GRADUATE PROGRAM IN VETERINARY MEDICAL SCIENCES (VMS)

Departments of Large Animal Clinical Sciences (LACS) and Small Animal Clinical Sciences (SACS)

College of Veterinary Medicine

University of Florida

Gainesville FL 32610

The purpose of these guidelines is to provide prospective graduate students and faculty with written statements of policy. The student should consult the Graduate Catalog as well as this information. Further information could be provided by:

Iske Larkin, PhD
Graduate Coordinator, LACS
Box 100136, HSC
University of Florida
Gainesville, FL 32610
(352) 294-4095
E-mail: ivlarkin@ufl.edu

Domenico Santoro, DVM, MS, DrSc, PhD, DACVD, DECVD, DACVM
Graduate Coordinator, SACS
University of Florida
Gainesville, FL
(352) 294-4782
E-mail: dsantoro@ufl.edu

INTRODUCTION

The Departments of Large Animal Clinical Sciences (LACS) and Small Animal Clinical Sciences (SACS) offer a program of graduate study in Veterinary Medical Sciences (VMS) leading to the degrees of Master of Science (MS) and Doctor of Philosophy (PhD). This is an umbrella-type program which encompasses all related disciplines in the area of veterinary medical sciences (Anesthesia, Dermatology, Diagnostic Imaging, Extension, Large and Small Animal Surgery, Oncology, Ophthalmology, and Reproduction/Theriogenology). The choice of specific areas of concentration by graduate students is influenced by the educational and career goals of the applicant, available positions and graduate faculty.

The overall objective of this program is to provide training in research and teaching necessary for the student to be successful in academic, industry, and/or clinical veterinary medicine. After completing the graduate program, the student will be able to conduct research independently or as part of a team. Goals of the program include the ability to design research projects and write research proposals; be able to optimize the student's teaching ability and critical review published literature.

GRADUATE PROGRAM

I. Application for admission to the Graduate School must be made to the Director of Admissions as described in the Graduate Catalog, or to the Office of the Associate Dean for Research in the College of Veterinary Medicine. In addition to requirements stated in the catalog, the College of Veterinary Medicine requires the following:

   A. Grade Point Average (GPA): Admission is normally limited to students with undergraduate GPA of 3.2 or above.

   B. Letters of recommendation: Letters from at least 2 former teachers or persons with knowledge of the applicant's academic record and personal characteristics are required.

   C. TOEFL Examination: Foreign applicants must present their scores on this examination before consideration for admission. A TOEFL score of 550 (paper based) or 80 (internet based) or higher is required for admission. Students with a score of less may be conditionally admitted if they enroll in a special English course for foreign students and meet other admission requirements.

II. Types of Admission:

   A. Direct: A student who meets the above requirements is classified by the Graduate Committee as a regular graduate student.

   B. Conditional: An applicant who fails to meet fully the above admission requirements but is deemed to have potential as a graduate student may be admitted conditionally.

      1. A conditionally admitted student must attain regular graduate status by maintaining satisfactory academic progress.

2. The progress of a conditionally admitted student will be reviewed each semester by the Graduate Coordinator.

C. Resident's application to the Graduate School

The Departments of LACS and SACS offer an option for Residents in the Veterinary Medical Teaching Hospital to apply for a combined Residency/Master's program. Residents who choose and are accepted into this combined program will be required to enroll in the Graduate School during the course of their Residency program. The candidate needs to meet the criteria of a Master's degree program, in addition to required duties of the Residency program. The candidate must apply separately to each program. Admission to the Residency program does not automatically admit the candidate to the Master's program.

III. Graduate Assistants

A limited number of these assistantships are available and are awarded competitively on the basis of academic and other qualifications. Since the MS degree should normally be completed within a two-year period, this would be the limit of support for students not in the combined program. In the case of students in the combined Residency/Master's program, the limit of support will be one year before the completion of the Residency program. For students not completing their research project and writing in the first year they would integrate both components of the program. Doctoral candidates should complete their program in 4 years. Assistantships may not be provided for this whole time.

The following guidelines will be used in recommending applicants for financial support:

A. Students presently holding assistantships are given first priority, provided they are making satisfactory academic progress and their work as an assistant has been satisfactory.

1. Satisfactory academic progress will be defined as follows:

a. Compliance with time limitations for completion of the MS and PhD degrees as previously described.

b. A minimum GPA of 3.0 in all courses taken. Credit obtained through research or thesis credits will not be counted in computing the GPA.

2. Candidates must have a Supervisory Committee by the end of the first semester of the first year.

The awarding of an assistantship during a Master's program does not obligate the College of Veterinary Medicine to enroll the student in a doctoral (PhD) program.

New applicants for assistantships will be rated as previously described under admission to the degree program, i.e., consideration of scores on GRE and TOEFL, GPA and letters of recommendation.

B. For Doctoral candidates, the qualifying examination should be passed no later than the first semester in their third year (i.e., within first seven semesters or terms).

IV. Curricula

A minimum of 30 and 90 semester hours will be required as partial fulfillment of the requirements for the MS and PhD degrees, respectively.

Core Courses:

Master's degree

A. A minimum of 3 semester credit hours of graduate level courses in **Statistics** (PHC 6050 Statistical Methods for Health Sciences I, PHC 6052 Introduction to Biostatistical Methods, STA 6166 Statistical Methods in Research I, STA 6200 Biomedical Research Design and Analysis, STA 6934 Special Topics in Statistics, or equivalent) with emphasis on experimental design and computer literacy.

C. A minimum of 3 semester credit hours of graduate level courses in **Biochemistry, Molecular Biology, Immunology, or Physiology** is required. For example, Biochemistry: BCH 5045 Survey of Biochemistry, BCH 6206 Metabolism, BCH 6740 Physical Biochemistry/Structural Biology. Molecular Biology: BCH 5413 Mammalian Molecular Biology and Genetics. Immunology: VME 6934 Comparative immunology, GMS 6140 Principles of Immunology, PCB5235 Immunology. Physiology: ANS 6704 Mammalian Endocrinology, VME 5244 Physiology of Mammals, GMS 6400C Principles of Physiology, ANS 6751 Physiology of Reproduction—or equivalent.

D. All students are required to take a **graduate seminar course** (1 credit). For example, VME 6937L Graduate Seminars Series or equivalent.

*Recommended (but not required). Students are encouraged to take a course in Responsible Conduct of Research. For example, VME 6767 Issues in the Responsible Conduct of Research or GMS 6003 Essentials of Graduate Research & Professional Development.

E. Equivalent courses must be graduate level courses and support the proposed master's research project of interest. Equivalent courses must be approved by all members of the Supervisory Committee.

PhD degree

A. A minimum of 3 semester credit hours of graduate level courses in **Statistics**. For example, PHC 6050 Statistical Methods for Health Sciences I, PHC 6052 Introduction to Biostatistical Methods, STA 6166 Statistical Methods in Research, STA 6200 Biomedical Research Design and Analysis, STA 6934 Special Topics in Statistics, or equivalent), with emphasis on experimental design and computer literacy.

B. A minimum of 3 semester credit hours in **Biochemistry, Molecular Biology, Immunology, or Physiology**. For example, Biochemistry: BCH 5045 Survey of Biochemistry, BCH 6206 Metabolism, BCH 6740 Physical Biochemistry/Structural Biology. Molecular Biology: BCH 5413 Mammalian Molecular Biology and Genetics. Immunology: VME 6934 Comparative immunology, GMS6140 Principles of Immunology or PCB 5235 Immunology. Physiology: ANS 6704 Mammalian Endocrinology, VME 5244 Physiology of Mammals, GMS 6400C Principles of Physiology, ANS 6751 Physiology of Reproduction—or equivalent.

C. All students are required to take a **Grant Writing** course (1 credit): GMS 6096 Intro NIH Grant Writing Biom Sci, ALS 6046 Grant Writing, or equivalent.

D. All students are required to take a course in **Responsible Conduct of Research** (1 credit). For example, VME 6767 Issues in the Responsible Conduct of Research or GMS 6003 Essentials of Graduate Research & Professional Development.

E. All students are required to take **graduate seminar courses** (6 credits). For example, VME 6937L Graduate Seminars Series or equivalent.

F. A minimum of a B grade in each core course (A-F) is required for fulfilling the core course requirements. Failure to achieve this performance will result in remediation, repeating the course, or dismissal from the program, as determined by the Graduate Coordinator in conjunction with the Supervisory Committee.

G. Individual Development Plan: All PhD students are required to create and update an IDP on an annual basis, in consultation with their advisors http://graduateschool.ufl.edu/faculty--staff/resources/individual-development-plan-idp-policy/ The IDP is intended to be a working document, to guide new and continuing Ph.D. students in identifying, pursuing, and meeting their professional and personal goals.

V. Coursework beyond the core requirements

In general, this will depend on the educational and career goals of the applicant. In all instances, these will be graduate level courses. Credit will not be given for undergraduate courses taken to fulfill requirements for admission to graduate level courses.

A. The Supervisory Committee has the responsibility for recommending individual courses of study for each student.

B. The student must present a proposed course of study to the Graduate Studies Coordinator for approval no later than the end of the first (MS) or second (PhD) semester of study.

VI. Teaching

A. All students in the MS in VMS are encouraged and required in the PhD graduate programs to have teaching experience during their graduate enrollment.

B. The student must submit a plan for fulfillment of their teaching requirement at the time that the proposed program of study is presented, and approval of this by the Graduate Coordinator is required.

C. The teaching requirement is defined as a minimum of one semester teaching that is equivalent to 2 credit hours (0.06 FTE). This requirement may be fulfilled over the duration of the student's program. Students may register for VME 6940 Supervised Teaching while fulfilling this requirement. This requirement does not obligate the CVM to award a student a teaching assistantship during the term in which they gain teaching experience.

VII. The Supervisory Committee

A. In CVM, the MS Committee will consist of at least 3 members of the Graduate Faculty and be in place by the end of the first semester of enrollment. Two members should be faculty members from LACS or SACS. It is highly recommended that the third member of the committee should be a faculty member from another CVM Department or another graduate program from outside the CVM. The selection of the third member will be agreed upon by the student, his/her Graduate Advisor and Graduate Coordinator, College and Department.

B. The PhD Committee will consist of at least 4 members of the Graduate faculty (preferably 5), an equal or majority of whom must hold the PhD degree (which would include the Chair or Co-Chair). The Chair and at least one other member of the Supervisory Committee must have an appointment (regular, joint or affiliate) in either LACS or SACS. There must also be at least one external member from a department outside the CVM on the supervisory committee. This committee must be in place by the end of the second semester of enrollment.

C. In all instances, the student must send the "Appointment of Supervisory Committee Form" to the Office of Research and Graduate Studies notifying the members of their Supervisory Committee so that this may be communicated to the Graduate School.

D. In the case of the combined Residency/Master's Program, a faculty advisor will be assigned to each resident upon arrival to supervise clinical activities. This

individual may or may not be the Resident's advisor for graduate studies. The temporary and permanent advisors for graduate studies must be members of the Graduate Faculty and the composition of the committee must meet the criteria set forth in section IV-A.

VIII. Guidelines for the Supervisory Committee

A. **Committee meeting**: The Supervisory Committee should meet at least once (preferably twice) per year to monitor the student's progress. Such meeting(s) can be called by either the student, Chair of the Supervisory Committee, or other members, as deemed necessary. A copy of the minutes for each meeting and the progress report, signed by the student and Chair and must be sent to the Graduate Coordinator.

B. **Qualifying examination**: In the case of students in the PhD program, the Supervisory Committee will administer both the oral and written portions of the Qualifying Examination at the appropriate time, not later than the first semester in their third year (i.e., within first seven semesters or terms) of graduate study. There are two possible formats for the qualifying examination, decided by the supervisory committee. The format must include a written component and an oral component. The first option for the written examination is a series of written questions, closed or open book, which cover the subject matter with which the supervisory committee feels the student should be familiar. The second option for the written examination is for the student to write and submit a full NIH R01 format grant proposal describing the proposed dissertation project. In both options, the supervisory committee is strongly encouraged to assess the student's knowledge of broad subject matter rather than focusing narrowly on specific aspects of a Ph.D. research project. Regardless of format, the written portion will then be followed by an oral examination, which may focus on more specific aspects of the proposed research project. The Graduate Coordinator or a designated representative should be present at the oral examination. All Graduate Faculty will be invited to attend the oral examination and should be so notified at least one week before this examination. Upon successful completion of the qualifying examination, the Chair of the Supervisory Committee must advise the Office of Research and Graduate Studies so that an "Admission to Candidacy" may be input into the Graduate School's Information Management System (GIMS) in UF's computer system on behalf of the student.

C. Individuals entering the PhD program are expected to take the qualifying exam not later than the first semester in their third year (i.e. within first seven semesters or terms).

IX. Seminars

All graduate students are expected to attend program-related seminars. Graduate students in the MS Program are expected to present a seminar annually. One seminar should present the thesis plan and should be given the first year of study. Another seminar will cover the thesis and should be given

during the last semester of residence. In the case of PhD students, the second seminar will be on the results of the dissertation research project and should be given during the last semester of enrollment prior to the defense of the dissertation. It is the responsibility of the Chair of the student's Supervisory Committee to schedule these seminars.

X. Thesis/Dissertation proposal

A. A detailed plan for the MS thesis research project should be presented to the Supervisory Committee at the end of the first semester of enrollment. In the case of the PhD dissertation research project, it should be presented to the Supervisory Committee after the successful completion of the qualifying examination.

B. The approved thesis or dissertation proposal should be filed with the Graduate Coordinator.

C. One week prior to defense of the thesis, a draft paper copy should be available to the graduate faculty in the departmental main office for review and evaluation. Electronic submission of the final thesis or dissertation to the Graduate School is required.

D. The recommended format for the thesis/dissertation is an introductory chapter including a comprehensive literature review of the research topic, followed by additional two (MS) or four (PhD) chapters equivalent to papers for publication (i.e. Materials & Methods and Results). Following the specific manuscript-ready chapters, a discussion/conclusion chapter should encompass the entire dissertation.

E. The original and first copy are to be deposited in the Graduate School and the College. The Department of LACS and SACS requires the third copy (sent to the Graduate Coordinator), and the fourth and fifth copies are for the chairperson of the supervisory committee and the student. These can be electronic in format rather than a hard copy printed version.

XI. Final examination

A. It will be the responsibility of the student and Chair to present the final copy of the thesis/dissertation to members of the Supervisory Committee for their approval at least 2 weeks before the final examination. A final copy of the thesis/dissertation should be a document that has been extensively reviewed by all members of the supervisory committee—and considered ready for a final examination.

B. This may be either a written or oral examination, or both, depending upon the recommendation of the Supervisory Committee. Defense of the thesis/dissertation will be open to graduate faculty. A majority decision of the final grade by the Supervisory Committee will be necessary before it is recommended that the student be awarded the MS or PhD degree.

C. All faculty will be notified in writing of the date, time and place of final examination, no later than two weeks prior to the examination.

D. Upon successful completion of the thesis or dissertation defense, the chairperson of the supervisory committee must send a report on thesis/dissertation form with appropriate signatures to the Dean of the Graduate School.

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