PATHOBIOLOGY

www.vetmed.illinois.edu/path/ (http://www.vetmed.illinois.edu/path)

Dean of the College of Veterinary Medicine: Peter D. Constable
Interim Head of the Department: Mark S. Kuhlenschmidt
Director of Graduate Studies: Mariangela Segre
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Major: Veterinary Medical Science - Pathobiology
Degrees Offered: M.S., Ph.D.

Joint Degree Program: Veterinary Medical Scholars Program
Degrees Offered: D.V.M. and Ph.D.

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Pathobiology and Doctor of Medicine (M.D.) through the Medical Scholars Program (https://www.med.illinois.edu/mdphd).

Graduate Degree Programs

The Department of Pathobiology offers graduate programs leading to the degrees of Master of Science and Doctor of Philosophy. 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 microbiology, parasitology, epidemiology, immunology, 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 Programs

Students accepted into the Veterinary Medical Scholars Program (http://www.vetmed.illinois.edu/asa/vmsp.html) can complete a D.V.M. and Ph.D. simultaneously.

Students accepted into the Medical Scholars Program (https://www.med.illinois.edu/mdphd) can complete a M.D. and Ph.D. simultaneously.

Faculty Research Interests

Expertise in the Department of Pathobiology spans epidemiology, microbiology, immunology, parasitology, virology, 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

Information listed in this catalog is current as of 12/2015
• 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/vcp Pharm.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. and Ph.D. candidates in this program.

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

Master of Science in VMS Pathobiology

Thesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PATH 590</td>
<td>Seminar</td>
</tr>
<tr>
<td>PATH 524</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>Electives</td>
<td>0-27</td>
</tr>
<tr>
<td>PATH 599</td>
<td>Thesis Research (0 min applied toward degree)</td>
</tr>
<tr>
<td>Total Hours</td>
<td>32</td>
</tr>
</tbody>
</table>

Other Requirements

- Other Requirements may overlap
- Final comprehensive examination
- Minimum 500-level Hours Required: 12 (8 in PATH)
- Overall: 32

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

Non-Thesis Option

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PATH 590</td>
<td>Seminar</td>
</tr>
<tr>
<td>PATH 524</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>Electives</td>
<td>27</td>
</tr>
<tr>
<td>Total Hours</td>
<td>32</td>
</tr>
</tbody>
</table>

Other Requirements

- Other Requirements may overlap
- A publishable manuscript
- Minimum 500-level Hours Required: 12 (8 in PATH)
- Overall: 32

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

Doctor of Philosophy in VMS Pathobiology

<table>
<thead>
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<th>Course</th>
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</thead>
<tbody>
<tr>
<td>PATH 590</td>
<td>Seminar</td>
</tr>
<tr>
<td>PATH 524</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>Elective hours outside of PATH and within the Graduate College</td>
<td>12</td>
</tr>
<tr>
<td>PATH 599</td>
<td>Thesis Research (0 min applied toward degree)</td>
</tr>
<tr>
<td>Total Hours</td>
<td>64</td>
</tr>
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Other Requirements

- Other requirements may overlap
- Teaching experience is required
- Communicative skills requirements
- Masters Degree Required for Admission to PhD: No, but Masters level requirements must be met (32 hours min)
- Qualifying Exam Required: No
- Preliminary Exam Required: Yes
- Final Exam/Dissertation Defense Required: Yes
- Dissertation Deposit Required: Yes
- Minimum GPA: 3.0

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

Joint Degree Program

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