



The University of Georgia

University Council
Athens, Georgia 30602

August 19, 2016

UNIVERSITY CURRICULUM COMMITTEE – 2016-2017

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Undergraduate Student Representative – Ms. Gabrielle Roth
Graduate Student Representative – Ms. Ashley E. Fallaize

Dear Colleagues:

The attached proposal for a new Area of Emphasis in Zoological Medicine under the major in Comparative Biomedical Sciences (M.S.) will be an agenda item for the August 26, 2016, Full University Curriculum Committee meeting.

Sincerely,

William K. Vencill, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav



The University of Georgia

College of Veterinary Medicine

Office of the Associate Dean
Research and Graduate Affairs
and
Director, Veterinary Medical
Experiment Station

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July 27, 2016

Office of Curriculum Systems
319 New College
The University of Georgia
Athens, GA 30602
CAMPUS

Re: Area of Emphasis; Zoological Medicine

To whom it may concern:

The Graduate Affairs Committee of the College of Veterinary Medicine has voted in favor of my forwarding this proposal for a new area of emphasis for the Masters in Comparative Biomedical Sciences.

Administration of the program will be provided by the Department of Small Animal Medicine and Surgery and the Office of Graduate Affairs in the College of Veterinary Medicine. The funds, required courses and space required to start the program are in place.

Sincerely,

Harry W. Dickerson, B.V.Sc., Ph.D.
Associate Dean for Research and Graduate Affairs

HWD/vte

Enclosures

cc: Dean Sheila Allen

PROPOSAL FOR AREA OF EMPHASIS

1. School/College:

COLLEGE OF VETERINARY MEDICINE, UNIVERSITY OF GEORGIA

2. Department/Division:

SMALL ANIMAL MEDICINE AND SURGERY

3. Major:

MASTERS IN COMPARATIVE BIOMEDICAL SCIENCES

Area of Emphasis: Zoological Medicine

If major has more than one area of emphasis, submit all areas of emphasis under one major together. A course may appear in more than one area of emphasis, but each area of emphasis should have a distinct focus.

4. Major Requirements: Attach a list of requirements for the major. Undergraduate programs may attach a copy of the major requirements from the online bulletin. Graduate programs may provide a list of general requirements for the major.

A. Pre-requisites

Applicants must fulfill current requirements of the graduate school for entry into the SAMS residency program. Applicants are selected through the existing Veterinary Internship and Residency Matching Program (www.virmp.org)

B. Requirements for Graduate Students

In keeping with the current requirements for the College-wide M.S. program in Comparative Biomedical Sciences, the student will be required to complete a program of study, which constitutes a minimum of 30 semester hours consisting of at least 12 semester hours of course work open only to graduate students (7000 and above). A maximum of 6 hours of VETM 7000 (Master's Research) and 3 hours of VETM 7300 (Master's Thesis) may be applied toward the minimum of 30 hours. An original, hypothesis-driven, research project and completed manuscript is required by the end of their third year.

First year at UGA		Credit hours
SAMS 5610/7610	Small Animal Residency I (zoological medicine) includes research/study hours	11-14 per semester
SAMS 8010	Directed Study in Small Animal Medicine and Surgery	2 per semester
Second year at UGA		
SAMS 5620/7620	Small Animal Residency II (zoological medicine) includes research/study hours	11-14 per semester
SAMS 8010	Directed Study in Small Animal Medicine and Surgery	2 per semester
Third year at Zoo Atlanta		
SAMS 5630/7630	Small Animal Residency III (zoological medicine) includes research/study hours	12 per semester
SAMS 8010	Directed Study in Small Animal Medicine and Surgery	2 per semester
Fourth year at the Georgia Aquarium		

SAMS 5640/7640	Small Animal Residency IV (zoological medicine) includes research/study hours	14 per semester
SAMS 8010	Directed Study in Small Animal Medicine and Surgery	2 per semester

Depending on the interests of the student, the following courses are listed as available and may be taken during the first two years of the program while at UGA:

Small Animal Medicine and Surgery

SAMS 7660	Personal and Professional Development for the Graduate Student	2 hrs.
SAMS 6990	Special Problems	1-3 hrs.
SAMS 5650/7650	Directed Study in Small Animal Medicine and Surgery	2 hrs.

Population Health

POPH 7010	Laboratory Animal Medicine and Pathology Practicum	1-4 hrs.
POPH 7020	Laboratory Animal Medicine and Pathology Rounds	1-4 hrs.
POPH 7050	Avian Histopathology Practicum I	1-3 hrs.
POPH 7060	Avian Diagnostic Microbiology	3 hrs.
POPH 7100L	Animals in Biomedical Research – Advanced Techniques	3-5 hrs.
POPH 7110	The Diseases of Laboratory Animals I	4 hrs.
POPH 7120	The Diseases of Laboratory Animals II	4 hrs.
POPH 8050	Avian Virus Diseases	3 hrs.
POPH 8150	Avian Medicine Seminar	1 hr.
POPH 8160	Scientific Manuscript Writing	3 hrs.
POPH(IDIS)(MIBO) 8200	Molecular Virology and Experimental Design	5 hrs.
POPH 8310L	Population Health Statistics I	3 hrs.
POPH 8320L	Population Health Statistics II	4 hrs.
POPH 8580	Current Topics in Wildlife Health	1 hr.

Infectious Diseases

IDIS 8010	Advanced Studies in Infectious Diseases	4 hrs.
IDIS 8050	Special Topics in Ecology and Evolution of Infectious Diseases	1 hr.
MIBO(PBHL)(IDIS)(BHSI) 8260	Global Perspectives on Tropical and Emerging Infectious Diseases	1 hr.

Pathology

BIOL(CBIO)(VPAT) 5040/7040	Electron Microscopy	3 hrs.
VPAT 7010	Necropsy Practicum	1-12 hrs.
VPAT 7020	Biopsy Practicum	1-12 hrs.
VPAT 7030	Cytology Practicum	1-12 hrs.
VPAT 7200-7200L	General Animal Pathology	3.7 hrs. lecture and 1 hr. lab

VPAT 8000	Pathology Rounds	1 hr.
VPAT 8020	Cellular Pathology	4 hrs.
VPAT 8050	Problems in Veterinary Pathology	2-5 hrs.
VPAT 8070-8070L	Veterinary Hematology	3 hrs. lecture and 3 hrs. lab
VPAT 8100	Microscopic Pathology	3 hrs. 6 hrs. lab
VPAT 8110	Veterinary Advanced Pathology	1 hr. lecture, 4 hrs. lab
VPAT 8120	Seminars in Laboratory Clinical Biochemistry*	1-3 hrs.
VPAT 8130	Diagnostic Oncology	3 hrs. 6 hrs. lab
VPAT 8140	Seminar in Veterinary Pathology	1-2 hrs.
VPAT(IDIS) 8150	Virology and Viral Pathogenesis	3 hrs.
VPAT(POPH) 8220	Avian Histopathology	3 hrs. 9 hrs. lab
VPAT 8320	Pathology of Laboratory Animals	3 hrs.

***Not an approved course in the CAPA System**

Physiology and Pharmacology

VPHY 6050	Animal Physiological Chemistry	2 hrs.
VPHY 6090	Comparative Mammalian Physiology	3 hrs.
VPHY 6100	Comparative Mammalian Physiology	3 hrs.
PHRM(VPHY)(EHSC) 6910	Introductory Toxicology	3 hrs.
VPHY 6930	Research Methods	1-3 hrs.
VPHY 5200/7200	Principles of Pharmacology	3.1 hrs.
VPHY 8000	Cardiovascular Physiology	2 hrs.
VPHY 8010	Mammalian Cell Physiology	3 hrs.
VPHY 8080*	Ruminant Physiology	3 hrs.
VPHY 8100*	Comparative Medical Endocrinology	2 hrs.
VPHY 8120	The Molecular Basis of Renal Physiology	2 hrs.
VPHY 8200	Animal Molecular Biology: Concepts and Current Literature	2 hrs.
VPHY 8400	Neurophysiology	3 hrs.
VPHY 8450	Advanced Clinical Pharmacology	2 hrs.
VPHY 8460	Molecular Pharmacology	3 hrs.
VPHY 8900	Physiology-Pharmacology Seminar	1 hr.
(VPHY)PHRM 8910*	Organ Systems Toxicology I	3 hrs.
PHRM(VPHY)(POUL) 8920	Organ Systems Toxicology II	3 hrs.
PHRM(VPHY)(POUL)(EHSC) 8930	Chemical Toxicology	3 hrs.

***Not an approved course in the CAPA System**

Veterinary Biosciences and Diagnostic Imaging

VBDI 7140	Veterinary Animal Behavior	1.3 hrs.
VBDI 8030	Advanced Veterinary Histology	3 hrs.
VBDI 8050	Advanced Diagnostic Imaging	3 hrs.
VBDI 8340	Seminar in Applied and Domestic Animal Behavior	1-5 hrs.

5. Area of Emphasis Title (as it will appear in the *Bulletin*): **ZOOLOGICAL MEDICINE**

6. Proposed starting date: **July 15, 2017 (if July 15, 2016 is not possible)**

7. Area of Emphasis Description:

Include prefixes, numbers and titles of required courses, number of credit hours required; residency requirements (if any); and grade requirements (if any). Graduate Areas of Emphasis may refer to groups of courses if necessary.

Zoological medicine is a discipline that integrates principles of ecology, conservation, and veterinary medicine and applies them to non-domesticated animals within natural and artificial environments. The Zoological Medicine service of the Department of Small Animal Medicine & Surgery, College of Veterinary Medicine, University of Georgia (UGA); Zoo Atlanta (ZA); and the Georgia Aquarium (GA) are offering a combined 4-year program, which includes a Master's degree in Comparative Biomedical Sciences (M.S.). The program starts July 15, 2017. This program is supervised at the UGA College of Veterinary Medicine by Drs. Stephen Divers and Joerg Mayer (both Diplomates of the American and European Colleges of Zoological Medicine). At Zoo Atlanta, the resident is supervised by UGA adjunct professor Dr. Sam Rivera, and at the Georgia Aquarium by UGA Adjunct Drs. Greg Bossart and Tonya Clauss. Memoranda of Understandings exist between UGA, ZA, and GA for this program.

The student will be clinically trained to a high level in clinical medicine and surgery of zoological species at all three institutions. The student will be provided with research opportunities and required to undertake an original, hypothesis-driven research project at the end of the third year. Satisfactory progress (as determined and recorded by regular evaluations) is required to progress to the following year.

Upon completion, the student will:

1. Be eligible to take the American College of Zoological Medicine certification examination;
2. Have attained a broad clinical base for future involvement in a variety of nondomestic animal practices, including aquaria, zoos, wildlife parks, research institutions, universities, or exotic pet referral practices;
3. Have attained an understanding of veterinary and biomedical sciences and the skills to perform basic and applied research in zoological medicine.

Objectives:

1. Develop the student's clinical competency with a variety of species through clinical experience, clinical research, and related studies.
2. Provide the opportunity for the student to work with as many different classes of animals as possible, in the hospital, field, and in the laboratory.
3. Provide the student with the opportunity to have experience with the broad range of professional activities required for a career in zoological medicine (e.g., preventive medicine, nutrition, epidemiology, comparative pathology, animal behavior, handling and restraint, population medicine, husbandry, research, exhibit design, institution management, ethical, and conservation issues, medicine and management, by regularly scheduled journal/subject discussions).
4. Develop an understanding of veterinary and biomedical sciences and the skills to perform basic and applied research in zoological medicine, including the completion of a hypothesis-driven, original research project.
5. An original, hypothesis-driven, research project and completed manuscript is required by the end of the third year.
6. Provide mentorship to assist the student in preparing to become a Board-Certified ACZM Diplomate.