Animal Physiology, M.S.

Christopher Ashwell (Christopher.Ashwell@mail.wvu.edu), Director - School of Agriculture and Food Systems

Degree Offered

- Master of Science

Nature of the Program

The Master of Science in animal physiology in the Davis College of Agriculture and Natural Resources allows maximum flexibility in courses and research problems. Students have the opportunity to work with beef and dairy cattle, sheep, swine, poultry, or laboratory animals. Research problems in farm animals and laboratory animals form the basis for many studies, but a comparative approach is emphasized. A Master of Science degree is available as a thesis or coursework option. For additional information, contact Dr. Nettie Freshour (Nettie.Freshour@mail.wvu.edu) (304) 293-2651.

FACULTY

PROFESSORS

- Scott A. Bowdridge - Ph.D. (Virginia Tech)
  Food animal production, parasite immunology
- Robert A. Dailey - Ph.D. (University of Wisconsin)
  Reproductive physiology
- P. Brett Kenney - Ph.D. (Kansas State University)
  Meat science
- Hillar Klandorf - Ph.D. (British Council for National Academic Awards)
  Physiology
- Joseph S. Moritz - Ph.D. (Kansas State University)
  Nutrition and feed manufacture
- Matthew E. Wilson - Ph.D. (Iowa State University)
  Reproductive physiology
- Jianbo Yao - Ph.D. (McGill University)
  Functional genomics

ASSOCIATE PROFESSORS

- Kimberly M. Barnes - Ph.D. (University of Nebraska)
  Lipid metabolism
- Eugene E. Felton - Ph.D. (University of Missouri)
  Animal science and ruminant nutrition
- K. Marie Krause - Ph.D. (University of Wisconsin-Madison)
  Ruminant nutrition

ASSISTANT PROFESSOR

- Ibukun Ogunade - Ph.D. (University of Florida)
  Livestock production

TEACHING PROFESSORS

- Margaret A. Minch - D.V.M. (Ohio State University)
  Veterinary medicine
- Crystal E. Smith - Ed.D. (West Virginia University)
  Equine management

TEACHING ASSISTANT PROFESSOR

- Cassandra Lamb - Ph.D. (Cornell University)
  Biochemistry

SERVICE ASSISTANT PROFESSOR

- Madonna M. Higgins - D.V.M. (Auburn University)
  Veterinary medicine

VISITING INSTRUCTOR

- Lindsay Livengood - Director of Operations (West Virginia University)
  Hearts of Gold Service Dogs

Admissions for 2026-2027

Requirements are similar to those in other biological sciences. The student should have completed basic courses in the physical and biological sciences, including genetics, nutrition, and physiology. Deficiencies may prolong the time needed to complete degree programs.

A regular graduate student is a degree-seeking student who meets all the criteria for regular admission to a program of their choice and under no requirements to make up deficiencies.

For regular admission, a student must:

- Possess a baccalaureate degree from a college or university and have at least a grade point average of 2.75 on a 4.0 scale (or an average of 3.0 or higher for the last sixty credit hours).
- Provide three letters of reference from persons acquainted with the applicant's professional work, experience, or academic background.
- Submit a written statement of 500 words or more indicating the applicant's goals and objectives relative to receiving a graduate degree.
- Applicants are advised to contact a potential faculty advisor, https://www.davis.wvu.edu/faculty-staff/directory?tags=ANS (https://www.davis.wvu.edu/faculty-staff/directory/?tags=ANS) before they initiate the application process.

*International students must meet WVU's minimum score requirement for English language proficiency (https://graduateadmissions.wvu.edu/information-for/international-students/).

**A standardized graduate examination score (GRE or MCAT) is not required for admission to this degree.

Major Code: 1716

A candidate for the M.S. degree in Animal Physiology must meet all University, College, Division, and Program requirements as outlined in the WVU Graduate Catalog.

Program Requirements

All M.S. degree candidates are required to follow a planned program of study. The student develops the plan of study during their first year in the program in conjunction with the graduate committee. The plan must be approved by the Director of the Division and the Associate Dean for Academic Affairs of the Davis College.

Code	Title	Hours
Thesis Option: *		
A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.		
Core Courses		
Statistical Methods 1		3
STAT 511	Statistical Methods 1	
BIOS 501	Applied Biostatistics 1	
EDUC 652	Statistical Methods 1	
Statistical Methods 2		3
STAT 512	Statistical Methods 2	
BIOS 503	Applied Biostatistics 2	
EDUC 653	Statistical Methods 2	
ANNU 696	Graduate Seminar	1
Additional Coursework Requirements		**17**
Research		
ANPH 697	Research	6
Plan of Study		

Thesis **		
Total Hours		30

Code	Title	Hours
Non-Thesis Option: *		
A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.		
Core Courses		
Statistical Methods 1		3
STAT 511	Statistical Methods 1	
EDUC 652	Statistical Methods 1	
BIOS 501	Applied Biostatistics 1	
Statistical Methods 2		3
STAT 512	Statistical Methods 2	
EDUC 653	Statistical Methods 2	
BIOS 503	Applied Biostatistics 2	
ANNU 696	Graduate Seminar	1
Additional Coursework Requirements		**29**
Plan of Study		
Total Hours		36

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Students must complete a minimum of 30 total hours, of which at least 24 hours must be coursework other than research, thesis, project, internship, etc. credits.The thesis option will require 30 credit hours, 24 hours of regular course work plus 6 hours credit for a thesis. The non-thesis option will require 36 hours of course work. There is a common core curriculum for both options. All additional course requirements will be determined by the student in consultation with the major advisor and graduate committee members and presented in the student's Plan of Study. No more than three hours of research/problem report credits can be applied to the Non-Thesis option.
Students in either the thesis or the non-thesis option must pass an oral examination to be approved for graduation.

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Students in the MS-Thesis Option will be required to complete a thesis. They may identify a problem for study on their own, with approval from their graduate committee or they may work on a faculty member’s research study. The scope of the research problem must be approved by the student’s graduate committee. Students are required to defend their thesis in an open seminar presentation.

Major Learning Outcomes

ANIMAL PHYSIOLOGY

1. Critically evaluate the literature in their field of study as new knowledge is accumulated.
2. Identify research needs germane to providing answers to societal problems. Answer research questions that enhance fundamental knowledge and/or solve societal problems.
3. Apply research findings to professional practice in their fields.
4. Effectively use oral and written communication to share information and ideas.
5. Be qualified to take advanced-level professional positions in their respective fields.
6. Be qualified for doctoral studies in their field.