

COLLEGE VETERINARY MEDICINE

College Administration

Carlos Risco, DVM, Dipl. ACT—Dean

Jerry Ritchey, DVM, PhD, DACVP—Associate Dean Academic and Student Affairs

Jerry Malayer, PhD—Sr. Associate Dean for Research and Graduate Education

Martin Furr, DVM, PhD, MA Ed, DACVIM—Assistant Dean for Professional Programs

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College of Veterinary Medicine

The College of Veterinary Medicine (CVM) is the premier provider of animal care in the state of Oklahoma and for the region. The CVM provides quality educational opportunities to prepare our graduates for varied careers within the veterinary profession. The veterinary medical profession is rewarding, exciting, and one that touches the environment as well as the lives of humans and animals alike. The career options available to graduates with a Doctor of Veterinary Medicine (DVM) degree are as varied as the people who make veterinary medicine their life-long commitment. The College of Veterinary Medicine at Oklahoma State University offers a program designed to prepare new graduates for a variety of biomedical careers including private practice, post-DVM clinical training, research, industry, military, and government.

Mission: Innovation in animal and human health.

Vision: To be innovative world leaders in healthcare, research, and professional education.

Core Values:

- **Communication:** Understanding the importance of good communication for the proper functioning of the team and advancing our common goals.
- **Integrity:** We will demonstrate at all times, and expect of our colleagues, the highest standards of personal integrity.
- **Accountability:** We will be accountable for our own actions, work, and words
- **Teamwork:** Understanding that a team is stronger than the sum of its parts, and that we perform better as a team.
- **Leadership:** Recognizing that we can all be leaders.

Accreditation

The College is accredited by the Council on Education of the American Veterinary Medical Association. Accreditation is based on an assessment of 11 essential factors: the college's organization, its finances, facilities and equipment, clinical resources, library and learning resources, enrollment, admissions, faculty, curriculum, continuing and post-graduate education, and research.

High School Preparation

Preparation for a career in veterinary medicine includes understanding the profession. Volunteering or working with a veterinarian is essential. Students should develop emotional maturity and become aware of how medical decisions include patient, client and financial issues.

Professionalism and ethics are fundamental for veterinarians.

Although the OSU DVM Program does not use an applicant's high school information to determine eligibility, K-12 students are strongly encouraged to take advanced placement math and science classes to prepare for more difficult college level coursework.

Admission and Application Requirements

Earning a DVM degree requires dedication and hard work, but the rewards are returned for a lifetime. In general, students must complete three to four years of pre-veterinary undergraduate coursework followed by four years of a professional veterinary medical program.

Students may choose any accredited college/university to complete their pre-veterinary coursework, however, choosing a major related to the student's interest in science and animals is wise. The College requires all applicants to be within 1 year of completing specific required courses to be eligible for application. Other factors can contribute to an applicant's eligibility for application to the Oklahoma State University DVM Program. Visit the DVM Program Eligibility website for a list of required courses and eligibility requirements.

Early Admission Program

Students pursuing careers in the health sciences often make their career decision prior to undergraduate enrollment through the Early Admission Program. The goal of the Early Admission Program is to aid pre-veterinary students with strong academic ability and guide them in their pursuit of a veterinary medical career. The Early Admission Program strives to provide direction, mentorship, and provisional admission for students with superior academic achievement and interpersonal skills that are well-suited to the missions of the veterinary profession. The program is open to all incoming true college freshmen attending a 4-year institution within the state of Oklahoma.

Scholarships

The College has a variety of scholarships available to currently enrolled veterinary medical students. The scholarship application portal opens at the end of the fall semester.

Selection Factors

The Admissions Committee seeks to admit students with excellent records of academic achievement, in addition to backgrounds that help predict potential success in a variety of veterinary medical careers. Because the veterinary medical profession is constantly changing, the faculty supports the concept of achieving diversity in each entering class. The College of Veterinary Medicine typically admits 106 students annually of which 58 are Oklahoma residents and 48 are out-of-state.

In selecting applicants for admission, the Admissions Committee will consider both quantitative (grade point averages, course load, and standardized test scores) and qualitative factors (veterinary experience, background, personal statement, and letters of recommendation).

The CVM requires a minimum of three letters of recommendation, one of which must come from a veterinarian. Strong applications will include

letters of recommendation from individuals who have had recent working or mentorship experiences with the applicant.

An out-of-state applicant's qualitative score is based on their application materials evaluated by members of the Admissions Committee. An in-state applicant's qualitative score is also based on their application materials in addition to a personal interview conducted by members of the Admissions Committee. Interviews are administered to in-state applicants by invitation only and not automatically granted. Personal interviews are not available for out-of-state applicants.

College Curriculum

The DVM curriculum prepares students for a wide variety of careers. It emphasizes educating general practitioners and prepares students for nonpractice careers as well. The curriculum is built on a culture of scholarship that has led to an excellent reputation for educating students not only to be ready to enter practice but to become successful veterinarians.

The DVM curriculum is integrated across departments with a systems-based approach rather than topic-based. The college teaches all animal species. Students may pursue their area of interest through elective courses starting in their second year and can continue through their fourth. These electives include opportunities to focus on animal species interests, discipline interests and research. The teaching style includes lecture and small to large group case discussion formats. Hands-on animal experiences are emphasized beginning in a student's first year of the program. The 4th year of the program is a mixture of required hospital rotations and electives including off-campus experiences. Students are encouraged to take externships in private practice, referral centers, specialty practices, government laboratories, zoos, or other facilities to expand their experience of the realities of the diverse careers available to them.

Graduate Program

Comparative Biomedical Sciences

Jerry R. Malayer, PhD—Professor and Senior Associate Dean for Research and Graduate Education

The comparative biomedical sciences (CBSC) graduate program is a multidisciplinary program intended to provide students with a broad base of research areas to address individual student interests. The program is administered within the College of Veterinary Medicine but may involve faculty from other colleges. Programs of research and study leading to the degrees of Master of Science and Doctor of Philosophy are available within the broad areas of focus: infectious diseases, pathobiology, and physiological sciences. The program is designed to prepare individuals for careers in teaching and research, and specialization is possible within each area dependent upon student and faculty interests and available funding.

Current areas of research focus include molecular, cell and developmental biology, clinical sciences (including laser applications and oncology); infectious and parasitic diseases (including vector-borne diseases, bacterial and viral diseases in wild and domestic animals); pathobiology; and toxicology. Faculty and their specific areas of interest are available through the graduate coordinator (cbsc@okstate.edu) (vbsc@okstate.edu) or online at <https://vetmed.okstate.edu/>

[students/comparative-biomedical-sciences/index.html](https://vetmed.okstate.edu/students/comparative-biomedical-sciences/index.html) (<https://vetmed.okstate.edu/students/comparative-biomedical-sciences/>).

Prerequisites

Candidates for admission must possess a bachelor's degree or equivalent, with a background in biological or physical sciences. Although there are no absolute performance level requirements, applicants with GPAs of 3.0 (out of 4.0) or greater, will receive the strongest consideration.

The Master of Science Degree

The MS may be earned with 30 credit hours beyond a bachelor's degree or 21 hours beyond the DVM degree, including not more than six credit hours for the thesis. The plan of study is designed to meet the student's needs and interests and typically includes two credits of seminar, one course in statistics, and courses in molecular or cell biology and pathobiology. The student must also pass a final oral examination covering the thesis and related course work.

The Doctor of Philosophy Degree

The PhD requires a minimum of 60 credit hours beyond the bachelor's degree or DVM degree, including up to 45 credit hours for research and dissertation. The plan of study is designed to meet the student's needs and interests and typically includes courses in cell and molecular biology, pathobiology, statistics, and seminar. Written and oral qualifying examinations are required. Students must prepare a research proposal and complete and defend a dissertation based on original research.

Application Procedure

Applications are made to the Graduate College (<http://gradcollege.okstate.edu/apply>) (<http://gradcollege.okstate.edu/apply/>) and are accepted at any time; however, all documents should be received before March 1st for admission to the fall semester. Applicants are required to submit transcripts of all college-level work. International applicants are required to take an English proficiency exam, unless a student completed a baccalaureate or graduate degree from an accredited institution of higher learning at which English is the primary language of instruction, located in a country in which English is a recognized primary language. For students seeking graduate teaching assistantships, a score of 22 or greater on the speaking part of the internet-based TOEFL (iBT) or 7.0 on the speaking portion of the IELTS is required. In addition, the applicant will submit a statement of purpose stating their preparation for graduate study as well as how earning a graduate degree will further their educational and career goals and will have three persons knowledgeable of their preparation for graduate study write and submit letters of reference.

Information about faculty research interests is available upon request to the graduate coordinator (cbsc@okstate.edu) (vbsc@okstate.edu). After acceptance to the graduate program, students select a major professor and an advisory committee and develop a plan of study consistent with the CBSC graduate program requirements and subject to the approval of the dean of the Graduate College.

Assistantships

A limited number of graduate teaching and research assistantships are available.

Internship and Residency Programs

Internships and residency programs in clinical medicine and surgery are offered through the Department of Veterinary Clinical Sciences. Residency programs in pathology are offered through the Department of Veterinary Pathobiology.

Academic Areas

- Veterinary Clinical Sciences (p. 3217)
- Veterinary Pathobiology (p. 3218)
- Physiological Sciences (p. 3219)
- Degree Programs (p. 3220)

Graduate Programs

- Comparative Biomedical Science, MS (p. 3221)
- Comparative Biomedical Science, PhD (p. 3222)

Professional Programs

- Veterinary Medicine, DVM (p. 3223)

Veterinary Clinical Sciences

*Theresa E. Rizzi, DVM, DACVP—Clinical Professor and interim VCS Department Head

The Department of Veterinary Clinical Sciences is one of four academic departments at the CVM. The Veterinary Clinical Sciences faculty are an integral part of the Boren Veterinary Medical Hospital. The faculty train veterinary students through hands-on experience and provides the highest quality of care to clients and patients. In addition to training veterinary students, there are several residents and interns in various sections of the hospital who are guided by the VCS faculty.

Visit the Veterinary Medical Hospital webpage (<https://cvhs.okstate.edu/veterinary-medical-hospital/>) to learn more about the faculty and staff and the services they provide.

Internship and Residency Programs

The department offers graduate professional programs (internships and residencies). Internships are one-year post-DVM clinical training programs.

Internships are designed in part to prepare DVM graduates for residencies or graduate academic programs. Currently, internships are offered in equine internal medicine and surgery rotating, small animal emergency and critical care, equine surgery & sports medicine, food animal medicine & surgery, shelter medicine and surgery, ophthalmology, theriogenology, and avian, exotics, and zoological medicine.

Residencies are three-year clinical programs in various disciplines designed in part to prepare for specialty board certification. Currently, residencies are offered in equine internal medicine, equine surgery, food animal medicine and surgery, ophthalmology, and theriogenology. Graduate academic programs may be available in association with residencies.

Application Procedure

Most open positions are listed in the Veterinary Internship/Residency Matching Program at www.virmp.org (<http://www.virmp.org>) and applications are submitted through the VIRMP. Some programs may be offered outside the match.

Faculty

Regents Professor and Endowed Chairs: Kenneth Bartels, DVM, MS, and Cohn Family Chair for Animal Care (emeritus); *Melanie Boileau, DVM, MS, DACVIM, and Clinical Professorship in the College of Veterinary Medicine; *Joao Manuel Lemos Brandao, LMV, MS, DECZM, and Deborah and Wayne Bell Professorship; *Daniel J. Burba, DVM, DACVS, and McCasland Endowed Chair; *Danielle Dugat, DVM, MS, DACVS, Cohn Family Chair for Animal Care; *Lyndi Gilliam, DVM, DACVIM, and Jack and June Jacobs Chair; G. Reed Holyoak, DVM, PhD, DACT, Regent's Professor and Bullock Professor; *Michael D. Lorenz, DVM, DACVIM, and Regents Service Professor (emeritus); *Lara Sypniewski, DVM, DABVP, and Henthorne Clinical Professorship

Professors: *Joseph Alexander, DVM, DACVS (President, CIED) (emeritus); *Kenneth Bartels, DVM, MS (emeritus); *Melanie Boileau, DVM, MS, DACVIM; *Daniel J. Burba, DVM, DACVS; *Lionel J. Dawson, BVSc, MS, DACT; *Lyndi Gilliam, DVM, DACVIM; *Margi A. Gilmour, DVM, MS, DACVO (emeritus); *G. Reed Holyoak, DVM, PhD, DACT; *John P. Hoover, DVM, MS, DACVIM, DABVP (emeritus); *Meredyth Jones, DVM, MS, DACVIM; *Charles G. MacAllister, DVM, DACVIM (emeritus); *Mark Neer,

DVM, DACVIM (emeritus); *Michael J. Schoonover, DVM, MS, DACVS, DACVSMR; *Richard Shawley, DVM, MS, DACVA (emeritus)

Associate Professors: *Robert J. Bahr, DVM, DACVR (emeritus); *Mary H. Bowles, DVM, DACVIM (emeritus); *Joao Manuel Lemos Brandao, LMV, MS, DECZM, DACZM; *Daniel Dugat, DVM, MS, DACVS; *John Kirkpatrick, DVM, DABVP (emeritus);Carolynn T. MacAllister, DVM (emeritus); *Gregor L. Morgan, MVSc, PhD, DACT (emeritus)

Assistant Professors: *Dale Kelley, DVM, MS, PhD, DACT; *Megan Williams, DVM, DACVS

Clinical Professor: *John Gilliam, DVM, MS, DAVBP, DACVIM; *Marjorie Gross, DVM, MS, DACVA (emeritus); *Robert Streeter, DVM, MS, DACVIM (emeritus); *Lara A. Sypniewski, DVM, DABVP

Clinical Associate Professor: Kimberly D. Carter, DVM; *Paul DeMars, DVM, DABVP; Katrina Meinkoth, DVM (emeritus); Sarah Peakheart, DVM

Clinical Assistant Professors: David Bailey, DVM; *Allison Biddick, DVM, MS, DACVECC; Rosslyn Biggs, DVM; Brandy L. Close, PhD, MeD; Leandro Fadel, DVM, MSc; Leticia Fanucchi, DVM, PhD; *Katelyn Fentiman, DVM, MS, DACVO; Nancy Henslee, DVM; Alexis Jennings, DVM; *A.J. Manship, DVM, DACVIM; *Emily McCool, DVM, MS, DACVO; Julianne McCready, DVM; M. Blake Murray, DVM; Franciele Panato Back, MV; Marcelo Rodrigues de Oliveira, MV; Melissa Raymond, DVM; *Asitha Vasudevan Pillai, DVM, MS; Brandon M. Raczkoski, PhD

Adjunct Associate Professors: *Drew Hanzlicek, DVM, DACVIM; *Cheryl Lopate, DVM, MS, DACT; *Mark Munson, MD; Daqing Piao, PhD; *Gary Spodnick, DVM, DACVS

Adjunct Assistant Professors: Jason Anton, DVM; *Kay Backues, DVM, DACZM; Derek Burney, DVM; *Jennifer D'Agostino, DVM, DACZM; *Brent Hague, DVM, DACVS; *David Russell, DVM, DACVD; *Janice Seahorn, DVM, MS, DACVAA

Adjunct Clinical Instructors: Kyle Abbott, DVM; *Tiffany Granone, DVM, DACVAA; Mark Higgins, DVM; Tracie Holder, DVM; Mike Jones, DVM; Kevin Long, DVM; Jarrod Roach, DVM; Mark Shackelford, DVM

Lecturers: Kevin Grisham, DVM; Daneeya Guthrie, DVM; Jennifer Wyrick, DVM

Residents: Rebecca Abanto, DVM, Equine Medicine (2023-26); Nicholas Lani, DVM, Equine Surgery (2023-26); Sheila Megehee, DVM, Theriogenology (2021-24); Megan, Righi, DVM, ACVIM, Food Animal (2022-25); Brittnee Saylor, DVM, Equine Surgery; (2022-25); Taylor Strickland, DVM, Food Animal (2022-25); Paul Wallace, DVM, Equine Surgery and Sports Med (2022-25); Alex Wittorff, DVM, Theriogenology (2022-25)

Interns: Katherine Cantrell, DVM, Small Animal Shelter Medicine and Surgery; Kaitlyn Crocker, DVM, Avian, Exotics, and Zoological Medicine; Greta Doden, DVM, Avian, Exotics and Zoological Medicine; Andrea Messina, DVM, Equine Medicine and Surgery; Flora Okwuagwu, DVM, Small Animal Emergency Critical Care Specialty; Brianne Randulovich, DVM, Ophthalmology Specialty; Haley Wilkerson, DVM, Theriogenology

***Board Certification in Specialty Area**

Veterinary Pathobiology

Theresa E. Rizzi, DVM, DACVP—Clinical Professor and Department Head

The Department of Veterinary Pathobiology delivers state-of-the-art research, instruction, and diagnostic service for the disciplines of bacteriology, mycology, immunology, parasitology, pathology, virology, epidemiology and public health. The Pathology Department is the proud home of the National Center for Veterinary Parasitology, and the academic home of the University's Director of Animal Resource Unit and Attending Veterinarian, and faculty associated with the Oklahoma Animal Disease Diagnostic Laboratory. Departmental faculty participate in research sponsored by the NIH, USDA, and other government-sponsored research units as well as private industry focused on infectious diseases important in animals and people. The department is actively engaged in training the next generation of veterinarians, veterinary specialists, and scientists, publishing basic and applied scientific works and presenting findings at scientific and educational platforms throughout the world.

Residency Programs

Residency Coordinators: Dr. Valerie McElliott, Anatomic Pathology, and Dr. James H. Meinkoth, Clinical Pathology

Residency programs in anatomic and clinical veterinary pathology are offered. Candidates must have a DVM degree or equivalent. The anatomic and clinical pathology residency programs are three years with options to enter the PhD program. The programs are designed for those interested in diagnostic veterinary pathology and board certification by the American College of Veterinary Pathologists. Residency training occurs through the Veterinary Medical Teaching Hospital and through the Oklahoma Animal Disease Diagnostic Laboratory. The program involves extensive diagnostic casework primarily of domestic animals and includes weekly case conferences and seminars. In addition, abundant archived materials are available for the specialty board preparation.

Application Procedure

Usually, one new residency training position is available each year in anatomic pathology and one new residency position every 1-2 years in clinical pathology. Open positions are listed at the ACVP website (<https://www.acvp.org/>) and in the "Educational Opportunities" section of the Journal of the American Veterinary Medical Association.

Faculty

Regents Professors and Endowed Chairs: *Anthony W. Confer, DVM, PhD, DACVP (emeritus) and Walter R. Sitlington Endowed Chair; Clinton J. Jones, PhD, Regents Professor and Sitlington Endowed Chair; *Susan Little, DVM, PhD, DAVPC-Parasitology, Regents Professor and Krull/Ewing Endowed Chair

Professors: *James H. Meinkoth, DVM, PhD, DACVP; Mason Reichard, PhD; *Timothy Snider, DVM, PhD, DACVP; *Jared Taylor, DVM, MPH, PhD, DACVIM, DACVPM

Clinical Professor: *Theresa Rizzi, DVM, DACVP

Associate Professors: Tom Oomens, PhD; *Akhilesh Ramachandran, BVSc & AH, PhD, DACV; Dr. Joy Scaria, Ph.D., Associate Professor and Sitlington Endowed Chair in Infectious Disease; *Giselle Cino, DVM, PhD, DACVP; *Lindsay Starkey, DVM, PhD, DACVP

Clinical Associate Professor: *Susan E. Fielder, DVM, MS, DACVP;

*Asheley Wathen, DVM, MPH, DAFLAM

Assistant Professors: *Fernando Vicoso Bauermann, DVM, PhD, and Sitlington Endowed Chair in Veterinary Medicine; *Sunil More BVSc & AH,

MVSc, PhD; *Jennifer Rudd, DVM, PhD, DACVM; *Ruth C. Scimeca BVSc, MS, PhD, DAVPC-Parasitology; Mayara Maggioli, DVM, PhD
Clinical Assistant Professor: *Alexandra Ford, DVM, DACVP; *Valerie McElliott, DVM, PhD, DACVP; *Brianna Taylor, DVM, MS, DACVP
Associate Research Professor: Edmour Blouin, PhD (emeritus)
Assistant Research Professor: Kelly Harrison, PhD; Jeff Ostler, PhD
Residents: Kelsey Duensing, DVM; Alys Harshbarger, DVM; Sarah Myers, DVM; Sai Narayanan, BVSc & AH, MVSc, PhD
Graduate Teaching Associates: Patil Basavaraju, BVSc; Laura Centurion, MS; Debarati Chanda, PhD; Roshan Ghimire, PhD; Sachithra Gunasekara, BS; Kristin McClung, MS; Jeeviya Murugesan, BVSc; Chakravarthi Raiamohan, MS; Hafez Sadeghi, PhD; Vanessa Santos, PhD; Miruthula Selvan, BVSc; Pabasara Weerarathne, MS; Nishani Wijesekera, BVSc
Graduate Research Associates: Pramila Lamichhane, MS; Mego Terhuja, BVSc, MVSc; Brittanie Peake, MS; Rakshya Shrestha, PhD; Miruthula Tamil Selvan, PhD; Crystal Villalva, PhD

***Board Certification in Specialty Area**

Physiological Sciences

*Board Certification in Specialty Area

Martin Furr, DVM, Ph.D., Department Head

The Department of Physiological Sciences at Oklahoma State University contributes substantially to the teaching, research and service components of the College of Veterinary Medicine.

The department currently has 18 tenure/tenure-track, ten adjunct and four research track faculty members, three postdoctoral fellows and approximately 18 graduate students.

Teaching responsibilities within the department include the areas of veterinary morphology, physiology, pharmacology and toxicology, providing professional coursework leading to the DVM degree and graduate coursework leading to the Masters and Doctor of Philosophy degrees. Departmental faculty have a wide range of research interests including neurotoxicology, lung biology, enzymology of drug metabolism, exercise physiology, reproductive physiology, therapeutics, comparative aging, and cardiovascular physiology. Extramural funding in support of research from agencies including NIH, DoD, USDA, American Cancer Society and others totals over \$2 million annually.

Faculty

Martin Furr, PhD—Professor, Department Head and Assistant Dean - Professional Programs

Regents Professors: Lin Liu, BS, PhD (Lundberg-Kienlen Professor of Biomedical Research); Carey N. Pope, PhD (Sitlington Chair in Toxicology) (emeritus)

Professors: Nicholas L. Cross, PhD (emeritus); *Michael S. Davis, DVM, MS, PhD (Oxley Chair in Equine Sports Medicine); Veronique Lacombe, DVM, PhD, Diplomate ACVIM, Diplomate ECEIM; Jerry R. Malayer, PhD; Lara K. Maxwell, DVM, PhD; Charlotte L. Ownby, MS, PhD (emeritus); Ashish Ranjan, BVSc, PhD (Kerr Endowed Chair); Alastair G. Watson, BVSc, PhD (emeritus)

Associate Professors: Jill Akkerman, DVM, PhD; Guangping Chen, MS, PhD; Myron Hinsdale, DVM, PhD; Sudahkar Jha, PS, MS, PhD; James W. Lish, MS, PhD (emeritus); Pamela G. Lovern, BA, PhD; Joseph P. McCann, PhD (emeritus); *Sandra E. Morgan, MS, DVM (emeritus); Larry E. Stein, PhD (emeritus)

Assistant Professors: Joshua Butcher, M.S., PhD; Madhan Subramanian, BVSc, PhD; Xufang Deng, BS, MS, PhD

Teaching Associate Professor: Deon van der Merwe, BVSc, MSc, PhD, ERT

Teaching Assistant Professor: Girish Patil, PhD

Assistant Research Professors: Chaoqun Huang, MD, PhD

Research Associate: Yurong Liang, BS, PhD

Research Scientist: Danny Maples, PhD; Akansha Singh, PhD

Post-Doctoral Fellows: Happy Argarwal, PhD; Kishor Vaddadi, PhD; Poonam Yadav, PhD

Graduate Teaching Associates: Raisa Monteiro, BVSc; Bhuvana Plakkot, BVSc, MVSc; Sai Narayan Sankara, BVSc, MVSc; Shoroq Shatnawi, BS, MS; Mahesh Sivasubramanian, BVSc

Graduate Research Associates: Kainat Ahmed, BVSc, MVSc; Mohammad Asad, PhD; Landon Butler, BS; Sri Yidhaya Chandrasekar, PhD; Xiang Chi, PhD; Quanjin Dang, BS; Matthew Gallman, BS; Mike Gorbet, BS; Sankha Hewawasam, BS; Samuel Jeyasingh, BVSc; Bableen Kaur, PhD; Emily Nunan, BS; Bhuvana Plakkot, MVSc; Matthew Rochowski, BS; Akshaya Surendran, PhD; Xiaoming Zhang, PhD; Zhengyu Zhu, BVSc

Staff: Emma Dillsaver, BS; Dallas Karcher, BS; Erin Langford-Loftis, BS; Christopher H. Pivinski, BS; Lana Schler, BS; Jessica Schultz, MS, BS

Degree Programs

Graduate Programs

- Comparative Biomedical Science, MS (p. 3221)
- Comparative Biomedical Science, PhD (p. 3222)

Professional Programs

- Veterinary Medicine, DVM (p. 3223)

Comparative Biomedical Sciences, MS

Requirements for Students Matriculating in or before Academic Year

2023-2024. Learn more about Graduate College Academic Regulation 7.0 (p.).

Total Hours: 30

Code	Title	Hours
Required Courses		
CBSC 5013	Comparative Biomedical Sciences I: Cell & Molecular Biology	3
CBSC 5023	Comparative Biomedical Sciences II: Pathophysiology	3
STAT 5013	Statistics for Experimenters I	3
CBSC 6110	Seminar	2
CBSC 5000	Master's Research and Thesis	6
Hours Subtotal		17
Electives		
Select 13 hours of approved electives		13
Hours Subtotal		13
Total Hours		30

Graduate College Master's Program Requirements

Learn more about Graduate College 2023-2024 Master's Degree Program Requirements (p. 2832). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.

Comparative Biomedical Sciences, PhD

Requirements for Students Matriculating in or before Academic Year

2023-2024. Learn more about Graduate College Academic Regulation 7.0 (p.).

Total Hours: 60

Code	Title	Hours
Required Coursework		
CBSC 5013	Comparative Biomedical Sciences I: Cell & Molecular Biology	3
CBSC 5023	Comparative Biomedical Sciences II: Pathophysiology	3
STAT 5013	Statistics for Experimenters I	3
STAT 5083	Statistics for Biomedical Researchers	3
CBSC 6110	Seminar	3
Forty-five hours from:		45
CBSC 6000	PhD Research and Dissertation	
Total Hours		60

Graduate College Doctor of Philosophy (PhD) Requirements

Learn more about Graduate College 2023-2024 Doctor of Philosophy (PhD) Degree Program Requirements (p. 2832). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.

Veterinary Medicine, DVM

Total Hours: 165

Year One

Code	Title	Hours
Degree Requirements		
<i>Fall Semester</i>		
VME 7111	Critical Thinking, Clinical Skills, & Communication I	1
VME 7121	Professional Skills I	1
VME 7136	Physiology & Histology I	6
VME 7144	Gross & Developmental Anatomy	4
VME 7153	Immunology	3
VME 7161	Epidemiology & Evidence-Based Medicine	1
VME 7171	Nutrition	1
Hours Subtotal		17
<i>Spring Semester</i>		
VME 7211	Critical Thinking, Clinical Skills, & Communication II	1
VME 7221	Professional Skills II	1
VME 7236	Physiology & Histology II	6
VME 7243	Comparative Anatomy	3
VME 7253		3
VME 7264	General Pathology	4
Hours Subtotal		18
Total Hours		35

Year Two

Code	Title	Hours
Degree Requirements		
<i>Fall Semester</i>		
VME 7312	Critical Thinking, Clinical Skills, & Communication III	2
VME 7325	Parasitology	5
VME 7333	Pharmacology I	3
VME 7343	Diagnostic Imaging	3
VME 7353	Virology	3
VME 7363	Toxicology	3
Select 2 hours of electives.		2
Hours Subtotal		21
<i>Spring Semester</i>		
VME 7412	Critical Thinking, Clinical Skills, & Communication IV	2
VME 7421	Professional Skills III	1
VME 7433	Food Safety & Public Health	3
VME 7444	Bacteriology & Mycology	4
VME 7452	Pharmacology II	2
VME 7463	Anesthesiology & Analgesia	3
VME 7472	Hemolymphatics & Oncology	2
VME 7481	Exotics	1
Select 2 hours of electives.		2

Hours Subtotal	20
Total Hours	41

Year Three

Code	Title	Hours
Degree Requirements		
<i>Fall Semester</i>		
VME 7512	Critical Thinking, Clinical Skills, & Communication V	2
VME 7522	Junior Surgery	2
VME 7533	Musculoskeletal	3
VME 7543	Theriogenology	3
VME 7552	Endocrinology	2
VME 7564	Cardiopulmonary	4
VME 7572	Primary Care I	2
Select 2 hours of electives.		2
Hours Subtotal		20
<i>Spring Semester</i>		
VME 7612	Critical Thinking, Clinical Skills, & Communication VI	2
VME 7621	Professional Skills IV	1
VME 7631	Junior Surgery	1
VME 7644	Alimentary	4
VME 7652	Ophthalmology	2
VME 7662	Urinary	2
VME 7672	Neurology	2
VME 7682	Primary Care II	2
VME 7692	Dermatology	2
Select 1 hour of elective.		1
Hours Subtotal		19
Total Hours		39

Year Four

CORE ROTATIONS

Code	Title	Hours
Rotations - 16 Rotations³		
VCS 7002	Anesthesiology I	2
VCS 7042	Small Animal Wellness & Disease Prevention	2
VCS 7072	Diagnostics I	2
VCS 7082	Equine Medicine I	2
VCS 7142	Externship I	2
VCS 7152	Externship II	2
VCS 7162	Externship III	2
VCS 7172	Externship IV	2
VCS 7222	Food Animal Medicine and Surgery I	2
VCS 7342	Ophthalmology II	2
VCS 7372	Radiology I	2
VCS 7442	Surgical Fundamentals in Shelter Patients I	2
VCS 7612	Small Animal Medicine	2
VCS 7622	Small Animal General Surgery	2
VCS 7632	Emergency & Critical Care	2

VCS 7912	Grand Rounds	2
16 Rotations		
Total Hours		32

ELECTIVE ROTATIONS

Code	Title	Hours
Select 9 rotations from the following:		
VCS 7000	Clinical Sciences Elective III	
VCS 7052	Small Animal Wellness & Disease Prevention Elective	
VCS 7092	Equine Medicine II	
VCS 7112	Equine Performance Medicine III	
VCS 7122	Equine Surgery and Sports Medicine II	
VCS 7182	Externship V	
VCS 7192	Externship VI	
VCS 7202	Field Services and Production Medicine II	
VCS 7232	Food Animal Medicine and Surgery II	
VCS 7252	Hospital Based Theriogenology II	
VCS 7292	Large Animal Bovine Theriogenology III	
VCS 7302	Large Animal Equine Theriogenology III	
VCS 7312	Large Animal Theriogenology II-A	
VCS 7322	Large Animal Theriogenology II-B	
VCS 7362	Professional Development Experience III	
VCS 7452	Ultrasound Elective	
VCS 7472	Zoological Medicine II	
VCS 7492	Applied Canine Exercise Physiology Elective III	
VCS 7502	Small Animal Medicine Clerkship I	
VCS 7532	Applied Diagnostic Medicine and Laboratory Investigations III	
VCS 7542	Small Animal Emergency and Critical Care II	
VCS 7552	Public Health Practice for Veterinarians III-A	
VCS 7562	Public Health Practice for Veterinarians III - B	
VCS 7582	Externship VII	
VCS 7592	Behavior Medicine Elective	
VCS 7602	Dermatology Elective	
VCS 7642	Small Animal Medicine Elective	
VCS 7652	Small Animal General Surgery Elective	
Hours Subtotal		18
Total Hours		18

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Program meets all the educational requirements for eligibility for DVM licensure in all 50 states.

For additional requirements, please refer to the College of Veterinary Medicine page (p. 3214) in the Catalog.