College of Veterinary Medicine

College Administration
Carlos Risco, DVM, Dipl. ACT—Dean
Margi Gilmour, DVM, MS, DACVO—Associate Dean for Academic Affairs
Jerry Malayer, PhD—Associate Dean for Research and Graduate Education

Campus Address and Phone
Address: 205 McElroy Hall, Stillwater, OK 74078
Phone: 405.744.6648
Fax: 405.744.6633
Website: www.vetmed.okstate.edu

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, namely, 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, shadowing 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 veterinary school does not use your high school grades to determine eligibility, students in high school are strongly encouraged to take coursework heavy in the math and sciences if offered.

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 program in a college of veterinary medicine.

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 be within 1 year of completing specific required courses to be eligible for application. For a list of required courses, visit the website: https://vetmed.okstate.edu/students/pre-vet-courses.html

Other factors can contribute to an applicant’s eligibility for application to the DVM Program. For a detailed list of those factors, visit the “Eligibility” portion of the OSU-CVM website: https://vetmed.okstate.edu/students/eligibility.html

Early Admission Program
Students pursuing careers in the health sciences often make their career decision prior to undergraduate enrollment. The goal of the Early Admission Program is to aid students with strong academic ability that are interested in veterinary medicine and guide them in their pursuit of a veterinary medical career. The Early Admission Program strives to provide guidance, 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 EAP is applicable to all incoming true college freshmen attending a 4-year Oklahoma institution. Visit the Early Admission Program page on the CVM website for more information: https://vetmed.okstate.edu/students/early-admission.html.

Scholarships
The College has a variety of scholarships available to currently enrolled veterinary medicine students. The scholarship application opens late in 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 students.
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).

Residents receive a score based on the evaluation of their application materials as well as a personal interview conducted by members of the Admissions Committee. Interviews for resident applicants are not automatically granted but are strictly by invitation only. The nonresidents’ qualitative score is based on file review by members of the Admissions Committee. Personal interviews are not offered to nonresident applicants.

Strong applications include letters of recommendation from references who have had recent experiences with the applicant. The CVM requires three letters of recommendation, one of which must come from a veterinarian, preferably one with whom the applicant has worked under (e.g. employment, job shadowing, training, etc.).

**College Curriculum**

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

The curriculum is integrated across departments and is systems-based rather than topic-based. 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. 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 4th year is a mixture of required hospital rotations and electives including off-campus experiences. They are encouraged to take externships in private practice, referral centers, specialty practices, government laboratories, zoos or other facilities to expand their experience to the realities of the diverse careers available to them.

For a full list of the OSU DVM Curriculum, visit the “DVM Curriculum” portion of the CVM website: https://catalog.okstate.edu/college-veterinary-medicine/degree-programs/veterinary-medicine-dvm/ (p. 3137).

**Graduate Program**

**Comparative Biomedical Sciences**

Pamela Lovern, PhD—Associate Professor and Coordinator of Graduate Studies

The comparative biomedical sciences (CBS) graduate program is a multidisciplinary program intended to provide students 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 (cbpsc@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/).

**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 quantitative GRE scores at the 75th percentile or greater and GPAs of 3.0 (out of 4.0) or greater, will receive 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 pathophysiology. 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, pathophysiology, 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 prior to March 1st for admission to the fall semester. Applicants are required to submit official transcripts of all college-level work and scores for the GRE general test. International applicants are required to take an English proficiency exam TOEFL or equivalent exam, unless a student is from a country where English is a first language. For students seeking graduate teaching assistantships, a score of 22 or greater on speaking part of the internet-based TOEFL (iBT) 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 (cbpsc@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 CBS graduate program requirements and subject to 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. 3131)
- Veterinary Pathobiology (p. 3132)
- Physiological Sciences (p. 3133)
- Degree Programs (p. 3134)

Graduate Programs
- Comparative Biomedical Science, MS (p. 3135)
- Comparative Biomedical Science, PhD (p. 3136)

Professional Programs
- Veterinary Medicine, DVM (p. 3137)

Faculty
Veterinary Pathobiology
*Jerry Ritchey, DVM, PhD, DACVP—Professor and Department Head

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

Professors: Kenneth Clinkenbeard, DVM, PhD (emeritus); *Jean M. d’Offay, DVM, PhD, DACVM (emeritus); Richard W. Eberle, PhD (emeritus); *Robert W. Fulton, DVM, PhD, DACVM (emeritus); Katherine M. Kocan, MSPH, PhD (emerita); *James H. Meinkoth, DVM, PhD, DACVP; Mason Reichard, PhD; *Timothy Snider, DVM, PhD, DACVP

Associate Professors: Tom Oomens, PhD; *Jared Taylor, DVM, MPH, PhD, DACVIM, DACVP

Assistant Professors: Kelly Allen, MS, PhD; Fernando Vicosa Bauermann, DVM, PhD; *Valerie McElliott, DVM, PhD, DACVP; *Craig Miller, DVM, PhD, DACVP; *Akhilesh Ramachandran, BVSc&AH, PhD, DACV

Clinical Professors: *Todd Jackson, DVM, DACLAM; *Theresa Rizzi, DVM, DACVP

Clinical Associate Professors:

Clinical Assistant Professor: *Susan E. Fielder, DVM, DACVP; Yoko Nagamori, DVM

Associate Research Professor: Edmouir Blouin, PhD (emeritus)

Lecturer: Dr. Jennifer Rudd, DVM; Meriam Saleh, PhD

Research Scientist: Maraya Maggioli

Residents: Katheryn Duncan, DVM; Dah-Jiu Fu, DVM; Ryan Kalish, DVM; Sierra Salopek, DVM; Ruth Scimcma, PhD; Erin Stayton, DVM

Post-Doctoral Fellows: Kelly Harrison, PhD; Jeff Oster, PhD

Graduate Teaching Associates: Laximan Sawant, BVSc, MVSc

Veterinary Clinical Sciences
*Daniel J. Burba, DVM, DACVS, McCasland Professor of Biomedical Laser Surgery and Department Head

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 Center for Veterinary Health Sciences; *Daniel J. Burba, DVM, DACVCS, and McCasland Endowed Chair; *Danielle Duget, Cohn Family Chair for Animal Care; *Andrew Hanzlicek, DVM, MS, DACVIM, and Kirkpatrick Chair in Small Animal Medicine; *Todd Holbrook, DVM, DACVIM, DACVSMP, and Jack & June Jacobs Chair in Veterinary Medicine; *G. Reed Hoyoak, DVM, PhD, DACT, and Bullock Professor; *Michael D. Lorenz, DVM, DACVIM, and Regents Service Professor (emeritus); *Lara Sypniewski, DVM, DABVP, and Hentthorne Clinical Professorship

Professors: *Joseph Alexander, DVM, DACVS (President, CIED) (emeritus); *Kenneth Bartels, DVM, MS (emeritus); *Daniel J. Burba, DVM, DACVM; *Lionel J. Dawson, BVSc, MS, DACT; *Margi A. Gilmour, DVM, MS, DACVO; *Todd Holbrook, DVM, DACVIM, DACVSMP, G. Reed Hoyoak, DVM, PhD, DACT; *John P. Hoover, DVM, MS, DACVIM, DABVP (emeritus); *Charles G. MacAllister, DVM, DACVIM (emeritus); *Mark Neer, DVM, DACVIM (emeritus); *Richard Shawley, DVM, MS, DACVA (emeritus)

Associate Professors: *Robert J. Bahr, DVM, DACVCR (emeritus); *Melanie Boileau, DVM, MS, DACVIM, *Mary H. Bowles, DVM, DACVIM (emeritus); *Erik Clary, DVM, PhD, DACVS; *Daniel Duget, DVM, DACVS; *Lyndi Gilliam, DVM, DACVIM; *Nicola Di Girolamo, DVM, Msc, PhD, DECZM; *Andrew Hanzlicek, DVM, MS, DACVIM; *Henry W. Jann, DVM, DACVS, DACVSMP (emeritus); *Meredith Jones, DVM, MS, DACVIM; *John Kirkpatrick, DVM, DABVP (emeritus); Carolyn T. MacAllister, DVM (emeritus); *Gregor L. Morgan, MVSc, PhD, DACT (emeritus); *Michael J. Schoonover, DVM, MS, DACVS, DACVSMP

Assistant Professors: *Joao Manuel Lemos Brandao, LMV, MS, DECZM; *Shane Lyon, DVM, DACVIM; *Laura Nafe, DVM, MS, DACVIM; *Emily McCool, DVM; *Megan Williams, DVM, DACVS

Clinical Professor: *Marjorie Gross, DVM, MS, DACVA (emeritus)

Clinical Associate Professor: *Patricia Coan, DVM, PhD, DACLAM; *Stefano Di Concetto, DVM, MS, DACVAA; *Paul DeMars, DVM, CABVP, *John Gillian, DVM, DABVP, DACVIM; *Robert Streeter, DVM, MS, DACVIM; *Laura A. Sypniewski, DVM, DABVP; *Asitha Vasudevan Pillai, DVM, MS

Adjunct Associate Professors: Wei R. Chen, PhD; Alex Cohen, M.D. PhD; *William Dubois, DVM, DABVP, *Cheryl Lopate, DVM, MS, DACT; *Mark Munson, MD

Clinical Assistant Professors: Kimberly D. Carter, DVM; *Carrie Kuzma, DVM; *Katrina Meinkoth, DVM; Sarah Peakeheart, DVM

Adjunct Assistant Professors: *Kay Backues, DVM, DACZM; *Jennifer D’Agostino, DVM, DACZM; *Lindsay Donnelly, DVM, MS, DACVIM

Lecturer: Jillian Paegelow, DVM


Physiological Sciences
Martin Furr, PhD—Professor and Department Head

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

Professors: James E. Breazile, DVM, PhD (emeritus); Nicholas L. Cross, PhD (emeritus); *Michael S. Davis, DVM, MS, PhD (Oxley Chair in Equine Sports Medicine); Jerry R. Malayer, PhD; *Dianne McFarlane, MS, DVM, PhD (Ricks Rapp Professorship); Lara K. Maxwell, DVM, PhD; Charlotte L. Ownby, MS, PhD (emeritus); Chris Ross, DVM, PhD; Alastair G. Watson, BVSc, PhD (emeritus)

Adjunct Professors: David W.A. Bourne, MS, PhD; Stephen Brimijoin, BA, PhD; Larry P. Gonzalez, BS, MA, PhD; Terence H. Risby, PhD

Associate Professors: Jill Akkerman, DVM, PhD; Guanying Chen, MS, PhD; Myron Hinsdale, DVM, PhD; Veronique Lacombe, DVM, PhD, Diplomate ACVIM, Diplomate ECEIM; James W. Lish, MS, PhD (emeritus); Pamela G. Lovern, BA, PhD; Joseph P. McCann, PhD; *Sandra E. Morgan, MS, DVM (emerita); Ashish Ranjan, B.V.Sc., PhD (Kerr Endowed Chair); Larry E. Stein, PhD (emeritus)

Adjunct Associate Professors: Joseph R. Bidwell, BSc, MSc, PhD; David R. Wallace, BS, PhD; Guo-long Zhang, BS, MS, PhD

Assistant Professors: Joshua Butcher, M.S., PhD; Guangping Chen, MS, PhD; Myron Hinsdale, DVM, PhD; Narasa Raju Teluguakula, BSc, MSc, PhD

Research Associate: Yurong Liang, BS, PhD; M. Cristina Munteanu, MS, PhD; Pulavendran Sivasami, MS, PhD

Post-Doctoral Fellows: Allison Campolo, PhD; Kalyani Ektate, BVSc, MVSc, PhD; Fang Hau, PhD; Sri Nandhini Sethuraman, BVSc, MVSc, Kishor Vaddadi, PhD; Lingyan Wang, BS, MS, PhD

Graduate Teaching Associates: Harshini Ashar, BVSc, MSc; Bridgette French-Harbison, BS, MS; Girish Patil, MVSc; Mohit Singh, MVSc; Kun Song, BS; Joshua VanOsdol, BS; Nishani Wijesekera, BVSc; Dao Xu, BS

Graduate Research Associates: Gayan Bamunuwarachchi, BS; Mike Gorbet, BS; Sugandhika Gothami, BS; Wenzhuo Hao, BS, MS; Kong Lin, BS; Stacey Heriange, BA; Robert Jeyasingh, BVSc; Kirstin Hester, BS; Raisa Monteiro, BVSc; Shannon Remerowski, BS, DVM; Oluwayemisi Semola, U; Lakmini Senavirathna, BS

Staff: Montana Fulton, RVT; Dallas Karcher, BS; Erin Langford-Loftis, BS; Christopher H. Pivinski, BS; Lana Schler, BS

*Board Certification in Specialty Area
Veterinary Clinical Sciences

Daniel J. Burba, DVM, DACVS, McCasland Professor of Biomedical Laser Surgery and 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 provide 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 programs in exotic, small animal critical care, shelter surgery, small or large animal medicine and surgery.

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

*Daniel J. Burba, DVM, DACVS, McCasland Professor of Biomedical Laser Surgery and Department Head

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; *Daniel J. Burba, DVM, DACVS, and McCasland Endowed Chair; *Danielle Dugat, Cohn Family Chair for Animal Care; *Todd Holbrook, DVM, DACVIM, DACVSMR, and Jack & June Jacobs Chair in Veterinary Medicine; G. Reed Holyoak, DVM, PhD, DACT, and Bullock Professor; *Michael D. Lorenz, DVM, DACVIM, and Regents Service Professor (emeritus); *Lara Sypniewski, DVM, DABVP, and Henthorne Clinical Professorship

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Associate Professors: *Robert J. Bahr, DVM, DACVR (emeritus); *Mary H. Bowles, DVM, DACVIM (emeritus); *Joao Manuel Lemos Brandao, LMV, MS, DECZM; *Erik Clary, DVM, PhD, DACVS; *Daniel Dugat, DVM, DACVS; *Nicola Di Girolamo, DVM, Msc, PhD, DECZM; *Meredyth Jones, DVM, MS, DACVIM; *John Kirkpatrick, DVM, DABVP (emeritus); Carolyn T. MacAllister, DVM (emeritus); *Gregor L. Morgan, MVSc, PhD, DACT (emeritus); *Michael J. Schoonover, DVM, MS, DACVS, DACVS/MSR

Assistant Professors: *Katelyn Fentiman, DVM, MS, ACVO; *Dale Kelley, DVM, MS, PhD; *Emily McCool, DVM; *Fabio Pinai, DVM, MS, PhD; *Megan Williams, DVM, DACVS

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

Clinical Associate Professor: Kimberly D. Carter, DVM; *Patricia Coan, DVM, PhD, DCLAM; *Paul DeMars, DVM, CABVP; Katrina Meinkoth, DVM; Andrea Conti Pataro, DVM, MS, MBA, PhD

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

Clinical Assistant Professors: Rosslyn Biggs, DVM; Li-Jen Chang, BVM, MVM, CVA, PhD; Sarah Peakheart, DVM; *Asitha Vasudevan Pillai, DVM, MS

Adjunct Assistant Professors: Jason Antion, DVM; *Kay Backues, DVM, DACZM; Derek Burney, DVM; *Jennifer D’Agostino, DVM, DACZM; *David Russell, DVM DACVD

Adjunct Clinical Instructors: *Tiffany Granone, DVM, DACVAA; Tracei Hholder, DVM; Mike Jones, DVM; Jarrod Roach, DVM; Mark Shackelford, DVM

Residents: Rodrigo Roca, DVM, Small Animal Surgery (2019-2022); Jessica Rutledge, DVM, Equine Internal Medicine (2019-2022); Kelsey Jurek, DVM, Equine Surgery (2019-2022); Adam Bassett, DVM, Theriogenology (2019-2022); Evan Crisman, VMD Equine Internal Medicine (2020-2023); Elizabeth Soler, DVM Ophthalmology (2020-2023); Sheila Megehee, DVM Theriogenology (2021-2023); Laura May, ABVP Food Animal (2021-2023)

Interns: Anthony Barillo, DVM Small Animal Surgery Specialty; Felicia Brennan, DVM Small Animal Rotating; Grace Chung, VetMed Exotics and Zoological Medicine; Sabrina Dean, DVM Small Animal Rotating; Sabah Kadhim, DVM Small Animal Rotating; Marina Liles, DVM Exotics and Zoological Medicine; Diane Moon, DVM Small Animal Internal Medicine; Kirsti Novikoff, DVM Small Animal Surgery Specialty; Julia Rau, DVM Small Animal Rotating; Brittnee Sayer, DVM Equine Surgery; Auri Silverstone, DVM Equine Surgery and Sports Medicine; Taylor Strickland, DVM Food Animal; Megan Righi, DVM Food Animal; Alex Wittorff, SDVM Theriogenology; Jenny Wyrick, DVM Junior Surgery

*Board Certification in Specialty Area
Veterinary Pathobiology

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

The Department of Veterinary Pathobiology provides contemporary and state-of-the-art instruction and research for the disciplines of bacteriology, immunology, parasitology, pathology, virology, epidemiology and public health. The Department is the proud home of the National Center for Veterinary Parasitology, the Director of the University’s Animal Resource Unit and University Attending Veterinarian, and faculty associated with the Oklahoma Animal Disease Diagnostic Laboratory. Departmental faculty participate in research sponsored by the NIH, USDA and private industry focused on infectious diseases important in animals and people. The department is actively engaged in training the next generation of veterinarians 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 Residency Coordinator; and Dr. James H. Meinkoth, Clinical Pathology Residency Coordinator

Residency programs in anatomic and clinical veterinary pathology are offered. Candidates must have the 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 on primarily 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 typically 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; *Jerry Ritchey, DVM, PhD, DACVP; *Timothy Snider, DVM, PhD, DACVP

Clinical Professor: *Theresa Rizzi, DVM, DACVP

Associate Professors: Tom Oomens, PhD; *Akhilesh Ramachandran, BVSc&AH, PhD, DACV; *Jared Taylor, DVM, MPH, PhD, DACVIM, DACVP

Clinical Associate Professor: *Ashley Wathen, DVM, MPH, DACLAM

Assistant Professors: Kelly Allen, MS, PhD; *Fernando Vicosa Bauermann, DVM, PhD; *Valerie McElliott, DVM, PhD, DACVP; *Craig Miller, DVM, PhD, DACVP; *Sunil More BVSc & AH, MSc, PhD; *Jennifer Rudd, DVM, PhD, DACVIM; *Ruth C. Scimeca BVSc, MS, PhD, DAVPC-Parasitology; *Giselle Cino, DVM, PhD, DACVP; *Brianne Taylor, DVM, MS, DACVP

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

Associate Research Professor: Edmouf Blouin, PhD (emeritus)

Research Scientist: Mayara Maggioli, DVM, PhD

Residents: Katheryn Duncan, DVM; Dah Jiun Fu, DVM; Alexa Hunter, DVM; Ryan Kalish, DVM; Scott Mitchell, DVM; Stacy Woods, DVM

Post-Doctoral Fellows: Kelly Harrison, PhD; Jeff Ostler, PhD

Graduate Teaching Associates: Patil Basavaraju, BVSc; Sachithra Gunasekara, BS; Megan Lineberry, BS; Jeeviya Murugesan, BVSc; Vanessa Santos, BS; Miruthula Selvan, BVSc; Erin Stayton, DVM; Pabasara Weerarathe, MS; Nishani Wijesekera, BVSc

Graduate Research Associates: Pramila Lamichhane, MS; Mego Terhuja, BVSc, MSc; Britannie Peake, BS

*Board Certification in Specialty Area
Physiological Sciences

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 20 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 Master’s 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, cardiovascular physiology, raptor biology and cetacean biology. 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 and Department Head

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

Professors: James E. Breazile, DVM, PhD (emeritus); 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; *Dianne McFarlane, MS, DVM, PhD (Ricks Rapp Professorship); Lara K. Maxwell, DVM, PhD; Charlotte L. Ownby, MS, PhD (emeritus); Ashish Ranjan, BVSc, PhD (Kerr Endowed Chair); Chris Ross, DVM, PhD; Alastair G. Watson, BVSc, PhD (emeritus)

Adjunct Professors: David W.A. Bourne, MS, PhD; Stephen Brimijoin, BA, PhD; Larry P. Gonzalez, BS, MA, PhD; Terence H. Risby, PhD

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; *Sandra E. Morgan, MS, DVM (emerita); Larry E. Stein, PhD (emeritus)

Adjunct Associate Professors: Joseph R. Bidwell, BSc, MSc, PhD; David R. Wallace, BS, PhD; Guolong Zhang, BS, MS, PhD

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

Adjunct Assistant Professor: Terry A. Gipson, BS, MS, PhD

Assistant Research Professors: Chaoqun Huang, MD, PhD

Research Associate: Yurong Liang, BS, PhD; M. Cristina Munteanu, MS, PhD

Research Scientist: Danny Maples, PhD; Sarang Tarrey, PhD

Post-Doctoral Fellows: Timothy Clik, PhD; Akansha Singh, PhD; Kishor Vaddadi, PhD

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

Graduate Research Associates: Harshini Ashar, BVSc, MVSc; Landon Butler, BS; Debarati Chanda, BS, MS; Quanjin Dang, BS; Matthew Gallman, BS; Mike Gorbet, BS; Sankha Hewawasam, BS; Samuel Jeyasingh, BVSc; Rudy Montayre, BS; Emily Nunan, BS; Matthew Rochowski, BS; Zhengyu Zhu, BVSc

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

*Board Certification in Specialty Area
Degree Programs

Graduate Programs

• Comparative Biomedical Science, MS (p. 3135)
• Comparative Biomedical Science, PhD (p. 3136)

Professional Programs

• Veterinary Medicine, DVM (p. 3137)
Comparative Biomedical Sciences, MS

Requirements for Students Matriculating in or before Academic Year 2021-2022. Learn more about Graduate College Academic Regulation 7.0 (p. ).

Total Hours: 30

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<td>Statistics for Experimenters I</td>
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Graduate College Master's Program Requirements

Learn more about Graduate College 2021-2022 Master's Degree Program Requirements (p. 2773). 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 2021-2022. Learn more about Graduate College Academic Regulation 7.0 (p. ).

Total Hours: 60

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Total Hours 60

Graduate College Doctor of Philosophy (PhD) Requirements

Learn more about Graduate College 2021-2022 Doctor of Philosophy (PhD) Degree Program Requirements (p. 2773). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.
# Veterinary Medicine, DVM

Total Hours: 165

## Year One

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<td>VMED 7162</td>
<td>Orientation to the Veterinary Medical Profession</td>
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### Degree Requirements

#### Fall Semester

- **VMED 7114**: Veterinary Physiology I (4 hours)
- **VMED 7113**: Veterinary Physiology II (3 hours)
- **VMED 7123**: Veterinary Histology (3 hours)
- **VMED 7144**: Gross and Developmental Anatomy (4 hours)
- **VMED 7152**: Zootechnology (2 hours)
- **VMED 7162**: Orientation to the Veterinary Medical Profession (2 hours)

### Hours Subtotal

18 hours

#### Spring Semester

- **VMED 7221**: Epidemiology and Evidence-Based Medicine (1 hour)
- **VMED 7223**: Veterinary Parasitology I (3 hours)
- **VMED 7235**: Veterinary Physiology III (5 hours)
- **VMED 7243**: Comparative Anatomy (3 hours)
- **VMED 7253**: Veterinary Immunology (3 hours)
- **VMED 7264**: General Pathology (4 hours)

### Hours Subtotal

19 hours

## Year Two

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<td>Veterinary Parasitology II</td>
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<td>VMED 7333</td>
<td>Pharmacology I</td>
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<td>VMED 7354</td>
<td>Veterinary Bacteriology and Mycology</td>
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<td>VMED 7363</td>
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### Degree Requirements

#### Fall Semester

- **VMED 7311**: Introduction to Clinics I (1 hour)
- **VMED 7323**: Veterinary Parasitology II (3 hours)
- **VMED 7333**: Pharmacology I (3 hours)
- **VMED 7342**: Clinical Anatomy (2 hours)
- **VMED 7354**: Veterinary Bacteriology and Mycology (4 hours)
- **VMED 7363**: Clinical Pathology (3 hours)

### Hours Subtotal

19 hours

#### Spring Semester

- **VMED 7412**: Anesthesiology                  (2 hours)
- **VMED 7413**: Food Safety and Public Health  (3 hours)
- **VMED 7432**: Pharmacology II                 (2 hours)
- **VMED 7443**: Diagnostic Imaging              (3 hours)
- **VMED 7454**: Veterinary Virology             (4 hours)
- **VMED 7482**: Hemolymphatic and Oncology      (2 hours)

### Hours Subtotal

20 hours

## Year Three

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<td>VMED 7563</td>
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<td>VMED 7583</td>
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### Degree Requirements

#### Fall Semester

- **VMED 7502**: Ophthalmology (2 hours)
- **VMED 7533**: Toxicology (3 hours)
- **VMED 7563**: Musculoskeletal Systems (3 hours)
- **VMED 7583**: Dermatology & Endocrinology (3 hours)
- **VMED 7674**: Theriogenology (4 hours)
- **VMED 7592**: Junior Surgery I (2 hours)

### Hours Subtotal

20 hours

#### Spring Semester

- **VMED 7601**: Junior Surgery II (1 hour)
- **VMED 7654**: Alimentary System (4 hours)
- **VMED 7612**: Clinical Neurology (2 hours)
- **VMED 7614**: Cardiopulmonary System (4 hours)
- **VMED 7652**: Introduction To Clinics II (2 hours)
- **VMED 7662**: Urinary System (2 hours)
- **VMED 7781**: Professional Veterinary Medicine (1 hour)

### Hours Subtotal

19 hours

## Year Four

### CORE ROTATIONS

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<td>VCS 7072</td>
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<td>VCS 7082</td>
<td>Equine Medicine I</td>
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<td>VCS 7142</td>
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<td>Externship III</td>
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<td>VCS 7272</td>
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<td>VCS 7372</td>
<td>Radiology I</td>
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<td>VCS 7912</td>
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### Hours Subtotal

28 hours

### SMALL ANIMAL EMPHASIS

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### Hours Subtotal

20 hours

## Total Hours

39 hours
Select one of the following:  
VCS 7342  Ophthalmology II  
VCS 7472  Zoological Medicine II  

Hours Subtotal  8

Electives
Select 7 rotations from the following:
VCS 7012  Anesthesiology III  
VCS 7102  Community Practice III  
VCS 7172  Externship IV  
VCS 7182  Externship V  
VCS 7192  Externship VI  
VCS 7262  Hospital Based Theriogenology III  
VCS 7282  Small Animal Intensive Care Unit III  
VCS 7352  Ophthalmology III  
VCS 7362  Professional Development Experience III  
VCS 7412  Small Animal Internal Medicine III  
VCS 7432  Small Animal Surgery III  
VCS 7482  Zoological Medicine III  
VCS 7492  Applied Canine Exercise Physiology  

Elective III
VCS 7532  Applied Diagnostic Medicine and Laboratory Investigations III  

Hours Subtotal  12

Total Hours  22

EQUINE EMPHASIS

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<td>Equine Surgery and Sports Medicine II</td>
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<td>VCS 7312</td>
<td>Large Animal Theriogenology II-A</td>
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<td>VCS 7322</td>
<td>Large Animal Theriogenology II-B</td>
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Hours Subtotal  8

Electives
Select 7 rotations from the following:
VCS 7012  Anesthesiology III  
VCS 7102  Community Practice III  
VCS 7112  Equine Performance Medicine III  
VCS 7132  Equine Surgery and Sports Medicine III  
VCS 7172  Externship IV  
VCS 7182  Externship V  
VCS 7192  Externship VI  
VCS 7212  Field Services and Production Medicine III  
VCS 7242  Food Animal Medicine and Surgery III  
VCS 7262  Hospital Based Theriogenology III  
VCS 7282  Small Animal Intensive Care Unit III  
VCS 7302  Large Animal Bovine Theriogenology III  
VCS 7322  Large Animal Theriogenology II-B  

Elective III
VCS 7532  Applied Diagnostic Medicine and Laboratory Investigations III  

Hours Subtotal  14

Total Hours  22

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. 3127) in the Catalog.