BIOL 3300** General Microbiology (F,Sp) . . . 4
- ☐ **BUS 3400 (QI)** Finance Fundamentals . . . 3
- ☐ **BUS 3500** Marketing Principles . . . 3
- ☐ **BUS 3700** Operations Management Fundamentals . . . 3
- ☐ **CHEM 2310**[4] Organic Chemistry I (F) . . . 4
- ☐ **CHEM 2315**[4] Organic Chemistry Laboratory I (F) . . . 1 **(formerly CHEM 2330)**
- ☐ **CHEM 2320**[4] Organic Chemistry II (Sp) . . . 4
- ☐ **CHEM 3700**[4] Introductory Biochemistry (Sp) . . . 3
- ☐ **ECON 2010 (BSS)** Introduction to Microeconomics (F,Sp,Su) . . . 3
- ☐ **ECON 3030**[3] **(DSS)** Introduction to Agribusiness Marketing (F) . . . 3
- ☐ **ECON 3050**[3] **(DSS)** Introduction to Agribusiness Management (Sp) . . . 3
- ☐ **ECON 4010 (DSS)** Managerial Economics (F,Sp) . . . 3
- ☐ **ECON 4030 (CI)**[3] Agribusiness Finance (F) . . . 3
- ☐ **ECON 5030** Agricultural Marketing and Price Analysis (F) . . . 3
- ☐ **MATH 1100 (QL)** Calculus Techniques (F,Sp,Su) (3 cr) **or**
- ☐ **MATH 1210 (QL)** Calculus I (F,Sp,Su) (4 cr) . . . 3-4
- ☐ **MHR 2050** Legal and Ethical Environment of Business (F,Sp,Su) . . . 3
- ☐ **MHR 3110 (DSS)** Managing Organizations and People (F,Sp,Su) . . . 3
- ☐ **NFS 4900** Special Problems: Dairy Processing . . . 4
- ☐ **NFS 5020** Meat Technology and Processing (F) . . . 4
- ☐ **PLSC 4320** Forage Production and Pasture Ecology (F) . . . 3
- ☐ **SOIL 2000 (BPS)** Soils, Waters, and the Environment (3 cr) **or**
- ☐ **SOIL 3000** Fundamentals of Soil Science (F,Sp) (4 cr) . . . 3-4
- ☐ **WILD 2200 (BLS)** Ecology of our Changing World (F,Sp) . . . 3
- ☐ **WILD 3600** Wildland Plant Ecology and Identification (F) . . . 4
- ☐ **WILD 3850** Vegetation and Habitat Management (F) . . . 3
- ☐ **WILD 4000** Principles of Rangeland Management (Sp) . . . 3

[1]Students must take two courses selected from: ADVS 2080, 2090, 2120, 2130, and 2190.

[2]Students must take one course selected from: ADVS 5080, 5090, 5120, 5130, and 5190.

[3]Students may obtain an Agribusiness Management Minor by taking ECON 1500 (BAI), 3030, 3050, 4030, and ACCT 2010.

[4]Students may obtain a Chemistry Minor by taking CHEM 2310, 2315, 2320, and 3700.

Biotechnology Emphasis Curriculum

Freshman Year

Fall Semester **Credits**

- ☐ **ADVS 1110** Introduction to Animal Science . . . 4
- ☐ **CHEM 1210** Principles of Chemistry I . . . 4
- ☐ **CHEM 1215** Chemical Principles Laboratory I . . . 1 **(formerly CHEM 1230)**
- ☐ **MATH 1050 (QL)** College Algebra . . . 4
- ☐ **ENGL 1010 (CL1)** Introduction to Writing: Academic Prose . . . 3

Spring Semester

- ☐ **ADVS 2040** Introduction to Biotechnology . . . 1
- ☐ **ADVS 2200** Anatomy and Physiology of Animals . . . 4
- ☐ **CHEM 1220 (BPS)** Principles of Chemistry II . . . 4
- ☐ **CHEM 1225** Chemical Principles Laboratory II . . . 1 **(formerly CHEM 1240)**
- ☐ **STAT 2000 (QI)** Statistical Methods . . . 3
- ☐ University Studies Breadth Course . . . 3

Sophomore Year

Fall Semester **Credits**

- ☐ **BIOL 1610** Biology I . . . 4 **(formerly BIOL 1210)**
- ☐ **CHEM 2310** Organic Chemistry I . . . 4
- ☐ **CHEM 2315** Organic Chemistry Laboratory I . . . 1 **(formerly CHEM 2330)**
- ☐ Two University Studies Breadth Courses . . . 6

Spring Semester

- ☐ **BIOL 1620 (BLS)** Biology II . . . 4 **(formerly BIOL 1220)**
- ☐ **CHEM 2320** Organic Chemistry II . . . 4
- ☐ **ADVS 3000** Animal Health and Hygiene . . . 3
- ☐ **ENGL 2010 (CL2)** Intermediate Writing: Research Writing in a Persuasive Mode . . . 3
- ☐ University Studies Breadth Course . . . 3

Junior and Senior Years

Required Classes

- ☐ **ADVS 3020** Biotechnology in Agriculture (F) . . . 3
- ☐ **ADVS 3200** Ethical Issues in Genetic Engineering and Biotechnology (Sp) . . . 3
- ☐ **ADVS 4260** Internship in Animal Biotechnology Industry (F,Sp,Su) (2-12 cr) **or**
- ☐ **ADVS 4800** Undergraduate Research or Creative Opportunity (1-6 cr) . . . 3-12
- ☐ **ADVS 4910** Preprofessional Orientation (F) . . . 0.5
- ☐ **ADVS 4920 (CI)** Undergraduate Seminar (F) . . . 2
- ☐ **ADVS 5160** Methods in Biotechnology: Cell Culture (Sp) . . . 3
- ☐ **ADVS 5260** Methods in Biotechnology: Molecular Cloning (F) . . . 3
- ☐ **ADVS 5280** Animal Molecular Biology (Sp) . . . 3
- ☐ **BIOL 3060 (QI)** Principles of Genetics (F,Sp,Su) . . . 4 **(formerly BIOL 3200)**
- ☐ **BIOL 3300** General Microbiology (F,Sp) . . . 4
- ☐ **CHEM 3700** Introductory Biochemistry (Sp) . . . 3
- ☐ Two University Studies Depth Courses . . . 6

Directed Electives

Students must select at least 18 credits from the following. At least one course with a Communications Intensive (CI) designation must be included.

- ☐ **ADVS 3500** Principles of Animal Nutrition (F) . . . 3
- ☐ **ADVS 3510 (QI)** Applied Animal Nutrition (Sp) . . . 3
- ☐ **ADVS 4200 (CI)** Physiology of Reproduction and Lactation (Sp) . . . 4
- ☐ **ADVS 4560 (QI)** Principles of Animal Breeding (F) . . . 3
- ☐ **ADVS 5690** Animal Histology (F) . . . 3
- ☐ **ADVS 5700 (CI)** General Animal Pathobiology (Sp) . . . 3
- ☐ **ADVS 5820** Animal Cytogenetics and Gene Mapping (F) . . . 3
- ☐ **BIOL 5150** Immunology (Sp) . . . 3
- ☐ **BIOL 5210** Cell Biology (F) . . . 3
- ☐ **BIOL 5230** Developmental Biology (Sp) . . . 3
- ☐ **MATH 1100 (QL)** Calculus Techniques (F,Sp,Su) . . . 3
- ☐ **PHYS 2110** The Physics of Living Systems I . . . 4
- ☐ **PHYS 2120 (BPS)** The Physics of Living Systems II . . . 4

Bioveterinary Science Emphasis Curriculum

(3.0 minimum total GPA required)

This is a four-year program, preparing students for application and admittance to veterinary school or graduate school. In recent years, **nearly all students who have been accepted to veterinary school have had at least a 3.4 GPA.**

Advanced Standing Requirements

To attain Advanced Standing in Bioveterinary Science, students must have completed or must be currently registered for a minimum of 60 semester credits, and must have earned an overall GPA of at least 2.75 for all credits, including transfer credits, taken up to the time the petition for Advanced Standing is made.

Students' records will be checked when they reach a total of 60 semester credits. Those who do not meet advanced standing requirements will be notified to meet with their advisor.

Freshman Year

Fall Semester **Credits**

- ☐ **ADVS 1110** Introduction to Animal Science 4
- ☐ **ADVS 1920** Orientation to Bioveterinary Science 1
- ☐ **CHEM 1210** Principles of Chemistry I 4
- ☐ **CHEM 1215** Chemical Principles Laboratory I 1
  (formerly CHEM 1230)
- ☐ **MATH 1100 (QL)** Calculus Techniques 3
- ☐ University Studies Breadth Course 3

Spring Semester

- ☐ **ADVS 2200** Anatomy and Physiology of Animals 4
- ☐ **CHEM 1220 (BPS)** Principles of Chemistry II 4
- ☐ **CHEM 1225** Chemical Principles Laboratory II 1
  (formerly CHEM 1240)
- ☐ **ENGL 1010 (CL1)** Introduction to Writing: Academic Prose 3
- ☐ **STAT 2000 (QI)** Statistical Methods 3

Summer Semester

ADVS 3920, Internship in Veterinary Medicine, is a recommended option. Students may count up to 2 credits of ADVS 3920 as elective upper-division credits toward graduation.

Sophomore Year

Fall Semester

- ☐ **BIOL 1610** Biology I 4
  (formerly BIOL 1210)
- ☐ **CHEM 2310** Organic Chemistry I. 4
- ☐ **CHEM 2315** Organic Chemistry Laboratory I 1
  (formerly CHEM 2330)
- ☐ Two University Studies Breadth Courses 6

Spring Semester

- ☐ **BIOL 1620 (BLS)** Biology II 4
  (formerly BIOL 1220)
- ☐ **CHEM 2320** Organic Chemistry II 4
- ☐ **BIOL 3060 (QI)** Principles of Genetics 4
  (formerly BIOL 3200)
- ☐ University Studies Breadth Course 3

Junior Year

Fall Semester

- ☐ **ADVS 3500** Principles of Animal Nutrition 3
- ☐ **ADVS 4930** Undergraduate Seminar in Veterinary Medicine. 2
- ☐ **BIOL 3300** General Microbiology 4
- ☐ **PHYS 2110** The Physics of Living Systems I. 4
- ☐ **ENGL 2010 (CL2)** Intermediate Writing: Research Writing in a Persuasive Mode. 3

Spring Semester

- ☐ **ADVS 3000** Animal Health and Hygiene 3
- ☐ **PHYS 2120 (BPS)** The Physics of Living Systems II. 4
- ☐ **CHEM 3700** Introductory Biochemistry 3
- ☐ Two Upper-division University Studies Depth and Communications Intensive (CI) Courses 6

Senior Year

Students must complete at least 120 semester credits for the BS degree, of which at least 40 credits must be in upper-division courses. The student must complete two courses which are designated Communications Intensive (CI), and one course which is designated Quantitative Intensive (QI). Students must include at least 15 credits from the following list. An additional 10 elective credits are needed to complete the 120 credits required for graduation. Other upper-division life sciences courses may be applied to this requirement, if approved by the ADVS academic advisor.

Credits

- ☐ **ADVS 3510 (QI)** Applied Animal Nutrition (Sp) 3
- ☐ **ADVS 4200 (CI)** Physiology of Reproduction and Lactation (Sp) . . 4
- ☐ **ADVS 4560 (QI)** Principles of Animal Breeding (F) 3
- ☐ **ADVS 5690** Animal Histology (F) 3
- ☐ **ADVS 5700 (CI)** General Animal Pathobiology (Sp) 3
- ☐ **BIOL 5150** Immunology (Sp) 3
- ☐ **BIOL 5210** Cell Biology (F). 3
- ☐ **BIOL 5230** Developmental Biology (Sp) 3
- ☐ **BIOL 5330** Virology (Sp) 3

Equine Science and Management Emphasis Curriculum

Freshman Year

Fall Semester **Credits**

- ☐ **ADVS 1110** Introduction to Animal Science 4
- ☐ **ADVS 1910** Orientation to Animal and Dairy Science 0.5
- ☐ **ADVS 2190** Horse Production Practices. 2
- ☐ **ENGL 1010 (CL1)** Introduction to Writing: Academic Prose 3
- ☐ **MATH 1050 (QL)** College Algebra. 4
- ☐ University Studies Breadth Course 3

Spring Semester

- ☐ **ADVS 1600** Riding Fundamentals I 2
- ☐ **ADVS 2200** Anatomy and Physiology of Animals 4
- ☐ **STAT 1040 (QL)** Introduction to Statistics 3
- ☐ Two University Studies Breadth Courses 6

Sophomore Year

Fall Semester

- ☐ **ADVS 2300** Stable Management I. 3
- ☐ **ADVS 2650**[5] Riding Fundamentals II—Hunter 2
- ☐ **BIOL 1010 (BLS)**[6] Biology and the Citizen 3
- ☐ **CHEM 1110 (BPS)**[7] General Chemistry I 4
- ☐ University Studies Breadth Course 3

Spring Semester

- ☐ **ADVS 2310** Stable Management II 3
- ☐ **ADVS 2600**[5] Riding Fundamentals II—Western 2
- ☐ **CHEM 1120 (BPS)**[7] General Chemistry II 4
- ☐ **ADVS 3000** Animal Health and Hygiene 3
- ☐ Directed Elective Course 3

Junior Year

Fall Semester

- ☐ **ADVS 3100** Equine Evaluation I 2
- ☐ **ADVS 3500** Principles of Animal Nutrition. 3
- ☐ **ADVS 3600** Equine Behavior and Training I 2
- ☐ **ADVS 4910** Preprofessional Orientation 0.5
- ☐ Three Directed Elective Courses 9

Spring Semester

- ☐ **ADVS 3510 (QI)** Applied Animal Nutrition 3
- ☐ **ENGL 2010 (CL2)** Intermediate Writing: Research Writing in a Persuasive Mode. 3
- ☐ Two Directed Elective Courses. 6
- ☐ Depth Course 3

Senior Year

Fall Semester

- ☐ **ADVS 4270** Internship in Equine Industry 3
- ☐ **ADVS 4300** Stable Management III. 3
- ☐ **ADVS 4560 (QI)** Principles of Animal Breeding 3
- ☐ **ADVS 4920 (CI)** Undergraduate Seminar. 2
- ☐ Directed Elective Course 3
- ☐ Depth Course 3

Spring Semester

- ☐ **ADVS 4200 (CI)** Physiology of Reproduction and Lactation. 4
- ☐ **ADVS 4310** Stable Management IV. 3
- ☐ **ADVS 5190** Horse Management. 3
- ☐ Two Directed Elective Courses. 6

Directed Electives

Students must choose five courses from the following list:

- ☐ **ADVS 3150** Equine Evaluation II (Sp) 2
- ☐ **ADVS 3690** Equine Behavior and Training II (Sp) 2
- ☐ **ADVS 3910** ST: Horseshoeing 3
- ☐ **ADVS 5030** Sustainable Agricultural Production Systems with Animals (F) 3
- ☐ **ADVS 5530** Nutritional Management of Farm Animals (Sp) 3
- ☐ **ADVS 5860** Poisonous Range Plants Affecting Livestock (Sp) 3
- ☐ **PLSC 4320** Forage Production and Pasture Ecology (F) 3
- ☐ **SOIL 2000 (BPS)** Soils, Waters, and the Environment (Sp) 3
- ☐ **WILD 4000** Principles of Rangeland Management (Sp) 3

Students must choose four courses from the following list: **Credits**

- ☐ **ACCT 2010**[8] Survey of Accounting I (F,Sp,Su) 3
- ☐ **BUS 3400 (QI)** Finance Fundamentals 3
- ☐ **BUS 3500** Marketing Principles 3
- ☐ **BUS 3700** Operations Management Fundamentals 3
- ☐ **ECON 2010 (BSS)** Introduction to Miroeconomics (F,Sp,Su) 3
- ☐ **ECON 3030 (DSS)**[8] Introduction to Agribusiness Marketing (F). 3
- ☐ **ECON 3050 (DSS)**[8] Introduction to Agribusiness Management (Sp) . . 3
- ☐ **ECON 4010 (DSS)** Managerial Economics (F,Sp) 3
- ☐ **ECON 4030 (CI)**[8] Agribusiness Finance (F) 3
- ☐ **ECON 5030** Agricultural Marketing and Price Analysis (F) 3
- ☐ **MHR 2050** Legal and Ethical Environment of Business (F,Sp,Su) 3
  (formerly MHR 2990)
- ☐ **MHR 3110 (DSS)** Managing Organizations and People (F,Sp,Su) 3

[5]Students must choose one course from the following: ADVS 2600 or 2650.

[6]Students may take BIOL 1610 and 1620 if they desire to pursue a postbaccalaureate degree.

[7]Students may take CHEM 1210, 1215, 1220, and 1225 if they desire to pursue a postbaccalaureate degree.

[8]Students may obtain an Agribusiness Management Minor by taking ECON 1500 (BAI), 3030, 3050, 4030, and ACCT 2010.

Minors

General Animal Science. ADVS 1110; choose one or more courses from ADVS 2080, 2090, 2120, 2190; 10 elective ADVS credits, with approval of the ADVS academic advisor.

Horse Production. ADVS 1110, 2190, 2250 (coop experience with horses); 6 or more elective ADVS credits with approval of the ADVS academic advisor.

Horse Training. ADVS 1110, 1600, 2190, 2600; 2 or more elective ADVS credits with approval of the ADVS academic advisor.

Bioveterinary Science. Students must complete ADVS 2200 and 3000. With approval of the ADVS academic advisor, students must also choose 7 elective ADVS credits. A minimum grade of *C* is required in all courses applied toward this minor.

General Dairy Science. ADVS 1110, 2130; and 10 elective ADVS credits with approval of the ADVS academic advisor.

Dairy Herdsman. ADVS 1020, 1030, 1040, 1050, and 1060.

Requirement Changes

Graduation requirements shown on this sheet are subject to change. Students should check with their assigned advisor concerning possible changes.

Materials for Persons with Disabilities

This requirement sheet is available in large print, audio, and braille format upon request to the USU Disability Resource Center.

For information contact

ADVS Department; AG S 242; Utah State University; 4815 Old Main Hill; Logan UT 84322-4815; tel. (435) 797-2150; e-mail tami.spackman@usu.edu; **http://www.advs.usu.edu**

Prepared by Registrar's Office, Utah State University