VMS - PATHOBIOLOGY, PHD

for the degree of Doctor of Philosophy in Veterinary Medical Science - Pathobiology

The Department of Pathobiology offers graduate programs leading to the degree of Master of Science. Areas of specialization include epidemiology, infectious diseases, immunology, virology, bacteriology, anatomic pathology, and clinical pathology. Each specialty area has a core of required courses supplemented by other courses within the Department of Pathobiology and from other departments of the Graduate College. Adequate laboratory and animal holding space to conduct the research of the faculty and graduate students is provided in the Basic Sciences Building, Veterinary Teaching Hospitals, and the Veterinary Research Farm.

Admission

Applicants for graduate study in the Department of Pathobiology must have a minimum grade point average of 3.0 (A = 4.0). Grade point averages will be calculated on the last 60 hours of undergraduate studies for those without the D.V.M. degree and on the entire professional curriculum for those with the D.V.M., or equivalent, degree. Applicants with a graduate degree or with some graduate coursework will be evaluated on the basis of their graduate work as well as their undergraduate or professional records. Qualifications of students must be approved by the department's Graduate Admissions Committee.

The Graduate Record Examination (GRE) is required and must have been taken within the last five years prior to application. Usually, successful candidates score an average in the 80th percentile or higher on each of the three portions of the GRE to be eligible for consideration.

International applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). A score of at least 600 on the paper-based test, or 250 on the computer-based test, is required. Those applicants who gain admission on the basis of their academic credentials, but score below 600 on the TOEFL, will be admitted on limited status and required to take the English Placement Test (EPT) upon their arrival. Students are exempt from the TOEFL requirement if they have completed at least two academic years of full-time study at an institution where the language of instruction is English during the five-year period prior to the proposed date of enrollment. Students also need to take the Test of Spoken English (TSE) oral exam and score at least 50. We are not accepting applications for the M.S./D.V.M. program at this time.

Specialization in Infectious Diseases

The Department of Pathobiology offers an area of specialization in infectious diseases. The program is flexible and provides the student with proficiency in several areas of epidemiology, immunology, parasitology, virology, bacteriology and molecular pathogenesis of infectious disease and ecology of infectious diseases. Students electing this area should have completed coursework in basic genetics, biochemistry, and microbiology. The program of study for each student in the specialization is decided individually. Interested students should direct inquiries and applications to the department.

Specialization in Anatomic, Clinical and Zoo Pathology

The Department of Pathobiology offers an area of specialization in anatomic, clinical, and zoo pathology. These programs are residency programs available to qualified graduate veterinarians. Veterinarians entering this specialization will be specifically trained in pathology so they can function as competent and innovative professionals and assume leadership roles in academia, government, and industry. Students electing this area must have completed coursework in the D.V.M. curriculum. The program of study for each student in these specializations is decided individually. Interested students should direct inquiries and applications to the department. Students completing the specialization will be qualified to take the ACVP Board examinations during the program.

Joint Degree Program

Students accepted into the Veterinary Medical Scholars Program (https://vetmed.illinois.edu/education/dvm-phd-program/) can complete a D.V.M. and Ph.D. simultaneously.

Faculty Research Interests

Expertise in the Department of Pathobiology spans epidemiology, immunology, parasitology, virology, bacteriology and comparative pathology. Through its multidisciplinary approach, the department addresses complex problems in biomedical and veterinary sciences. Research emphasizes multi-host disease systems, with the goal of improving human and animal health at the individual and population levels in a broad social and environmental context. Specific areas of research interest include:

- Molecular mechanisms of infection, host-pathogen interactions, and immunity
- Strategies for vaccine design and disease control
- Experimental pathology
- Molecular virology
- Bacteriology
- Cancer biology
- Spatial and contextual aspects of health and illness, combining human, animal, and ecosystem health
- Mathematical modeling of infectious diseases to promote disease control
- Foreign animal disease prevention, preparedness, and response

Training Programs, Centers and Institutes

Our faculty provide undergraduate and graduate instruction in molecular virology, infectious diseases, epidemiology, bacteriology, parasitology and anatomic and clinical pathology. They also participate in interdisciplinary training programs including the Emergent Behaviors of Integrated Cellular Systems (EBICS) Center, the Division of Nutritional Sciences (http://www.nutrsci.illinois.edu/) , Beckman Institute (http://www.beckman.uiuc.edu/), and the Institute for Genomic Biology (http://www.igb.illinois.edu/). Pathobiology faculty also lead the Anatomical and Clinical Pathology Residency Program (http://vetmed.illinois.edu/cb/vcpharm.html), which prepares graduate veterinarians for the certifying examination of the American College of Veterinary Pathologists (ACVP).

Graduate Teaching Experience

Experience in teaching is considered a vital part of the graduate program and is required as part of the academic work of all M.S. candidates in this program.

Financial Aid

A limited number of teaching and research assistantships or associate positions are available.

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For additional details and requirements, refer to the department's graduate degree requirements and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

Code	Title	Hours
PATH 524	Biostatistics	4
PATH 590	Seminar	2
PATH 599	Thesis Research (0 min. applied toward degree)	0
Elective hours outside of PATH and within the Graduate College		12
Total Hours		**64**

Other requirements

Requirement	Description
Other requirements may overlap	
Minimum 500-level Hours Required Overall:	12 (8 in PATH)
Teaching experience is required	
Communicative skills requirements	
Masters degree required for admission to Ph.D.?	No, but Masters-level requirements must be met (32 hours min.)
Qualifying Exam required	Yes
Preliminary Exam required	Yes
Final Exam/Dissertation Defense required	Yes
Dissertation deposit required	Yes
Minimum GPA:	3.0

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Graduates of the PhD program in Pathobiology will:

1. Demonstrate comprehensive knowledge of their chosen sub-discipline that forms the foundation of scientific study in infectious diseases of humans and animals.
2. Formulate ideas and concepts and perform hypothesis-driven research beyond the current boundary of knowledge to make substantive contributions to the field.
3. Demonstrate mastery in scientific techniques and methodology and data analysis.
4. Use effective written and oral communication skills to deliver complex ideas to students in classrooms and to general public.
5. Be prepared to perform high-quality research in academia, industry, or government agencies in an ethical and professional manner.

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Graduate Degree Programs in Pathobiology

- VMS - Pathobiology, MS (http://catalog.illinois.edu/graduate/veterinary/medical-science-pathobiology-ms/)
- Pathobiology Research Scholars
- VMS - Pathobiology, PhD (p. 1)
- Pathobiology Research Scholars
- Joint Degree Program: Veterinary Medical Scholars Program
- DVM and VMS - Pathobiology, PhD (http://catalog.illinois.edu/graduate/veterinary/joint-degree/dvm-veterinary-medical-scholars/)

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College of Veterinary Medicine

College of Veterinary Medicine website (http://www.vetmed.illinois.edu/)
Dean: Peter D. Constable

Department of Pathobiology (https://www.vetmed.illinois.edu/path/)

Director of Graduate Studies: Keith Jarosinski
2522 Veterinary Medicine Basic Sciences Building
2001 South Lincoln Avenue
Urbana, IL 61802
(217) 333-2449

Admissions

Karen Nichols (klp68@illinois.edu)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)