



Faculty:

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The Large Animal Science Department offers a four-year Bachelor of Science degree. Students can select from two large animal majors offered by the department. The two majors are; Equine Science and Management or Livestock Science and Management. Students selecting the Equine Science major will learn the humane care, science, use and production of horses as they are used for pleasure and profit in the Equine industry. Students selecting the Livestock Science major will also learn the human care, science, use, and production of farm animals as they are used for the production of meat and fiber.

The Department maintains livestock facilities which give students an opportunity to participate in the care, breeding, and management of beef cattle, sheep, swine, and horses. All livestock facilities are located on campus and within walking distance of the dormitories and classrooms. Graduates of the Large Animal Science Department have a wide variety of career options available due to the diversity of the collegiate training and the work experience related to the major. With a 99% rate of placing graduates within six months of graduation, it is no wonder that graduates have a variety of employment opportunities available in livestock production, agribusiness, education, and in government. An average of 83% of the Animal Science graduates obtain employment within the animal science industry within six months of graduation.

Delaware Valley College Animal Science graduates are sought by industry for employment as livestock managers and herd managers, breed association representatives, extension livestock specialists, and artificial insemination technicians. As a result of training in both livestock production and business, many graduates obtain employment with pharmaceutical companies, feed manufacturers, and veterinary supply companies. Students graduating recently with a degree in Animal Science (Large) have found positions such as: Animal Caretaker, Cooperative Extension Agent, Lab Technician, Herdsperson, Kennel Manager, and Zookeeper.

Animal Science also offers the opportunity for a career in education. Many graduates are involved with 4-H, and FFA programs as well as teaching vocational education and science in

high schools. For graduates interested in pursuing additional training in either veterinary medicine or graduate studies, one will find DVC alumni attending universities throughout the U.S.

The total number of credits required for graduation with a major in Equine Science in the Large Animal Science Department is 126+4 credits earned for successful completion of the Employment Program and 128+4 credits for the Livestock Science major.

## Recommended Course Sequence

### Equine Science and Management Major Freshman Year

#### First Semester

Course No.	Course Title	Credits	Hours
AS 1006	Intro to Animal Science	3	(2-3)
EN 1101	English I	3	(3-0)
BY 1116	Biological Science I	3	(2-3)
CH 1103	Chemistry I	4	(3-3)
PE 1109	Physical Education I	1	(0-2)
MP 1102	College Algebra or		
MP 1203	Elementary Functions	3	(3-0)
		17	

#### Second Semester

AS 1045	Livestock Industries & Careers	2	(2-0)
EN 1211	English II	3	(3-0)
BY 1217	Biological Science II	3	(2-3)
CH 1203	Chemistry II	4	(3-3)
PE 1209	Physical Education II	1	(0-2)
MP 1203	Elementary Functions	3	(3-0)
		16	

### Sophomore Year

#### First Semester

Course No.	Course Title	Credits	Hours
CH 2003	Principles of Organic Chemistry	4	(3-3)
AE 2007	Feed Grains & Forages	3	(2-2)
AS 1101	Stable Management	3	(3-2)
BY 2003	Genetics	3	(3-0)
ES 1102	Equine Skills	2	(2-0)
		15	

#### Second Semester

CH 2203	Biochemistry	4	(3-3)
AS 4219	Horse Breeding Mgt	3	(2-3)
ES 1202	Equine Health Mgt	3	(3-0)
LA 2005	Speech	3	(3-0)
LA 1060	Intro to the Arts	3	(3-0)

16

**Junior Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
IT 1011	Information Technology Concepts	1.5	(1.5-0)
IT 1012	Computer Applications	1.5	(1.5-0)
LA 3032	American History and Government Since 1933	3	(3-0)
AS 4106	Principles of Animal Nutrition	3	(2-3)
BA 1005	Intro to Business Elective	3	(3-0)
		3	
		15	

**Second Semester**

ES 3217	Equine Anatomy and Physiology	3	(3-0)
LA 4037	Non-Western Societies	3	(3-0)
EN 2028	Intro to Literature	3	(3-0)
AS 3210	Mare and Foal Management Elective	3	
		3	
		15	

**Senior Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
DS 4134	Physiology of Reproduction	3	(2-3)
LA 4038	Cultural Enrichment	1	(1-0)
AS 4111	Yearling Horse Mgt.	2	
ES 2107	Equine Nutrition	3	(3-0)
BA 2008	Macroeconomics Elective	3	(3-0)
		3	
		15	

**Second Semester**

AS 4016	Seminar	1	(1-0)
	Philosophy/Psychology/Sociology Area	3	(3-0)
ES 4222	Equine Business Mgt	3	(3-0)
LA 2040	Modern History of Western Societies Elective	3	(3-0)
		6	
		16	

**Livestock Science and Management Major  
Freshman Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
AS 1006	Intro to Animal Science	3	(2-3)
EN 1101	English I or		
EN 1111	Advanced English I	3	(3-0)
MP 1102	College Algebra or		
MP 1203	Elementary Functions	3	(3-0)
CH 1103	General Chemistry I	4	(3-3)
BY 1116	Biological Science I	3	(2-3)
PE 1109	Physical Education I	1	(0-2)
		17	

**Second Semester**

AS 1045	Livestock Industries & Careers	2	(2-0)
EN 1201	English II or		
EN 1211	Advanced English II	3	(3-0)
MP 1203	Elementary Functions or		
MP 1204	Calculus I	3-4	(3 or 4-0)
CH 1203	General Chemistry II	4	(3-3)
BY 1217	Biological Science II	3	(2-3)
PE 1209	Physical Education II	1	(0-2)
		16-17	

**Sophomore Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
BY 2003	Genetics	3	(3-0)
DS 3029	Large Animal Genetics Lab	1	(0-3)
CH 2003	Principles of Organic Chemistry	4	(3-3)
AE 2007	Feed Grains & Forages	3	(2-2)
LA 2005	Speech	3	(3-0)
IT 1011	Information Technology Concepts	1.5	(1.5-0)
IT 1012	Computer Applications	1.5	(1.5-0)
		17	

**Second Semester**

CH 2203	Biochemistry	4	(3-3)
EN 2028	Introduction to Literature	3	(3-0)
AS 2116	Livestock Evaluation	3	(2-3)
AS 3123	Animal Husbandry Techniques	2	(1-3)
	Elective	3	
		15	

**Employment Program**

AS 2370 Employment Program 1-2

**Junior Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
DS 3118	Anatomy & Physiology I	3	(2-3)
BY 3002	General Microbiology	4	(3-3)
LA 1060	Introduction to Arts	3	(3-0)
AS 4106	Principles of Animal Nutrition	3	(2-3)
LA 3032	American History and Government Since 1933	3	(3-0)
		16	

**Second Semester**

DS 3221	Anatomy and Physiology II	3	(2-3)
LA 4037	Non-Western Societies	3	(3-0)
DS 3010	Animal Feeding and Nutrition	3	(2-3)
AS 4214	Animal Diseases	3	(3-0)
	Elective	4	
		16	

**Senior Year**

**First Semester**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Hours</u>
LA 2040	Modern History of Western Societies	3	(3-0)
DS 4134	Physiology of Reproduction	3	(2-3)
LA 4038	Cultural Enrichment	1	(1-0)
	Production Option*	3	(2-3)
	Elective	6	
		16	

**Second Semester**

AS 4016	Seminar	1	(1-0)
BA 2008	Macroeconomics	3	(3-0)
	Philosophy/Psychology/Sociology Area	3	(3-0)
	Production Option*	3	(2-3)
	Electives	6	
		16	

\*Production Options for Large Animal Science Major (choose two):

AS 4014 Beef Science AS 4028 Swine Science  
 AS 4027 Sheep Science AS 4029 Poultry Science  
 AS 1101 Stable Management

**Minors**

Students majoring in Large Animal Science may enroll in a minor including Pre-veterinary Science. Substitutions may be arranged in advance with permission of the Department Chairperson.

**International Exchange**

Large Animal Science students may participate in a one-semester exchange program at Hartpury College, Gloucestershire, Great Britain during their Junior Spring semester. Contact the Department for application procedures.

**Course Descriptions**

**AS 1000 Survey of Animal Agriculture**

Large Animal Science students, matriculating from approved High School Vo-Ag programs, may receive 3 elective credits at the end of their freshman year at Delaware Valley College. Contact the Large Animal Science Department for application procedures. 3 credits

**AS 1006 Introduction to Animal Science**

The lectures present an overview of management and production practices for dairy, beef, horses, sheep, swine, and poultry. The associated laboratories acquaint the student with working procedures in common practice. 2 hours Lecture and 3 hours Laboratory—3 credits

**AS 1045 Livestock Industries and Careers**

A course emphasizing the variety of production systems and careers which exist in the beef cattle, sheep, swine, poultry, and horse industries. This overview provides the basis for students selecting production courses in their senior year and aids in developing a career focus. Required of Large Animal Science students. Elective for other students. 2 hours Lecture—2 credits

**AS 1101 Stable Management**

An introductory level course designed to emphasize the management and practical care of equine facilities and horses. Required management participation involves time commitments in addition to regularly scheduled class hours. 3 hours Lecture and 2 hours Laboratory—3 credits

**AS 2116 Livestock Evaluation**

This course emphasizes the factors that contribute to livestock utility. The relationship between the live animal and the carcass is covered as well as an introduction to livestock judging and oral reason presentation. The various systems of production, testing and grading are also given prominence. 2 hours Lecture and 3 hours Laboratory—3 credits

**AS 3000, 4000 Selected Topics I and II**

Special projects designed to meet individual needs of students in the specialized fields of agriculture. Projects will be arranged on a one-to-one basis with a department faculty member and with the approval of the Department Chairperson. Total Selected Topics credits accepted toward graduation is limited to 2 credits.

3 hrs of student/faculty instruction per week, 1 credit ea.

**AS 3031 Advanced Horse Breeding Management**

As advanced horse production course designed for students seeking a career in this field. Topics include stallion management, semen collection and insemination, mare management and foaling, foal management, and yearling horse sale preparation. This course is offered in a two semester sequence beginning with the Spring Semester. A time commitment by students is required outside of regularly scheduled class hours and during the summer.

Prerequisites: Horse Breeding Management and Permission of Instructor. 1 hour Lecture and Discussion and 6 hours Laboratory each semester —5 credits total

**AS 3123 Animal Husbandry Techniques**

The course presents an overview of techniques associated with handling, restraint, injections, and identification of livestock. Additional management techniques are performed on college livestock as livestock production schedules require.

1 hour Lecture and 3 hours Laboratory—2 credits

**AS 3209 Advanced Selection of Livestock**

This course is designed to instruct the student in the comprehensive judging and selection of livestock, as well as live animal pricing and grading. The student will also receive an in-depth study of reasons, preparation and presentation. Prerequisite: Livestock Evaluation or Permission of Instructor. 3 hours Laboratory—1 credit

**AS 3210 Mare and Foal Management**

An advanced course involving the care and management of breeding, pregnant and foaling mares. Care of newborn foals during the first six months of life are emphasized. Prerequisite: Horse Breeding Management. Time outside of regular class hours is required. 3 credits

**AS 4014 Beef Science**

This course provides an in-depth review of the beef industry and includes cow-calf, stocker, and feedlot production. Included is a study of the theory and practice of feeding, breeding and overall management of beef cattle. Prerequisites: Animal Feeding and Nutrition and Genetics of Dairy and Livestock Improvement. Time commitment required outside of regularly scheduled class hours. 2 hours Lecture and 3 hours Laboratory—3 credits

**AS 4016 Seminar (Animal Science)**

The study of recent research and development in the field of Animal Science with special emphasis on oral presentations.

Prerequisite: Speech. 1 hour of Lecture and Discussion—1 credit

**AS 4027 Sheep Science**

This is a comprehensive introduction to the feeding, breeding, housing, care and management of sheep. While the lectures focus on current practices employed in both large and small operations, the laboratories offer opportunities to apply management practices and to visit a variety of commercial operations in the area. Prerequisites: Animal Feeding and Nutrition and Genetics of Dairy and Livestock Improvement. 2 hours Lecture and 3 hours Laboratory—3 credits

**AS 4028 Swine Science**

This course provides a thorough introduction to all aspects of swine production and management. The lectures cover current practices regarding nutrition, breeding, housing, and health care, while laboratories provide opportunities to apply management techniques. Time commitment required outside of regularly scheduled class hours. 2 hours Lecture and 3 hours Laboratory—3 credits

**AS 4029 Poultry Science**

This course is a broad study covering the breeds and varieties of poultry used commercially for meat and eggs. It includes the production methods, management practices, marketing procedures, processing systems and techniques commonly current in the poultry industry. Time commitment required outside of regularly scheduled class hours.

2 hours Lecture and 3 hours Laboratory—3 credits

**AS 4041 Senior Research**

Selected seniors engage in supervised investigations involving library work and laboratory or field experiments related to Animal Science. Requirement: Permission of Department Chairperson. 1-3 credits

**AS 4051 Current Topics**

This is a research and discussion course that emphasizes topics of current interest to the animal and dairy industries. May be repeated to a maximum total of 2 credits.

1 hour Lecture and Discussion—1 credit

**AS 4106 Principles of Animal Nutrition**

A study of the principles and fundamentals of nutrition in livestock. Emphasis is placed on comparative relationships of good nutrients to metabolic processes in domestic animals and on current research and development in the field of animal nutrition. Prerequisite: Biochemistry or Permission of Instructor. 2 hours Lecture and 3 hours Laboratory—3 credits

***AS 4111 Yearling Horse Management***

An advanced course involving the management of yearling horses including sales preparation, development of a consignment, sales advertising, video taping sales horses, and working a yearling sale. Prerequisite: Horse Breeding Management. Time outside of regular class hours is required. 2 credits

***AS 4130 Advanced Livestock Judging***

This course provides intensive training in selection of livestock using subjective and objective measurements as well as the use of oral reasons to explain and defend decisions. An intercollegiate Livestock Judging Team will be selected from students taking this course. Due to considerable travel and time required, enrollment is limited and a 2.2 academic average is required. In addition, the course begins one week prior to the start of the Fall Semester. Prerequisite: Advanced Selection of Livestock. 3 hours Laboratory—1 credit

***AS 4214 Animal Diseases***

The study of the symptoms, prevention and treatment of the more common infections and communicable and metabolic diseases of farm animals. Prerequisites: General Microbiology and Anatomy and Physiology. 3 hours Lecture—3 credits

***AS 4219 Horse Breeding Management***

A course designed to acquaint the student with the operation of a horse breeding farm. Teasing, breeding, foaling, mare and stallion care, and foal care are emphasized. Students manage the college's breeding facility. Required management participation requires time commitments in addition to regularly scheduled class hours. 2 hours Lecture and 3 hours Laboratory—3 credits

***AS 4221 Equine Exercise Physiology***

This course involves a survey and the critical evaluation of the current concepts regarding the physiological and environmental factors associated with exercise in the horse. Prerequisite: DS 3118/3221 Anatomy and Physiology or ES 3217 Equine Anatomy and Physiology and permission of the Animal Science Department Chair. This course is offered on the campus of Rutgers University, New Brunswick, NJ as part of a credit exchange program. Elective for full-time Delaware Valley College students only. 3 hours Lecture—3 credits

***AS 4223 Advanced Equine Nutrition***

An advanced course in equine feeding and nutrition emphasizing current research being conducted in the field and the application of research findings to current problems associated with feeding the equine athlete. This course is offered on the campus of Rutgers University, New Brunswick, NJ as part of a credit exchange program. Elective for full-time Delaware Valley College students only. 3 hours Lecture—3 credits

***AS 5000 Hartpury Exchange***

A semester exchange with the Hartpury College in Gloucestershire, Great Britain for qualified Large Animal Science Majors. Students will pursue coursework in Animal Science and Livestock Production from the British perspective. Spring semester of Junior year. Minimum 3.0 GPA and permission of the Department. Contact the Large Animal Science Department for application procedures. 18 credits

***Employment Program******AS 2370 Employment Program***

Each student in Animal Science (Large) is required to spend 24 weeks (960 hours) in approved jobs related to the student's major. Registration for each Employment Program must occur prior to the beginning of a relevant experience. Registration materials are available from Career Services, located in Segal Hall. 24 weeks of On-the-Job-Training—4 credits