University of Florida
Ph.D. Comparative Biomedical Sciences
CIP 26.0102

Proposal document included:

Abbreviated Degree Proposal*

Documents available upon request:

Course Descriptions
Budget and Headcount Tables
Consultant's Report and Institution Response
Letter of Support
Faculty Curriculum Vitae
Non-Faculty Resources
Planning Process

*Complete degree proposal is available in the resources section in Onboard

STATE UNIVERSITY SYSTEM OF FLORIDA

Board of Governors, State University System of Florida

REQUEST TO OFFER A NEW DEGREE PROGRAM

In Accordance with BOG Regulation 8.011

(Please do not revise this proposal format without prior approval from Board staff)

University of Florida **Institution Submitting Proposal**	Fall 2025 **Proposed Implementation Term**
College of Veterinary Medicine **Name of College(s) or School(s)**	College of Veterinary Medicine **Name of Department(s)/Division(s)**
Comparative Biomedical Sciences **Academic Specialty or Field**	Doctor of Philosophy with a major in Comparative Biomedical Sciences **Complete Name of Degree**
26.0102 **Proposed CIP Code (2020 CIP)**	

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

June 13, 2024
Date Approved by the University Board of Trustees

President's Signature 5/2/24 **Date**

6/13/24
Board of Trustees Chair's Signature **Date**

5/3/2024 | 10:25 AM EDT
Provost's Signature **Date**

PROJECTED ENROLLMENTS AND PROGRAM COSTS

Provide headcount (HC) and full-time equivalent (FTE) student estimates for Years 1 through 5. HC and FTE estimates should be identical to those in Appendix A – Table 1. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Appendix A – Table 3A or 3B. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 by dividing total E&G by FTE.

Implementation Timeframe	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary/ Philanthropy Funds	Total Cost
Year 1	30	22.5	$16,393	$368,843			$368,843
Year 2	26	19.5					
Year 3	22	16.5					
Year 4	18	13.5					
Year 5	15	11.25	$36,901	$415,137			$415,137

Introduction

I. Program Description and Relationship to System-Level Goals

A. Describe within a few paragraphs the proposed program under consideration, and its overall purpose, including:

- **degree level(s)**
- **majors, concentrations, tracks, specializations, or areas of emphasis**
- **total number of credit hours**
- **possible career outcomes for each major (provide additional details on meeting workforce need in Section III)**

The mission of the UF CVM's graduate program is "to provide high-quality research training for graduate students in the biomedical sciences (UF SACSCOC Accreditation)", veterinary medicine and related disciplines.

The graduate program is designed to cultivate problem-solving abilities, critical thinking, team science, leadership, and science communication, as well as other professional skills essential for conducting research. This program is flexible and allows students to train in various areas of emphasis including infectious diseases and immunology, physiological sciences, forensic sciences, aquatic animals and ecosystem health, artificial intelligence, and other areas of emphasis presented below.

The graduate program aligns with the College of Veterinary Medicine's mission statement, which is "The College of Veterinary Medicine advances animal, human, and environmental health through education, research, and patient care." It also aligns with the University's mission "to lead and serve the state of Florida, the nation and the world by pursuing and disseminating new knowledge while building upon the experiences of the past."

Degree Program: PhD with a major in Comparative Biomedical Sciences

Level: PhD

Major: Comparative Biomedical Sciences

Areas of emphasis: UF CVM strengths and areas of emphasis in research graduate training include, but are not limited to discovery and translational solutions for (i) infectious diseases and immunology, (ii) physiological sciences, (iii) forensic sciences, (iv) microbiology, virology, and parasitology, (v) zoo medicine (vi) aquatic animals and ecosystem health, (vii) livestock and wildlife population health, (viii) equine gastroenterology; (ix) orthopedic bioengineering using animal models, (x) clinical and translational research in selected disciplines such as cardiology, dermatology, oncology, and ophthalmology, and (xi) novel diagnostic and therapeutic applications to improve human and animal health using artificial intelligence. UF CVM is uniquely situated to pursue these investigations with emphasis on non-human species, and in comparative medicine in animals and humans.

Total number of credit hours: 90. The PhD with a major in Comparative Biomedical Sciences is structured to be completed (in-residence) in four to five years. PhD students will take 90 credits of coursework, including 14 credits in required

courses: VME 6937L VMS Graduate Seminar Series or equivalent (6 credits), VME 6767 Responsible Conduct in Research or equivalent (1), Grant Writing (1), Statistics (3), Biochemistry or Molecular Biology (3). The Qualifying Exam will be completed within seven terms after enrollment. At the end of the graduating semester, the PhD candidate must successfully complete a final examination or defense.

Program Change
Because the required coursework (14 credits) is the same for the existing PhD degree in Veterinary Medical Sciences (VMS) and the new PhD degree with a major in Comparative Biomedical Sciences, VMS students may be eligible to change to the PhD degree in Comparative Biomedical Sciences.
When such transfer is desired, it should be approved before the Qualifying Exam is completed. (e.g., within first seven terms after enrollment).

Master's Option
A stand-alone master's with a major in Comparative Biomedical Sciences (thesis-based) is structured to be completed in-residence in two years, independently of the PhD. Master's students will take 30 credits of coursework, including 8 credits in required courses aligned with the requirements of the PhD: VME 6937L VMS Graduate Seminar Series or equivalent (1 credit), VME 6767 Responsible Conduct in Research or equivalent (1), Statistics (3), Biochemistry or Molecular Biology (3), as well as 22 credits in research and elective courses. PhD students who have met the master's degree requirements may be eligible to receive the Master of Science degree.

Career outcomes: UF CVM PhD graduates will join the biomedical research workforce in research-intensive positions in academia or in research-related positions in the private sector, government, NGOs, or non-profits in Florida, the United States, and internationally.

Employment of medical scientists is projected to grow 17% from 2021 to 2031, much faster than the average for all occupations (US Bureau of Labor Statistics). https://www.bls.gov/ooh/life-physical-and-social-science/medical-scientists.htm

Additional details on meeting workforce need are presented in Section III.

B. If the proposed program qualifies as a Program of Strategic Emphasis, as described in the Florida Board of Governors 2025 System Strategic Plan, please indicate the category.

- **Critical Workforce**
  - ☐ Education
  - ☐ Health
  - ☐ Gap Analysis
- **Economic Development**
  - ☐ Global Competitiveness
  - ☒ Science, Technology, Engineering, and Math (STEM)

☐ **Does not qualify as a Program of Strategic Emphasis.**

II. Strategic Plan Alignment, Projected Benefits, and Institutional Mission and Strength

A. Describe how the proposed program directly or indirectly supports the following:

- **System strategic planning goals (see link to the 2025 System Strategic Plan on the New Program Proposals & Resources webpage)**
- **the institution's mission**
- **the institution's strategic plan**

The SUS goals focus on three critical points to realize its mission and its 2025 vision: *Excellence, Productivity, and Strategic Priorities for a Knowledge Economy*.

Goals for Teaching and Learning

Excellence

GOAL 1: Strengthen Quality and Reputation of the Universities

Improve the quality and relevance of the System's institutions with regard to state, national, and international preeminence.

Productivity

GOAL 2: Increase Degree Productivity and Program Efficiency-Increase access and efficient degree completion for students.

Strategic Priorities for a Knowledge-Based Economy

GOAL 3: Increase the Number of Degrees Awarded in STEM/Health and Other Programs of Strategic Emphasis.

Increase student access and success in degree programs in the STEM/health fields and other Programs of Strategic Emphasis that respond to existing, evolving, and emerging critical needs and opportunities.

UF CVM's PhD with a major in Comparative Biomedical Sciences will fulfill all three goals for teaching and learning by providing graduate education and training of the highest quality with emphasis in discovery and translational solutions for infectious diseases and immunology, physiological sciences, forensic sciences, and other areas of emphasis identified above, in Florida, USA, and internationally; therefore, it will support Goals 1 and 2. New graduates will acquire scientific knowledge and skills required to compete and collaborate in today's global society and market place. This will be a new STEM/Health degree; therefore, it will support Goal 3.

Information on the need and demand for the proposed PhD degree is presented in Section III.

B. Describe how the proposed program specifically relates to existing institutional strengths. This can include:

- **existing related academic programs**

- **existing programs of strategic emphasis**
- **institutes and centers**
- **other strengths of the institution**

The UF's College of Veterinary Medicine is part of the UF Academic Health Center (the most comprehensive academic health center in the Southeast). The Academic Health Center includes the colleges of Dentistry, Medicine, Nursing, Pharmacy, Public Health and Health Professions, and Veterinary Medicine. https://ufhealth.org/academic-health-center/overview

UF CVM is the state's only veterinary college. It is ranked # 7 among veterinary medical colleges nationwide by the U.S. News & World Report. Our UF Small Animal Hospital caseload is the 2nd largest among academic veterinary hospitals in USA.

Established in 1977, UF CVM offers four degree programs: doctor in veterinary medicine (DVM), a Master's in Veterinary Medical Sciences (VMS), a PhD degree in VMS, and a Master of Preventive Veterinary Medicine approved effective Fall 2023. In addition, a CVM/MPH degree is offered jointly by the College of Public Health and Health Professions and the College of Veterinary Medicine.

Since 1993, nearly 400 students have completed the Master degree or PhD degree in VMS. In addition, more than 500 students have completed our Master's online program in VMS, with a concentration in shelter medicine, forensic toxicology, or veterinary forensic sciences.

UF CVM's professional and graduate education programs are supported by 190 faculty members from five CVM academic departments (Comparative, Diagnostic, and Population Medicine, Large Animal Clinical Sciences, Small Animal Clinical Sciences, Physiological Sciences, and Infectious Diseases and Immunology) and other academic units on campus. In year 2022, 42 of 190 CVM faculty members were engaged in graduate education and training; 21 of 42 faculty members were involved in didactive teaching (e.g., Graduate Seminars, Graduate Journal Club: mechanisms of microbial virulence, Responsible Conduct in Research, Advanced Toxicology, Ecotoxicology and Risk Assessment, Advanced Bioinformatics, other courses) and 35 of 42 faculty members served as major professors of one or more PhD students.

CVM faculty are accomplished professors and researchers with 5-60 years of experience in education, research, consulting, and human/institutional capacity development programs in Florida, nationally, and internationally. The faculty publish in high quality peer-review journals, offer training workshops to practicing veterinarians, graduate students, farmers and ranchers in Florida, the USA, and abroad. CVM faculty share education, research, and administration resources, and will support the PhD curriculum and transdisciplinary research relevant to Florida's

citizens.

UF CVM's PhD program with a major in Comparative Biomedical Sciences will maximize existing resources to address challenges and opportunities in Florida, such as pathogen discovery, rapid diagnostic tests, pathogen virulence factors and mechanisms used to evade animal/human's immune system and cause disease, vaccine development, neuroscience and neurophysiology, toxicology, organ systems physiology, early detection and risk management of diseases or unusual mortality events in aquatic animals and related ecosystems, horses, beef cattle, dairy cattle, white-tailed deer, fish, and zoo animals, as well as cure of chronic diseases and cancer in companion animals.

In its association with UF's Institute of Food and Agricultural Sciences, UF CVM provides Extension veterinary services to farmers and ranchers of commercial livestock or wildlife operations, and aquaculture farms throughout the state.

C. **Provide the date the pre-proposal was presented to the Council of Academic Vice Presidents Academic Program Coordination (CAVP ACG). Specify whether any concerns were raised, and, if so, provide a narrative explaining how each concern has been or will be addressed.**

The pre-proposal was reviewed and approved by the CAVP Academic Coordinating Group on September 13, 2023, and no concerns were raised.

D. **In the table below, provide a detailed overview and narrative of the institutional planning and approval process leading up to the submission of this proposal to the Board office. Include a chronology of all activities, providing the names and positions of both university personnel and external individuals who participated in these activities.**
    - **If the proposed program is a bachelor's level, provide the date the program was entered into the APPRiSe system, and, if applicable, provide narrative responding to any comments received from APPRiSe.**
    - **If the proposed program is a doctoral-level program, provide the date(s) of the external consultant's review in the planning table. Include the external consultant's report and the institution's** responses to the report as Appendix B.

The external consultant's report and UF CVM response is presented in Appendix B.

Institutional and State Level Accountability

III. Need and Demand

A. Describe the workforce need for the proposed program. The response should, at a minimum, include the following:

- **current state workforce data as provided by Florida's Department of Economic Opportunity**
    - **current national workforce data as provided by the U.S. Department of Labor's Bureau of Labor Statistics**
    - **requests for the proposed program from agencies or industries in your service area**
    - **any specific needs for research and service that the program would fulfill**

Employment of medical scientists is projected to grow 17% from 2021 to 2031, much faster than the average for all occupations (US Bureau of Labor Statistics). https://www.bls.gov/ooh/life-physical-and-social-science/medical-scientists.htm

There is a shortage of veterinarians to meet societal needs in biomedical sciences in different disciplines (Rosol et al. The Need for Veterinarians in Biomedical Research. J Vet Med Edu 2009; 36:70-75).

Occupations	Job Openings 2022	Job Outlook 2022 to 2032	Employment Change 2022 to 2032	
	National	National	National	Typical Entry-Level Education
Medical scientist	119,000	10% faster than average	11,600	Doctoral or professional degree
Epidemiologist	10,000	27% faster than average	2,700	Master's degree
Microbiologist	20,900	5% faster than average	1,100	Bachelor's degree
Environmental scientist	80,500	6% faster than average	4,900	Bachelor's degree

Source: U.S Bureau of Labor Statistics https://www.bls.gov/ooh/

Since 1991, the existing UF CVM's PhD program in Veterinary Medical Sciences (VMS) has produced a total 195 PhD graduates who have entered the workforce in research or professional positions in academia, private sector, or government in Florida, the United States, and internationally.

Student interest. **UF CVM's PhD education and training is mainly in biomedical sciences in different disciplines**. In the last 10 years (2013-2022), most PhD graduates (48/53 or 91%) were engaged in biomedical research with emphasis in infectious diseases and immunology or physiological sciences (n = 17), or aquatic animals and ecosystem health, wildlife population health, or equine gastroenterology (n = 31). In addition, five of 53 (9%) PhD graduates were engaged in animal agriculture and veterinary clinical sciences with emphasis in cattle diseases (e.g., mastitis, metritis, tick-borne diseases). Overall, average time to graduation was 4.7 years. After graduation, 51 of 53 new graduates joined the research taskforce in

academia (n = 30/51 or 59%), private sector (n = 12/51 or 23%), or government (n = 9/51 or 18%) in Florida, the United States, or abroad. Among the 30 PhD graduates in academia, 20 accepted postdoctoral research positions (including ten at UF) and 10 accepted faculty positions at public universities (including two as clinical assistant professors at UF CVM and one at Virginia Tech College of Veterinary Medicine, two as assistant professors at Washington State University and one at University of Toledo, and four more at public universities in Chile, Dominican Republic, Paraguay, or Thailand).

B. Provide and describe data that support student demand for the proposed program. Include questions asked, results, and other communications with prospective students.

Enrollment projections are based on annual number of students enrolled in current PhD program in Veterinary Medical Sciences (VMS) in the last 10 years.

During 2013-2022, an average of seven new PhD students enrolled in the PhD program in VMS every year. In the last two years (2021 and 2022), PhD student annual enrollment went up to 10 and 11 students, respectively. We expect the annual enrollment of new PhD students will go up to 15 annually in the next five years.

The degree in VMS is offered through the UF College of Veterinary Medicine (CVM). We expect 20 of 30 existing VMS PhD students will request to be transferred to the new degree in Comparative Biomedical Sciences (CBS) offered by CVM. Both programs are in the same UF academic unit, CVM. The assumption is that 20 students will transfer in Year 1. From this cohort of 20 students in Year 1, five students will graduate every year.

C. Complete Appendix A – Table 1 (1-A for undergraduate and 1-B for graduate) with projected student headcount (HC) and full-time equivalents (FTE).

- **Undergraduate FTE must be calculated based on 30 credit hours per year**
- **Graduate FTE must be calculated based on 24 credit hours per year**

In the space below, provide an explanation for the enrollment projections. If students within the institution are expected to change academic programs to enroll in the proposed program, describe the anticipated enrollment shifts and impact on enrollment in other programs.

The annual enrollment of new PhD students will go up from **7 students** in the last seven years (2013-2020) to **10 students** in 2021, and to **15 students** in 2025.

The projected enrollment of new students will produce a total population of about **60 PhD students** in 2025.

The projected increased enrollment in the next five years is associated with a strategic budget allocation at UF CVM to support graduate education; particularly the PhD program. The projected enrollment of 15 new students per year and a total population of 60 PhD students is aligned with the PhD program size of Top Five veterinary programs in the country.

We do not expect students from other UF academic units (e.g., College of Medicine, College of Public Health and Health Professions) will change academic programs to enroll in the new degree in CBS offered by CVM.

D. **Describe the anticipated benefit of the proposed program to the university, local community, and the state. Benefits of the program should be described both quantitatively and qualitatively.**

Quantitative benefits. The total Educational and General (E&G) cost of the proposed new UF CVM's PhD with a major in Comparative Biomedical Sciences program = $368,843 in Year 1 and $415,137 in Year 5 for faculty salaries. The amount in Year 1 is based on an expected reallocated base from the current PhD program in Veterinary Medical Sciences distributed across the three colleges. (Appendix 1, Table 3-A).

The budget does not require new UF CVM funding allocation for implementation of the new PhD degree with a major in Comparative Biomedical Sciences.

The PhD program will be supported by using current and projected funding allocations by UF CVM in the mission of graduate education from Year 1 to Year 5, as well as extramural grants by UF CVM faculty. Additional budget information in presented in Section VII below.

New PhD enrollment projections are described above.

Qualitative benefits. The mission of UF CVM's graduate program in Veterinary Medical Sciences (VMS) is to provide high-quality research training for graduate students in the **biomedical sciences** (UF SACSCOC Accreditation).

The CIP 26.0102 Comparative Biomedical Sciences, General, is appropriately aligned with UF CVM's mission in graduate education and the scope of PhD education and training in biomedical sciences in main areas of emphasis identified above.

The PhD with a major in Comparative Biomedical Sciences offered at UF CVM will be a STEM/Health degree; therefore, it will support SUS Goal 3 in its mission of Teaching and Learning for a Knowledge-Based Economy: *Increase the number of degrees awarded in STEM/Health and other programs of strategic emphasis that respond to existing, evolving, and emerging critical needs and opportunities*.

Since 1991, UF CVM's PhD program in VMS has been offered under the Classification of Instructional Program (CIP) 01.8101, which is justified for education and training in Agricultural Sciences, Veterinary Sciences/Vet Clinical Sciences, General. The CIP 01.8101 is non-STEM; a classification that has recently affected our capacity to recruit highly qualified PhD applicants with interest in biomedical science education and training. These applicants accepted other (STEM) options at UF PhD programs (e.g., Animal Molecular and Cellular Biology, UF IFAS Department of Animal Sciences, CIP 26.0406) while retaining UF CVM faculty as their major professors, or at other universities in the United States.

E. **If <u>other public or private institutions in Florida</u> have similar programs that exist at the four- or six-digit CIP Code or in other CIP Codes <u>where 60 percent of the coursework is comparable</u>, identify the institution(s) and geographic**

location(s). Summarize the outcome(s) of communication with appropriate personnel (e.g., department chairs, program coordinators, deans) at those institutions regarding the potential impact on their enrollment and opportunities for possible collaboration in the areas of instruction and research.

Florida State University (FSU). Tallahassee, Florida. The Department of Biological Sciences offers PhD degree with a major in Biology in three tracks: Cell and Molecular Biology, Ecology and Evolution, and Neuroscience under CIP 26.0102 Biomedical Sciences, Other.

Florida International University (FIU). Miami, Florida. The Herbert Wertheim College of Medicine offers a PhD degree with a major in Biomedical Sciences under CIP 26.0102 Biomedical Sciences, Other.

University of Central Florida (UCF). Orlando Florida. under CIP 26.0102 Biomedical Sciences, Other.

Source: https://www.flbog.edu/resources/data-analytics/dashboards/degrees-awarded-by-classification-of-instructional-programs-cip-code/

Overall, required PhD coursework varies between UF CVM, FSU, FIU, and UCF; but most programs require education and instruction in graduate seminars, responsible conduct of research, and statistics.

FSU Cell & Molecular Biology[1]	FIU Biomedical Sciences[2]	UCF Biomedical Sciences[3]	UF CVM Comparative Biomedical Sciences[4]
CIP 26.0102	CIP 26.0102	CIP 26.0102	CIP 26.0102
Required Courses			
BSC 6921-Bio Sci Colloquium or Neuroscience equivalent; Seminars (3 credits); BSC 5900 (Directed Individual Study); BSC 5971 (Thesis Research); Responsible Conduct of Research; Teaching Requirement.	GMS 6103 Molecular Microbiology and Infectious Diseases GMS 6220 Molecular Genetics and Cellular Biology GMS 6605 Basic Structure of the Human Body GMS 6864 Principles of Clinical Epidemiology and Biostatistics GMS 6939 Graduate Seminar GMS 6942 Laboratory Rotations GMS 6962 Formation of Committee: Appointment of Dissertation Committee: Preliminary Proposal GMS 6979 Research Credits GMS 6481 Physiology and Immunology	BSC 6432 Biomedical Sciences I BSC 6431 Practice of Biomedical Sciences IDS 6694 Experimental Design and Analysis in Biomedical Sciences GMS 6860 Statistics for Biomedical Scientists PCB5815 Molecular Aspects of Obesity, Diabetes and Metabolism PCB5837 Cellular and Molecular Neuroscience PCB5236 Cancer Biology MCB 6273 Advanced Topics in Infectious Processes	VME 6937L VMS Graduate Seminar Series (or equivalent); VME 6767 Issues in Responsible Conduct of Research (or equivalent); PHC 6088 Statistical Analysis of Genetic Data (or equivalent); BCH 5413 Mammalian Molecular Biology and Genetics (or equivalent); GMS 6096 Intro NIH Grant Writing Biomedical Sciences (or equivalent).

[1] https://www.bio.fsu.edu/grad/handbook/
[2] https://medicine.fiu.edu/academics/phd-in-biomedical-sciences/curriculum/index.html
[3] https://www.ucf.edu/degree/biomedical-sciences-phd/
[4] https://research.vetmed.ufl.edu/studies/

In addition, **UF College of Medicine** offers a PhD degree in Medical Sciences under CIP 26-9999 Biological and Biomedical Sciences, Other.

Overall, required PhD's core coursework varies between UF CVM, UF College of Medicine, and UF IFAS Animal Sciences; but all three programs require education and training in responsible conduct of research.

UF College of Medicine Medical Sciences[1]	UF IFAS Animal Sciences Animal Molecular and Cellular Biology[2]	UF CVM Comparative Biomedical Sciences[3]
CIP 26.0102	CIP 26.0102	CIP 26.0102
Required Courses		
Foundational/Core Curriculum Fall Semester GMS 6001 Fundamentals of Biomedical Sciences I (5 credits); GMS 6003 Essentials of Graduate Research & Professional Development (1) GMS 6090 Research Rotations (2) GMS 6895 Journal Club (1) Career Development/ Research Seminar Series Spring Semester Any combination of introductory or fundamental or advanced coursework (6) GMS 6090 Research Rotation (1) GMS 7877 Responsible Conduct in Biomedical Research (1) **Customized Concentration-Focused Curriculum** Fall Semester GMS 6003 Essentials of Graduate Research & Professional Development (1 credit) GMS 6090 Research Rotations (2) GMS 6895 Journal Club (1) Spring Semester	BCH 5413 Eukaryotic Molecular Biology (3 credits) GMS 6421 Advanced Cell Biology (4) VME 6767 Issues in Responsible Conduct of Research (or equivalent) (1)	VME 6937L VMS Graduate Seminar Series (or equivalent) (6 credits) VME 6767 Issues in Responsible Conduct of Research (or equivalent) (1) PHC 6088 Statistical Analysis of Genetic Data (or equivalent) (3) BCH 5413 Mammalian Molecular Biology and Genetics (or equivalent) (3) GMS 6096 Intro NIH Grant Writing Biomedical Sciences (or equivalent) (1)

GMS 6090 Research Rotation (1) GMS 7877 Responsible Conduct in Biomedical Research (1)		

[1]https://biomed.med.ufl.edu/wordpress/files/2022/08/BMS-Handbook_August2022-final.pdf
[2]https://programs.ifas.ufl.edu/animal-molecular-and-cellular-biology/admissions-requirements/
[3]https://research.vetmed.ufl.edu/studies/

What's in common or different between the new PhD degree with a major in Comparative Biomedical Sciences and the current PhD degree in Veterinary Medical Sciences at UF CVM?

The two degrees share the same required core coursework (**14 credits**). Specifically, graduate seminars (6 credits), responsible conduct of research (1), grant writing (1), statistics* (3) and biochemistry or molecular biology (3).

*Students enrolled in the PhD program with a major in Comparative Biomedical Sciences can select statistical courses more aligned with biomedical research such as: **PHC 6088 Statistical Analysis of Genetic Data**. The course covers the statistical theory behind methods for analyzing genetic data and its application using software tools. Equivalent courses can be suggested by the student's supervisory committee or the Department Graduate Coordinator.

*Students enrolled in the PhD program in Veterinary Medical Sciences can select statistical courses more aligned with clinical research such as: **PHC 6020 Clinical Trial Methods**. The course covers statistical concepts and methods used in clinical trials, as well as statistical principles and methods including phase I to IV clinical trials. Equivalent courses can be suggested by the student's supervisory committee or the Department Graduate Coordinator.

The main difference in education and training between the two degrees is the scope of research (biomedical vs. veterinary clinical) in selected PhD dissertations and related coursework (≥ 74 credits). The scope of dissertation for the new PhD program with a major in Comparative Biomedical Sciences is on biomedical research involving new discoveries and new translational solutions for diseases in animal and human populations. In contrast, the scope of dissertation in the current PhD Program in Veterinary Medical Sciences is on veterinary clinical research. It involves patient- oriented research in animal populations, clinical trials, epidemiologic studies, outcomes research, or health services research.

Table below shows an example of different courses taken by two UF CVM PhD graduates who were engaged in biomedical research or veterinary clinical research. After graduation, the first graduate accepted a postdoc position at UF CVM's Department of Infectious Diseases & Immunology and is now a faculty member in that Department. The second graduate returned to a clinical faculty position at the University of Mosul' College of Veterinary Medicine in Iraq, and recently accepted a

postdoc position at Cornell University's Department of Population Medicine & Diagnostic Sciences. The scope of research education and training (under VME 6910 Supervised Research; VME 7979 Advanced Research, before admission to candidacy or passing the Qualifying Exam; and VME 7980 Doctoral Research, after admission to candidacy) was different between the two graduates.

	Biomedical research	Clinical research
Dissertation	Nicotine Modulation of the Maternal-Fetal Host Response to Infection Nicotine & Tobacco Research (2021) 1763–1770	Pregnancy Loss Attributable to Mastitis in Dairy Cows J Dairy Sci (2018) 100:8322-8329
VME 6910 Supervised Research	5 credits (Biomedical)	5 credits (Clinical)
VME 7979 Advanced Research	20 credits (Biomedical)	20 credits (Clinical)
VME 7980 Doctoral Research	74 credits (Biomedical)	36 credits (Clinical)
VME 6905 Prob Vet Med Sci	9 credits (Biomedical)	3 credits (Clinical)
VME 6930s Graduate Seminars	8 (Infectious Diseases)	8 (Vet Med Sci or Anim Sci)
VME 6464 Molecular Pathogenesis	3 credits	
GMS 6140 Principles Immunology	4 credits	
STA 6167 Stats Methods Research 1	3 credits	
STA 6167 Stats Methods Research 2	3 credits	
PHC 5503 Categorical Data Methods		3 credits
PHC 6053 Regression Methods		3 credits
VME 6771 Vet Epidemiol Research		3 credits
ANS 5312C Applied Rumi Repro Manag		3 credits
ANS 6702 Lactation Physiology		1 credit
ANS 6704 Mammal Endocrinology		2 credits
PHA 5267 Principles PharmaEconomics		1 credit

F. Describe the process for the recruitment and retention of a diverse student body in the proposed program. If the proposed program substantially duplicates a program at FAMU or FIU, provide a letter of support from the impacted institution(s) addressing how the program will impact the institution's ability to attract students of races different from that which is predominant on the FAMU or FIU campus. The institution's Equal Opportunity Officer shall review this Section of the proposal, sign, and date the additional signatures page to indicate that all requirements of this section have been completed.

The UF CVM is committed to recruitment and retention activities and to the success of individual programs. The CVM Office for Community Engagement & Diversity Outreach (OCEDO) will enhance and strengthen already successful individual efforts by providing activities for potential URM students in the PhD program with a major in Comparative Biomedical Sciences. Dr. Michael Bowie (Assistant Dean, OCEDO) will work with affinity organizations, like the Multicultural Veterinary Medical Association, National Association for Black Veterinarians, Black DVM Network, Latinx Veterinary Medical Association, and Association of Asian Veterinary Medical Professionals, to recruit underrepresented students into the PhD program with a major in Comparative Biomedical Sciences.

By gathering the research success stories of our outstanding URM students across the individual graduate programs, the UF CVM Office of Research and Graduate Studies (ORGS) in conjunction with CVM OCEDO will be in a position to develop materials that highlight the strength and breadth of URM scholars at UF. The PhD

program with a major in Comparative Biomedical Sciences will work with CVM ORGS, CVM OCEDO, and the CVM marketing team to develop display and advertising materials that highlight the scientific success of our URM trainees and use recruiting funds to cost- effectively target diverse populations at national meetings of affinity organizations. Ads will be placed on the websites of these affinity organizations. Prospective URM scholars will be introduced to the program via a UF webpage, which is continually being improved, to outline our program, our faculty and research, and potential career opportunities that arise from being a successful graduate of the program. We hope that incoming participants consider these unique opportunities when making their decisions about PhD graduate programs.

IV. Curriculum

A. Describe all admission standards and all graduation requirements for the program. Hyperlinks to institutional websites may be used to supplement the information provided in this subsection; however, these links may not serve as a standalone response. For graduation requirements, please describe any additional requirements that do not appear in the program of study (e.g., milestones, academic engagement, publication requirements).

Admission standards

[i] Bachelor's degree, veterinary degree (DVM or equivalent), or Master's degree.
[ii] An upper division undergraduate GPA of 3.2 or the equivalent.
[iii] Three appropriate letters of recommendation.
[iv] Non-U.S. citizens whose native language is not English must submit a score of at least 80 on the internet TOEFL (Test of English as a Foreign Language) (iBT & Home Edition), 550 TOEFL PBT, or 6.0 IELTS Academic. Established special exceptions for missing language scores are at the purview of the graduate school.
[v] In UF CVM, GRE score is not required

Graduation requirements

In order to obtain the PhD degree with a major in Comparative Biomedical Sciences, the student must complete required coursework (14 credits) in biochemistry or molecular biology (3 credits), statistics (3), responsible conduct in research (1), grant writing (1), graduate seminars (6), a Qualifying Examination (within first seven terms/semesters after enrollment), a Final Examination, and a PhD dissertation on main area(s) of emphasis identified above (i.e., infectious diseases and immunology, physiological sciences, forensic sciences, other). UF CVM academic departments may include additional requirements. PhD students must have a truncated 3.00 minimum Overall and Major GPA to be eligible for a degree award.

B. Describe the specific expected student learning outcomes associated with the proposed program. If the proposed program is a baccalaureate degree, include a hyperlink to the published Academic Learning Compact and the document itself as Appendix C.

Student Learning Outcome 1 Knowledge in Specialization

Students identify, describe, explain and apply the literature, research, and practices relevant to their area of specialization. Assessment method: students are assessed through satisfactory performance of their final defense of their dissertation.

Student Learning Outcome 2 Evaluate Information
Students analyze and critically evaluate new information and ideas contained in books and journal articles, as well as information and ideas presented at scientific meetings, seminars and/or informal discussions with other scientists. Assessment method: Students will successfully complete one or more seminar course or journal club course that requires reading, presentation and critical evaluation of scientific papers.

Student Learning Outcome 3 Presentation, Speaking Skills
Students apply speaking skills needed to communicate orally in formal and informal settings. Assessment method: students produce a research report judged worthy of presentation at local, national and/or international scientific meetings and/or continuing education presentations by their faculty mentor.

Student Learning Outcome 4 Effective Writing Skills
Students write effectively in a manner appropriate to veterinary medical sciences. Assessment method: students write a paper that is judged publishable by the faculty.

Student Learning Outcome 5 Professional Behavior
Students exhibit ethical and professional behavior throughout their studies and research. Assessment method: students successfully complete a formal course on the responsible and ethical conduct of research.

Source: UF CVM Annual Report submitted to UF Provost Office and SACSCOC for accreditation purposes.

C. If the proposed program is an AS-to-BS capstone, provide evidence that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as outlined in State Board of Education Rule 6A-10.024. Additionally, please list the prerequisites, if any, and identify the specific AS degrees that may transfer into the proposed program.

☒ **Not applicable to this program because it is not an AS-to-BS Capstone.**

D. Describe the curricular framework for the proposed program, including the following information where applicable:

- **total numbers of semester credit hours for the degree**
- **number of credit hours for each course**
- **required courses, restricted electives, and unrestricted electives**
- **a sequenced course of study for all majors, concentrations, tracks, or areas of emphasis**

Total numbers of semester credit hours for the degree. Ninety credits.
Number of credit hours for each course. Number of credits hours per course is variable. In general, Graduate Seminar courses are 1 credit per course, per semester. Responsible Conduct in Research (1 credit). Statistics (3 credits). Grant Writing (1 credit). Biochemistry/Molecular Biology (3 credits). Supervised Research

(1-5 credits per semester, 5 credits maximum count toward the degree). Supervised Teaching (1-5 credits per semester, 5 credits maximum count toward the degree).

Advanced Research (1-9 credits per semester, no limit toward the degree, before admission to candidacy or completion or Qualifying Examination). Research for Doctoral Dissertation (1-9 credits per semester, no limit, after admission to candidacy).

Required courses. Fourteen graduate-level course credits: Graduate Seminars (6 credits). Responsible Conduct in Research (1 credit). Statistics (3 credits). Biochemistry/Molecular Biology (3 credits). Grant Writing (1 credit). Elective courses are selected and justified by the student in consultation with the PhD Student Supervisory Committee, and in coordination with a Department Graduate Coordinator. Elective courses should support key elements of critical thinking and capacity to conduct independent and team research by the student.

Sequence of course of study for the major. In general, required courses should be completed during the first two years of PhD education and training (including 4 of 6 required graduate seminar credits). A PhD program goal is for student to successfully complete their Qualifying Examination within the first seven semesters after enrollment. In addition, PhD candidates (after completion of the Qualifying Examination) are expected to successfully complete all requirements of the PhD degree (including a Final Defense of their dissertation) and graduate after 4-5 years of education and training.

E. Describe any potential impact on related academic programs or departments, such as an increased need for general education or common prerequisite courses or increased need for required or elective courses outside of the proposed academic program. If the proposed program is a collaborative effort between multiple academic departments, colleges, or schools within the institution, provide letters of support or MOUs from each department, college, or school in Appendix D.

The impact of the new program in CBS in CVM will be limited to a lower enrollment in the existing program in CMS in CVM (in line with a lower number of students engaged in animal agriculture/veterinary clinical research, compared to comparative biomedical research in CVM).

The new degree will not impact faculty participation or sources of funding in CVM. PhD students in both the VMS program and the CBS program will take the same required courses (graduate seminars, responsible conduct in research, grant writing, molecular biology/biochemistry, statistics) (14 credits); but the scope of research and elective courses will be different (animal agriculture or veterinary clinical vs. comparative biomedical research) (76 credits).

Identify any established or planned educational sites where the program will be offered or administered. If the proposed program will only be offered or administered at a site(s) other than the main campus, provide a rationale.

The new degree will be offered and administered at the UF College of Veterinary Medicine (CVM) in Gainesville, Florida. UF CVM is the state's only College of Veterinary Medicine. In addition, UF CVM is part of the UF Academic Health Center

(the most comprehensive academic health center in the Southeast). The Academic Health Center includes the colleges of Dentistry, Medicine, Nursing, Pharmacy, Public Health and Health Professions, and Veterinary Medicine. https://ufhealth.org/academic-health-center/overview

F. Describe the anticipated mode of delivery for the proposed program (e.g., face-to-face, distance learning, hybrid). If the mode(s) of delivery will require specialized services or additional financial support, please describe the projected costs below and discuss how they are reflected in Appendix A – Table 3A or 3B.

The anticipated mode of delivery for the new PhD program with a major in Comparative Biomedical Sciences will be face-to-face. The delivery system will be traditional, in-residence, on main campus (UF College of Veterinary Medicine). The program will not require specialized services or additional support. All required and additional courses are available at the UF College of Veterinary Medicine or other academic units on main campus in Gainesville, Florida. When necessary, UF CVM faculty will reach out to faculty in other universities for collaboration.

G. Provide a narrative addressing the feasibility of delivering the proposed program through collaboration with other institutions, both public and private. Cite any specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

All required and additional courses are available at the UF College of Veterinary Medicine or other academic units on main campus in Gainesville, Florida. When necessary, UF CVM faculty will reach out to faculty in other universities for collaboration.

H. Describe any currently available sites for internship and/or practicum experiences. Describe any plans to seek additional sites in Years 1 through 5.

☒ Not applicable to this program because the program does not require internships or practicums.

V. Program Quality Indicators - Reviews and Accreditation

A. List all accreditation agencies and learned societies that would be concerned with the proposed program. If the institution intends to seek specialized accreditation for the proposed program, as described in Board of Governors Regulation 3.006, provide a timeline for seeking specialized accreditation. If specialized accreditation will not be sought, please provide an explanation.

The program will be accredited as part of the institution's accreditor, SACSCOC. If necessary, the program will seek to find a specialized accreditor, but is not seeking that at this time.

B. Identify all internal or external academic program reviews and/or accreditation visits for any degree programs related to the proposed program at the institution, including but not limited to programs within academic unit(s) associated with the proposed degree program. List all recommendations emanating from the reviews and summarize the institution's progress in implementing those recommendations.

UF CVM offers a PhD program in Veterinary Medical Sciences (VMS). The PhD in VMS is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

Annual reports with requested data and information (e.g., program goals, student learning outcomes) are prepared and submitted to UF Provost's Office and SACSCOC for evaluation/approval.

In Fall 2019, the curriculum of the PhD in VMS was reviewed/revised by the UF CVM Graduate Studies Committee, where all PhD students in-residence are now required to received education and training in responsible conduct in research and grant writing. The new requirements were successfully implemented in all five CVM academic departments (Comparative Diagnostic and Population Medicine; Infectious Diseases and Immunology; Physiological Sciences; Large Animal Clinical Sciences; Small Animal Clinical Sciences) in Fall 2020.

In Fall 2022, UF CVM Graduate Studies Committee approved a revised PhD Final Exam Submission Form to comply with new evaluation methods for Student Learning Outcome. In the reviewed Form, the student's supervisory committee members are required to assess and rate the PhD candidate's ability to apply appropriate research methods vis-à-vis problems presented during the exam, ability to apply critical reflection to the knowledge gained from the academic program, and ability to effectively respond to scholarly questions—as Satisfactory or unsatisfactory. In addition, committee members are required to provide written feedback about the PhD candidate's performance (i.e., overall strengths and areas for growth). The revised Form was implemented in Spring 2023.

C. For all degree programs, discuss how employer-driven or industry-driven competencies were identified and incorporated into the curriculum. Additionally, indicate whether an industry or employer advisory council exists to provide input for curriculum development, student assessment, and academic-force alignment. If an advisory council is not already in place, describe any plans to develop one or other plans to ensure academic-workforce alignment.

In the last 10 years (2013-2023), six of every 10 new UF CVM PhD graduates joined the research taskforce in academia. In addition, two of every 10 joined the private sector, and two of every ten accepted research-related positions in government.

UF PhD program competencies are more aligned intensive-research positions in academia. All UF CVM PhD students are required to receive education and training in science communication, responsible conduct in research, statistics, biochemistry or molecular biology, and grant writing. In addition, PhD students are expected to participate in professional development activities (leadership, communication, management, team science, other) offered by UF Graduate School and UF Health Office of Biomedical Research Career Development.

An industry or employer advisory committee will be in place in Spring 2025, before the new program is officially implemented in Fall 2025.

VI. Faculty Participation

Use Appendix A – Table 2 to identify existing and anticipated full-time faculty who will participate in the proposed program through Year 5, excluding visiting or adjunct faculty. Include the following information for each faculty member or position in Appendix A – Table 2:

- **the faculty code associated with the source of funding for the position**
- **faculty member's name**
- **highest degree held**
- **academic discipline or specialization**
- **anticipated participation start date in the proposed program**
- **contract status (e.g., tenure, tenure-earning, or multi-year annual [MYA])**
- **contract length in months**
- **percent of annual effort that will support the proposed program (e.g., instruction, advising, supervising)**

This information should be summarized below in narrative form. Additionally, please provide the curriculum vitae (CV) for each identified faculty member in Appendix E.

Appendix A, Table 2 includes requested data and information. For budget estimations only, the list of faculty includes 41 UF CVM faculty members who were engaged in didactive teaching in the graduate program or as PhD major professors in Year 2022. The list of faculty will vary in subsequent years, as more faculty engage in didactive teaching or supervised research (as designated major professors of new PhD students).

Selected courses were those offered at UF CVM and mostly attended by PhD students in 2022.

The estimated Faculty (person-years) is 2.49 in Year 1 and 3.39 in Year 5.

Appendix E includes the curriculum vitae of UF CVM faculty members.

B. Provide specific evidence demonstrating that the academic unit(s) associated with the proposed program have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, and other qualitative indicators of excellence (e.g., thesis, dissertation, or research supervision).

Teaching workload. The number of UF CVM faculty members increased by 53% from 124 in 2015 to 190 in 2022.

In 2022, about 50 CVM faculty members were engaged in didactive teaching in the graduate program (in-residence or online). Fifteen of the 50 faculty members offered education and training through independent studies, in-residence (i.e., VME 6915 Problems in Veterinary Medicine, selected topics).

Twenty four or more faculty members were engaged in didactive teaching in the graduate program, in-residence, https://research.vetmed.ufl.edu/studies/courses/in-residence-courses/ in the following courses:

VME 6767 Issues in the Responsible Conduct of Research (1 credit)

VME 6907 Microbial Virulence Journal Club (1)
VME 6932 Physiological Sciences Seminar Series (1)
VME 6933 Seminars in Infectious Diseases & Immunology (1)
VME 6934 Interdisciplinary Seminars in Reproduction and Prod Med (1) VME 6937L VMS Graduate Seminar Series (1)
VME 6938 Topics in Aquatic Animal Health (1)
VME 5244 Physiology: Organ Systems (4 credits)
VME 6010 Aquatic Animal Conservation Issues (3)
VME 6070 Systemic Review and Meta-Analysis for Biomedical Res (2)
VME 6195 Wildlife Virology: Emerging Wildlife Viruses (3)
VME 6200 Fundamentals of Respiratory Physiology (3)
VME 6200L Lab Assessments for Fundamentals of Resp Physiology (2)
VME 6464 Molecular Pathogenesis (3)
VME 6505 Auto Immunity (1)
VME 6508 Veterinary Virology: Molecular and Evolutionary Biology (3)
VME 6603 Advanced Toxicology (3)
VME 6651 Seminars in Anesthesia and Analgesia (3)
VME 6710C Advanced Small Animal Airway/Thoracic Surgery
VME 6714C Small Animal Orthopedic Minimally Invasive Surgery (1)
VME 6771 Veterinary Epidemiologic Research (3)
VME 6934 Ecotoxicology/Risk Assessment (3)
VME 6934 Advanced Small Animal Arthrology (1)
VME 6934 Small Animal, Soft Tissue, Minimally Invasive Surgery (1)

New courses in preparation include:

Comparative Immunology
Animal Models of Infectious Diseases and Immunology
Advanced Topics in Nutrition, Metabolism and Immunology

Currently (Spring 2023), 34 UF CVM faculty members serve as major professors of 42 CVM PhD students. Major professors are engaged in graduate education and training through supervised research, as well as guidance, emotional support, and life-balance mentor-mentee best practices (2.5% to 5% effort for program per year).

Student enrollment. In the last 10 years (2013-2022), an average of seven new PhD students enrolled in the UF CVM's PhD program in Veterinary Medical Sciences. In the last two years (2021 and 2022), PhD student enrollment went up to 10 and 11 new PhD students, respectively. We expect the annual enrollment will increase to 15 new PhD students in the next five years (if projected CVM funding for PhD education and training continues). On average, PhD students take 24 credits in graduate-level courses per year (9 credits in Fall, 9 in Spring, and 6 in Summer) in addition to their research workload and professional development activities.

Research extramural support. UF CVM extramurally sponsored federal grants funding increased 2.7 times from $8.4 million in FY 2017 to $22.8 million in FY 2021.

Indicator of excellence. During 2015, UF CVM was ranked No. 14 among veterinary medical colleges nationwide by the US News & World Report. In 2019 and 2023, UF CVM national ranking improved to No. 7 and 9, respectively. UF CVM is Florida's only

College of Veterinary Medicine.

VII. Budget

VIII. Use Appendix A – Table 3A or 3B to provide projected costs and associated funding sources for Year 1 and Year 5 of program operation. In narrative form, describe all projected costs and funding sources for the proposed program(s). Data for Year 1 and Year 5 should reflect snapshots in time rather than cumulative costs.

Reallocated base amounts in Year 1 and Year 5 are $368,843 and $415,137, respectively. Funding source is the UF College of Veterinary Medicine. Projected costs do not require additional funding for program implementation.

IX. **Use Appendix A – Table 4 to show how existing Education & General (E&G) funds will be reallocated to support the proposed program in Year 1. Describe each funding source identified in Appendix A – Table 4, and provide a justification below for the reallocation of resources. Describe the impact the reallocation of financial resources will have on existing programs, including any possible financial impact of a shift in faculty effort, reallocation of instructional resources, greater use of adjunct faculty and teaching assistants, and explain what steps will be taken to mitigate such impacts.**

In Year 1, base funding amount before reallocation = $409,826. Expected amount to be re-allocated from the existing PhD program in Veterinary Clinical Sciences into the new PhD degree in Veterinary Clinical Sciences = 368,843 or 90%. The re-allocated amount (90%) is based in the projected number of new students who will enroll in the new PhD program with a major in Comparative Biomedical Sciences (9/10 or 90%) or in the existing program in Veterinary Medical Sciences (1/10 or 10%).

At UF CVM, the expected impact of the reallocation of financial resources on existing programs is negligible.

In Year 1, faculty effort is expected to remain the same.

The number of PhD students appointed as Graduate Assistants with teaching assistant task responsibilities increased from five in 2020 to **15 in 2022**. In the DVM (professional) program, the number of courses supported by PhD Graduate Assistants increased from seven in 2021 to 18 courses in 2022. In the graduate program, the number of courses supported by PhD Graduate Assistants increased from one in 2021 to six courses in 2022. The sources of funding were the UF CVM and extramural grants by UF CVM faculty.

A. **Provide the expected resident and non-resident tuition rate for the proposed program for both resident and non-resident students. The tuition rates should be reported on a per credit hour basis, unless the institution has received approval for a different tuition structure. If the proposed program will operate as a continuing education program per Board of Governors Regulation 8.002, please describe how the tuition amount was calculated and how it is reflected in Appendix A – Table 3B.**

Resident: $530.69 per credit (2021-2022 academic year).
Non-Resident: $1,255.41 per credit
Source: https://www.fa.ufl.edu/directives/2021-22-academic-year-tuition-and-fees/

B. Describe external resources, both financial and in-kind support, that are available to support the proposed program, and explain how this amount is reflected in Appendix A – Table 3A or 3B.

In general, the PhD program will not use external resources of funding.

The PhD program will be supported by using current and projected funding allocations by UF CVM in the mission of graduate education, as well as extramural grants by UF CVM faculty.

C. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5, and explain how those are reflected in Appendix A – Table 3A or 3B.

☐ Not applicable to this program because no fellowships, scholarships and/or graduate assistantships will be allocated to the proposed program through Year 5.

As a part of a strategic plan to grow the UF CVM PhD program, the CVM Administration has plans to increase the number of CVM Dean Four-Year Block Grant Awards from four in 2020 to 10 in 2025. These Awards are not reflected in Appendix A (Table 3A or 3B) as they are part of the UF CVM strategic plan in the mission of graduate education.

- Overall, when combined with the number of PhD students funded by CVM Dean Four-Year Block Grant Awards or CVM faculty (extramural grants), the number of PhD students appointed as Graduate Assistants with teaching assistant task responsibilities is expected to increase from 15 in 2022 to 25 in the next five years. The projected growth of UF CVM's PhD program is expected to match the level of PhD student enrollment in Top Five veterinary colleges or schools in the USA

UF UNIVERSITY of FLORIDA

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July 30, 2024

MEMORANDUM:

TO: Emily Sikes

FROM: Cheryl L. Gater

SUBJECT: PhD in Comparative Biomedical Sciences (CIP 26.0102) New Degree Update

As requested, the state workforce numbers for Section III.A. are as follows:

Occupations	Percent Change in Job Openings FL 2023-31	Annual Average Job Openings FL 2023-31	Total # of New Jobs FL 2023-31	Education Level Needed for Entry
19-4021 Biological Technicians	12.8%	286	2,761	B
25-1042 Biological Science Teachers, Postsecondary	11.6%	132	932	D

In Section III.C., the proposal indicates, "The annual enrollment of new PhD students will go up from 7 students in the last seven years (2013-2020) to 10 students in 2021, and to 15 students in 2025. The projected enrollment of new students will produce a total population of about 60 PhD students in 2025."
These statements are in reference to the existing PhD program in Veterinary Medical Sciences. This information along with the enrollments for the new PhD program in Comparative Biomedical Sciences is included as evidence to demonstrate the strategic commitment from the UF CVM to compete as a top veterinary program in the nation.

As always, please let me know if there are additional questions.