Animal Nutritional Sciences

Degrees Offered

- Bachelor of Science - Animal & Nutritional Sciences Major
- Bachelor of Science in Agriculture - Animal & Nutritional Sciences Major

Bachelor of Science - Animal & Nutritional Sciences Major

The curriculum in science, with its flexible design, provides you with the opportunity to acquire the necessary background in biochemistry, chemistry, mathematics, physics, and modern concepts of biology in preparation for professional schools of veterinary medicine, human medicine, dentistry, optometry, pharmacy, or graduate study in such fields as biochemistry, animal breeding, animal physiology and nutrition. Selection of individual courses will be your responsibility in consultation with an advisor.

Bachelor of Science in Agriculture - Animal & Nutritional Sciences Major

This curriculum will provide you with the opportunity to acquire the necessary background in agricultural economics, agronomy, breeding, nutrition, and physiology to prepare for a career in livestock, dairy, or poultry production and management, and food processing and technology.

GENERAL EDUCATION CURRICULUM

Please use this link to view a list of courses that meet each GEC requirement. (http://registrar.wvu.edu/current_students/general_education_curriculum)

NOTE: Some major requirements will fulfill specific GEC requirements. Please see the curriculum requirements listed below for details on which GECs you will need to select.

<table>
<thead>
<tr>
<th>General Education Curriculum</th>
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</thead>
<tbody>
<tr>
<td>ENGL 101 &amp; ENGL 102 Composition And Rhetoric and Composition And Rhetoric</td>
</tr>
<tr>
<td>or ENGL 103 Accelerated Academic Writing</td>
</tr>
<tr>
<td>GEC 2A - Mathematics</td>
</tr>
<tr>
<td>GEC 2B - Natural and Physical Science</td>
</tr>
<tr>
<td>GEC 2C - Additional GEC 2A, B or C</td>
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<tr>
<td>GEC 3 - The Past and Its Traditions</td>
</tr>
<tr>
<td>GEC 4 - Issues of Contemporary Society</td>
</tr>
<tr>
<td>GEC 5 - Artistic Expression</td>
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<td>GEC 6 - The Individual in Society</td>
</tr>
<tr>
<td>GEC 6F - First Year Seminar 1-3</td>
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<tr>
<td>GEC 7 - American Culture</td>
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<tr>
<td>GEC 8 - Western Culture</td>
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<tr>
<td>GEC 9 - Non-Western Culture</td>
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<td>Total Hours 38-45</td>
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CURRICULUM REQUIREMENTS FOR BACHELOR OF SCIENCE IN AGRICULTURE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

Select one of the following: 3-6

| ENGL 101 Composition And Rhetoric |
| & ENGL 102 and Composition And Rhetoric |
| or ENGL 103 Accelerated Academic Writing |

GEC Requirements (Objectives 3,4,5,6,7 & 9) 19-21

Biological and Physical Sciences Requirement

Biology Courses 8
Chemistry Courses 8
College Algebra or equivalent 3
Courses in Agriculture
Elect a minimum of a three-credit course, excluding Assigned Topics, in each of the following categories: 45

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
</tr>
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<tbody>
<tr>
<td>Animal Science</td>
<td></td>
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<tr>
<td>Plant Science</td>
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<tr>
<td>Soil Science</td>
<td></td>
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<tr>
<td>Agriculture Economics</td>
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Elect additional courses to obtain a total of 45 hours in the college.

Free Electives: 42-45
Total Hours: 128-136

**SUGGESTED PLAN OF STUDY FOR BACHELOR SCIENCE IN AGRICULTURE - ANIMAL & NUTRITIONAL SCIENCES MAJOR**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tr>
<td>ENGL 101</td>
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<td>HN&amp;F 126</td>
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<tr>
<td>A&amp;VS 105</td>
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<td>BIOL 102</td>
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<tr>
<td>MATH 126B</td>
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**Second Year**

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<th>Fall</th>
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<th>Spring</th>
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<td>4</td>
<td>ANNU 260</td>
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<tr>
<td>ARE 204</td>
<td>3</td>
<td>ANPH 301</td>
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<tr>
<td>ARE 150</td>
<td>3</td>
<td>LARC 212</td>
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**Third Year**

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<th>Fall</th>
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<th>Spring</th>
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<td>AGRN 202</td>
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<td>ANPR 341</td>
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<td>ANPH 400</td>
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<td>ARE 220</td>
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<td>ANPR 338</td>
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<tr>
<td>ARE 382</td>
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<td>A&amp;VS 410</td>
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<td>FDST 365</td>
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<td>VETS 302</td>
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**Fourth Year**

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<th>Spring</th>
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<td>A&amp;VS 402</td>
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<td>ARE 435</td>
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<td>ANPR 339</td>
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<td>ANPH 424</td>
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<td>ANPH 430</td>
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<td>Elective</td>
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Total credit hours: 128-131
CURRICULUM REQUIREMENTS FOR BACHELOR OF SCIENCE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

Select one of the following:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition And Rhetoric</td>
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<td>and Composition And Rhetoric</td>
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<tr>
<td>ENGL 103</td>
<td>Accelerated Academic Writing</td>
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GEC Requirements (Objectives 3,4,5,6,7,8,9)  

Calculus or Advanced Chemistry Requirement  

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>AEM 410</td>
<td>Introduction to Biochemistry</td>
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<tr>
<td>CHEM 231</td>
<td>Organic Chemistry: Brief Course</td>
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<tr>
<td>CHEM 233</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 234</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 235</td>
<td>Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 236</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
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<tr>
<td>MATH 153</td>
<td>Calculus 1a with Precalculus</td>
</tr>
<tr>
<td>MATH 154</td>
<td>Calculus 1b with Precalculus</td>
</tr>
<tr>
<td>MATH 155</td>
<td>Calculus 1</td>
</tr>
<tr>
<td>MATH 156</td>
<td>Calculus 2</td>
</tr>
<tr>
<td>AEM 341</td>
<td>General Microbiology</td>
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</table>

Biology Requirement  

Chemistry Requirement  

Physics Requirement  

Courses in Agriculture  

Free Electives 36-39  

Total Hours 121-127

SUGGESTED PLAN OF STUDY FOR BACHELOR OF SCIENCE - ANIMAL & NUTRITIONAL SCIENCES MAJOR

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<td>CHEM 115</td>
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<td>BIOL 115</td>
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<td>MATH 128</td>
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| Select one of the following:  
  MATH 126A | 3  
  MATH 126B | 3  |  
|  | 16    |  | 16    |

SECOND YEAR

<table>
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<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<td>ANNUS 260</td>
<td>3</td>
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<td>CHEM 233</td>
<td>3</td>
<td>CHEM 234</td>
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<tr>
<td>PHYS 101</td>
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<td>GEC Objective 5</td>
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THIRD YEAR

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<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<tr>
<td>ANPH 301</td>
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<td>GEN 371</td>
<td>4</td>
</tr>
<tr>
<td>AGBI 410</td>
<td>3</td>
<td>A&amp;VS 402</td>
<td>3</td>
</tr>
</tbody>
</table>

| Hours |  | Hours |  |
ANIMAL NUTRITION COURSES

ANNU 260. Animal Nutrition. 3 Hours.
PR: Two courses in chemistry. Digestion and metabolism of food nutrients, nutrient requirements of farm animals, and nutritive values of feeds and rations.

ANNU 293A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANNU 298A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

ANNU 361. Applied Nutrition 1. 3 Hours.
PR: ANNU 260. Feedstuffs, feed processing storage and additives, nutrient requirements and ration formulation for beef and dairy cattle, sheep, and horses. (2 hr. lec., 1 hr. lab.).

ANNU 362. Applied Nutrition 2. 3 Hours.
PR: ANNU 260. Applied feeding practices, nutrient requirements and ration formulation for poultry, swine, laboratory and companion animals. (2 hr. lec., 1 hr. lab.).

ANNU 393A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANNU 490. Teaching Practicum. 1-3 Hours.
PR: Consent. Teaching practice as a tutor or assistant.

ANNU 491. Professional Field Experience. 1-18 Hours.
PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANNU 492A-Z. Directed Study. 1-3 Hours.
Directed study, reading, and/or research.

ANNU 493A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANNU 494A-Z. Seminar. 1-3 Hours.
PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANNU 495. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

ANNU 496. Senior Thesis. 1-3 Hours.
PR: Consent.

ANNU 497. Research. 1-6 Hours.
Independent research projects.

ANNU 498A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

ANIMAL PHYSIOLOGY COURSES

ANPH 293A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPH 298A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.
ANPH 301. Intro to Animal Physiology. 3 Hours.
PR: BIOL 102 or consent. The function and regulation of the principal systems of the animal body.

ANPH 393A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPH 400. Growth/Lactation Physiology. 3 Hours.
PR: ANPH 301 or consent. Animal life cycles; nature of growth and lactation; effects of biological, environmental, and social-psychological variants; physiological regulation and control.

ANPH 405. Animal Physiology Laboratory. 2 Hours.
PR: ANPH 301 or consent. Laboratory study of the physiological systems of animals and the influences of environment on these systems. (4 hr. lab.).

ANPH 424. Physiology of Reproduction. 3 Hours.
PR: Course in biology. Comparative physiology of reproduction in higher animals; endocrine functions involved in reproduction; genetic and environmental variations in fertility mechanisms.

ANPH 425. Reproductive Laboratory. 1 Hour.
PR or CONC: ANPH 424 and junior standing or consent. Laboratory study of the anatomy and function of the reproductive physiology system in animals.

ANPH 426. Applied Animal Reproduction. 1 Hour.
PR or CONC: ANPH 424 and junior standing or consent. Laboratory study, including rectal pregnancy examination, of reproductive physiology system in animals.

ANPH 430. Breeding of Farm Animals. 3 Hours.
PR: Course in genetics or consent. Application of principles of quantitative genetics to the improvement of farm animals.

ANPH 440. Equine Exercise Physiology. 3 Hours.
PR: A&VS 281 and ANPH 301. Evaluation of research in equine exercise science; physiological and mental adaptation to training; performance nutrition; unsoundness during training and competition; management and training regimes.

ANPH 480. Behavioral Patterns of Animals. 3 Hours.
Examination of the bases for exhibition and control of behavioral patterns of domesticated and nondomesticated species. (2 hr. lec., 3 hr. lab.).

ANPH 490. Teaching Practicum. 1-3 Hours.
PR: Consent. Teaching practice as a tutor or assistant.

ANPH 491. Professional Field Experience. 1-18 Hours.
PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANPH 492A-Z. Directed Study. 1-3 Hours.
Directed study, reading, and/or research.

ANPH 493A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPH 494A-Z. Seminar. 1-3 Hours.
PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANPH 495. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

ANPH 496. Senior Thesis. 1-3 Hours.
PR: Consent.

ANPH 497. Research. 1-6 Hours.
Independent research projects.

ANPH 498A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

ANIMAL PRODUCTION COURSES

ANPR 293A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPR 298A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

ANPR 308. Animal Production Experience. 1-4 Hours.
Experience in operating a dairy or livestock farm, including layers or broilers, calving, lambing, or farrowing of hogs. (Can be repeated up to a maximum of 4 credits. 3 hr. lab./per hr. of credit.).
ANPR 336. Dairy Cattle History/Selection. 3 Hours.
To familiarize the student with the breeds of dairy cattle as well as modern concepts in phenotype and performance record evaluation. (2 labs.).

ANPR 338. Horse/Livestock/Poultry Evaltn. 3 Hours.
Appraisal of horses, cattle, sheep, poultry, and swine. Evaluation of scientific techniques used in selecting those species. Tours of representative flocks, herds and stables will be required. (Two 3 hr. labs.).

PR: FDSC 334 or ANPR 336 or ANPR 338 or consent. Advanced selection, evaluation and grading of domestic livestock species and animal products. Tours of representative flocks, herds and processing plants will be required. (Can be repeated up to a maximum of 4 credits. 3 hr. lab./per hr. credit.).

ANPR 341. Beef Production. 3 Hours.
PR: ANNU 260. Applying the principles of breeding, nutrition, physiology, and economics for the production of beef cattle.

ANPR 343. Beef Production Laboratory. 1 Hour.
CoReq: ANPR 341. Experiences in beef cattle management, including feeding, handling, health programs and farm visits. (3 hr. lab.).

ANPR 344. Advanced Horse Management. 4 Hours.
PR: ANNU 260. Application of breeding, nutrition, physiology, and pathology to production and management of light horses.

ANPR 350. Milk Production. 3 Hours.
PR: ANNU 260. Feeding and management of dairy cattle. (2 hr. lec., 3 hr. lab.) (Regional campus course requires 30 hours of work on the campus farm.).

ANPR 353. Pork Production. 3 Hours.
PR: ANNU 260. Physiological and economical bases of pork production. (2 hr. lec., 3 hr. lab.).

ANPR 356. Small Ruminants. 3 Hours.
PR: ANNU 260. Genetics, nutrition, physiology, health and management of small ruminants in production of fiber, meat and milk, in local, regional and global contexts.

ANPR 367. Poultry Production. 3 Hours.
PR: ANNU 260. Special phases of broiler and egg production, disease control, labor-saving studies, and recent designs in housing and equipment for all types of poultry.

ANPR 369. Poultry Production Laboratory. 1 Hour.
CoReq: ANPR 367. Laboratory study of poultry production systems, related feed manufacturing and product processing practices. (3 hr. lab.).

ANPR 393A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPR 490. Teaching Practicum. 1-3 Hours.
PR: Consent. Teaching practice as a tutor or assistant.

ANPR 491. Professional Field Experience. 1-18 Hours.
PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANPR 492A-Z. Directed Study. 1-3 Hours.
Directed study, reading, and/or research.

ANPR 493A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPR 494A-Z. Seminar. 1-3 Hours.
PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANPR 495. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

ANPR 496. Senior Thesis. 1-3 Hours.
PR: Consent.

ANPR 497. Research. 1-6 Hours.
Independent research projects.

ANPR 498A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

ANIMAL AND VETERINARY SCIENCE COURSES

A&VS 105. Professional Orientation. 2 Hours.
PR: Freshman standing or consent. Orientation to WVU and the academic programs in the Division of Animal and Veterinary Sciences; related career and professional opportunities. Field trips required.
A&VS 150. Intro to Animal Science. 2 Hours.
Survey of major disciplines in animal and veterinary sciences with emphasis on related terminology; study of the development of breeds of livestock and their identification.

A&VS 199. Orientation to Biochemistry. 1 Hour.
Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

A comparative study of the production of meat, milk, eggs and wool. Nutrition, physiology genetics, hygiene and physical environment, and economics are discussed as bases for sound managerial decisions. (1 hr. lab.).

A&VS 275. Companion Animal Science. 3 Hours.
Basic physiology, nutrition and genetics; economic and ethical consideration of pet ownership; benefits of companion animals in society; aspects of handling and training, behavior, and common health diseases and parasitic problems of pet animals.

A&VS 276. Service Dog Training. 3 Hours.
Application of current principles, theory, and practices for training service dogs.

A&VS 281. Intro to Equine Care and Use. 3 Hours.
Survey of basic equine care, breeds, use, management, and behavior with a lab in equine safety and handling.

A&VS 293A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

A&VS 298A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

A&VS 330. Equine Facility Design & Manage. 3 Hours.

A&VS 343. Equine Hoof and Limb. 3 Hours.
Students in this course gain in-depth knowledge of the anatomy and physiology of the equine hoof and limb. Students will study tendons, ligaments, bones, soundness, hoof structure, shoeing principles, laminitis, and navicular disease.

A&VS 370. Riding Theory and Techniques. 3 Hours.
PR: A&VS 281. Advanced methods and techniques for performance in hunter and stock horse events; anatomical, physiological, and psychological implications; preparation of horses and riders.

A&VS 372. Careers in the Equine Industry. 3 Hours.
Provides an in-depth understanding of the careers available in the equine industry and prepares students to enter the job market.

A&VS 393A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

A&VS 402. Values and Ethics - CAP. 3 Hours.
PR: Senior standing or consent. Current ethical aspects in agriculture and forestry and their impact on societal values.

A&VS 404. Career Development. 1 Hour.
Identification of career opportunities and preparation of employment applications. Development of personal skills for interviewing for employment.

A&VS 410. Calving Management. 3 Hours.
PR: Junior standing and ANNU 260. Application of current management practices for calving beef cows for early calf management and for service sire selection.

A&VS 411. Dairy Heifer Management. 3 Hours.
PR: Junior standing and ANNU 260. Application of current management practices for raising dairy calves from birth through establishment of pregnancy.

A&VS 412. Lambing Management. 1 Hour.
PR: Junior standing and ANNU 260. Application of current management practices for lambing ewes and lamb management from birth through first months of life.

A&VS 413. Camelid Physiology & Mangmnt. 3 Hours.
PR: Junior standing and ANNU 260. Application of current management practices for alpaca management.

A&VS 425. Princ of Thera Horsemanship 1. 3 Hours.
Explores the history, organization, principles, and procedures of an equine assisted activities and therapies program with the use of therapy horses for persons with disabilities.

A&VS 426. Princ of Thera Horsemanship 2. 3 Hours.
PR: A&VS 425. Expand knowledge of therapeutic horsemanship based on their learning from A&VS 425. Criteria for becoming a professional in equine assisted activities and therapy fields will be emphasized.

A&VS 435. Marketing Registered Livestock. 3 Hours.
PR: Junior standing or consent. Application of strategies for marketing animals in the registered livestock industry in West Virginia and the surrounding states.
PR: ANNU 260. Evaluation of current research in animal science; its application to production and management. Note: Previously listed as ANPR 250.

A&VS 461. Racehorse Industry Tour. 3 Hours.
Travel course designed to introduce students to the Thoroughbred and Standard-bred Racing Industries, including career opportunities and current events within it.

A&VS 462. Performance Horse Indusr. Tour. 3 Hours.
Travel course designed to introduce students to the various aspects of the Performance Horse Industry, including career opportunities and current events within it.

A&VS 463. Equine Events Management. 3 Hours.
Planning, marketing, facility preparations and horse show management necessary to run a successful nationally-sanctioned equine event.

To be eligible to register in A&VS 480, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480A. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480A, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480B. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480B, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480C. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480C, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480D. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480D, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480E. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480E, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480F. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480F, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480G. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480G, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480H. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480H, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480I. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480I, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480J. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480J, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480K. Assigned Topics. 1-6 Hours.
To be eligible to register in A&VS 480K, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480L. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480L, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480M. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480M, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480N. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480N, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.
A&VS 480O. Assigned Topics. 1-4 Hours.
To be eligible to register for A&VS 480O, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480P. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480P, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480Q. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480Q, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480R. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480R, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480S. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480S, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480T. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480T, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480U. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480U, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480V. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480V, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480W. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480W, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480X. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480X, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480Y. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480Y, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 480Z. Assigned Topics. 1-4 Hours.
To be eligible to register in A&VS 480Z, the student must (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 481. Volunteerism for EAAAT. 3 Hours.
Discuss and demonstrate the importance of the role of the volunteer in the equine assisted activities and therapies fields.

A&VS 482. Practicum - EAAT Instruct Cert. 3 Hours.
Prepares therapeutic riding instructors for certification within the guidelines of the Professional Association of Therapeutic Horsemanship (PATH).

A&VS 490. Teaching Practicum. 1-3 Hours.
PR: Consent. Teaching practice as a tutor or assistant.

A&VS 491. Professional Field Exper - CAP. 1-18 Hours.
PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

A&VS 492A-Z. Directed Study. 1-3 Hours.
Directed study, reading, and/or research.

A&VS 493A-Z. Special Topics. 0-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

A&VS 494A-Z. Seminar. 1-3 Hours.
PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

A&VS 495. Independent Study. 1-6 Hours.
Faculty-supervised study of topics not available through regular course offerings.
A&VS 496. Senior Thesis: Capstone. 1-3 Hours.
PR: Consent.

A&VS 497. Research. 1-6 Hours.
Independent research projects.

A&VS 498A-Z. Honors. 1-3 Hours.
PR: Students in honors program and consent by the honors director. Independent reading, study or research.

A&VS 499A-Z. Global Service Learning. 3 Hours.
PR: Consent. Theory and practice of global service-learning. The main objective will be to pair the experiential aspects of meaningful and sustained service in the host community with work from the student’s anchor course by offering a methodological framework for cultural immersion and community service as well as adding to the content of the anchor course.

VETERINARY SCIENCE COURSES

VETS 293A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

VETS 302. Animal Pathology. 3 Hours.
PR: ANPH 301 or consent. Diseases of farm animals with special emphasis on their cause, prevention, and control.

VETS 401. Veterinary Anatomy. 3 Hours.
PR: Junior standing or consent. Functional study of domestic and farm animal anatomy.

VETS 403. Veterinary Anatomy Laboratory. 1 Hour.
PR: Junior standing and PR or CONC: VETS 401. Gross dissection techniques used for the study of functional anatomy in domestic animals.

VETS 405. Parasitology. 3 Hours.
PR: (BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104) or (BIOL 115 and BIOL 116). Common parasites of farm animals, their life cycles, effects on the host, diagnosis, control, and public health importance. (3 hr. lec., 1 hr. lab.).

VETS 411. Principles of Lab Animal Sci. 3 Hours.
PR: Consent for undergraduates. The production, genetics, physiology, nutrition, disease and regulations of laboratory animals used in research and teaching. This course meets minimal requirements for laboratory animal technical certification programs of the American Association of Laboratory Animal Science (AALAS).

VETS 490. Teaching Practicum. 1-3 Hours.
PR: Consent. Teaching practice as a tutor or assistant.

VETS 491. Professional Field Experience. 1-18 Hours.
PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

VETS 493A-Z. Special Topics. 1-6 Hours.
PR: Consent. Investigation of topics not covered in regularly scheduled courses.

VETS 494A-Z. Seminar. 1-3 Hours.
PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

VETS 496. Senior Thesis. 1-3 Hours.
PR: Consent.

VETS 498A-Z. Honors. 1-3 Hours.
PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.