PATHOBIOLOGY, MS

for the degree of Master of Science in VMS Pathobiology

dean of the college of veterinary medicine: Peter D. Constable
department website: https://www.vetmed.illinois.edu/path
department faculty:
overview of college admissions & requirements:
college website:
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address: 2522 Veterinary Medicine Basic Sciences Building, 2001
South Lincoln Avenue, Urbana, IL 61802
phone: (217) 333-2449

director of graduate studies: Dongwan Yoo
graduate office:

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.

Graduate Degree Programs

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 (http://
www.vetmed.illinois.edu/asa/vmsp.html) 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

Information listed in this catalog is current as of 12/2019
• 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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### Thesis Option

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>PATH 590</td>
<td>Seminar</td>
<td>1</td>
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<tr>
<td>PATH 524</td>
<td>Biostatistics</td>
<td>4</td>
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<tr>
<td>Electives</td>
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<tr>
<td>PATH 599</td>
<td>Thesis Research (0 min applied toward degree)</td>
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<td>Total Hours</td>
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**Other Requirements**

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<th>Description</th>
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<tbody>
<tr>
<td>Other Requirements may overlap</td>
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</tr>
<tr>
<td>Final comprehensive examination</td>
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</tr>
<tr>
<td>Minimum 500-level Hours Required</td>
<td>12 (8 in PATH)</td>
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<tr>
<td>Overall:</td>
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<tr>
<td>Minimum GPA:</td>
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1 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

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