# VMS - COMPARATIVE BIOSCIENCES, PHD

*for the degree of Doctor of Philosophy in Veterinary Medical Science - Comparative Biosciences*

## Admission

Applicants for graduate study in Comparative Biosciences 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 Studies Committee.

The Graduate Record Examination (GRE) is optional.

Domestic and international applicants whose native language is not English must fulfill the language requirements as stated by the Graduate College (Refer to the guidelines of the Graduate College (https://grad.illinois.edu/admissions/instructions/04c/)). Those applicants who may gain admission based on their exceptionally high academic credentials but scored below the required Graduate College scores will be admitted on limited (or probational) status and are required to take the English Placement Test (EPT), administered by Illinois upon their arrival.

An applicant may be exempt from taking the language requirements if, within five years of the proposed date of enrollment in the University of Illinois Urbana-Champaign, they have successfully completed at least two academic semesters as a full-time study in a country where English is the primary language and in a school where English is the primary instructional language. The student will need to petition the Graduate Program for this exemption.

All students whose native language is not English and are interested in a Teaching Assistantship with contact with students must take the English Proficiency Interview (EPI) examination and pass.

## Joint Degree Programs

Students accepted into the Veterinary Medical Scholars Program (https://vetmed.illinois.edu/education/doctor-veterinary-medicine-degree/research-opportunities-dvm-students/veterinary-medical-scholars-program/) can complete a D.V.M. and Ph.D. degree.

## 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 Ph.D. candidates in this program.

## Faculty Research Interests

Experimental models range from stem cells to rodent models to domestic animals, and human patients. Exciting research is being conducted by CB faculty in the areas of:

- endocrine/reproductive biology
- developmental and stem cell research
- neurobiology
- comparative pharmacology and toxicology
- biochemistry

## Training Programs, Centers, and Institutes

Our faculty provide graduate instruction in stem cell research, molecular genetics, pharmacology and toxicology. They also participate in interdisciplinary training programs including the NIEHS-funded Environmental Toxicology Training Program (http://vetmed.illinois.edu/cb/nihtox/), the Interdisciplinary Environmental Toxicology Training Program (https://vetmed.illinois.edu/ietp/), the Reproductive Biology Program (https://vetmed.illinois.edu/peer/), the Neuroscience Program (http://neuroscience.illinois.edu/), the Nutritional Sciences Division (https://nutrsci.illinois.edu/), Beckman Institute (http://www.beckman.uiuc.edu/), and the Institute for Genomic Biology (http://www.igb.illinois.edu/).

## Financial Aid

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

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For additional details and requirements refer to the department's degree programs information (https://vetmed.illinois.edu/intranet-cb/) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

| Code | Title | Hours |
|---|---|---|
| CB 590 | Seminar (Thesis Defense seminar 1 hour and Prospectus Exam 1 hour) | 2 |
| CB 591 | Biosciences Seminar Series (May be repeated for up to 4 hours of credit) | 2 |
| CB 592 | Special Problems (min/max applied toward degree. Limit of 12 credit hours total. This limit includes credits accrued during the MS degree.) | 12 |
| CB 599 | Thesis Research (min/max applied toward degree) | 0 |
| Students must select ONE of the following courses with the advice of his/her dissertation committee: | | 3-4 |
| MCB 354 | Biochem & Phys Basis of Life | |
| MCB 401 | Cellular Physiology | |
| MCB 402 | Sys & Integrative Physiology | |
| MCB 410 | Developmental Biology, Stem Cells and Regenerative Medicine | |
| MCB 450 | Introductory Biochemistry | |
| MCB 480 | Eukaryotic Cell Signaling | |
| MCB 501 | Advanced Biochemistry | |
| Select one of the following: [1] | | 4 |
| PATH 524 | Biostatistics | |
| VCM 572 | Clinical Epidemiology | |

| | | |
|---|---|---|
| CPSC 440 | Applied Statistical Methods I | |
| **Total Hours** | | **64** |

[1] *Or approved equivalent course.*

## Other Requirements [1]

| Requirement | Description |
|---|---|
| Other requirements may overlap | |
| Students may be required to take additional courses as recommended by Advisory Committee or Department Divisions. | |
| 64 hours (including thesis research) earned in courses meeting on the Urbana-Champaign campus, on the Chicago campus, or in other locations approved by the Graduate College for graduate credit. | |
| Teaching experience is required | |
| Masters Degree Required for Admission to PhD? | No, but Masters-level requirements must be met (32 hours min.) |
| Qualifying Exam Required | Yes |
| Final Exam/Dissertation Defense Required | Yes |
| Dissertation Deposit Required | Yes |
| Minimum GPA: | 3.0 |

[1] *For additional details and requirements refer to the* department's degree programs information *(*http://chbe.illinois.edu/graduate-program/*) and the* Graduate College Handbook *(*http://www.grad.illinois.edu/gradhandbook/*).*

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Graduates of CB Ph.D. program will be able to:

1. Demonstrate a basic understanding of statistics, biochemistry/physiology and achieve a GPA of 3.0 or greater
2. Demonstrate in-depth knowledge in the areas of his/her thesis research based upon their written thesis and oral communications
3. Perform experiments and statistical analyses, and interpret the results in the context of the research question
4. Communicate science and present research seminars successfully
5. Teach students in a laboratory or classroom setting

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# Graduate Degree Programs in Comparative Biosciences

- VMS - Comparative Biosciences, PhD (p. 1)
- Joint Degree Programs: Veterinary Medical Scholars Program (p. 1)
  - DVM and VMS - Comparative Biosciences, PhD (http://catalog.illinois.edu/graduate/veterinary/joint-degree/dvm-veterinary-medical-scholars/)

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# Department of Comparative Biosciences

Department Head: Uwe Rudolph
Director of Graduate Studies: Megan Mahoney
Assistant Director of Graduate Studies: Juanmahel Davila
Comparative Biosciences website (https://www.vetmed.illinois.edu/cb/)
Comparative Biosciences faculty (https://vetmed.illinois.edu/about-the-college/comparative-biosciences/faculty/)
3519 Veterinary Medicine Basic Sciences Building, 2001 South Lincoln Avenue, Urbana, IL 61802
(217) 333-2506
cbgradprogram@vetmed.illinois.edu

# College of Veterinary Medicine

Dean of the College of Veterinary Medicine: Peter D. Constable

# Admissions

Comparative Biosciences Graduate Program (https://vetmed.illinois.edu/about-the-college/comparative-biosciences/graduate-programs/)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)
(217) 333-2506