



**VETERINARY MEDICINE  
& BIOMEDICAL SCIENCES**  
TEXAS A & M UNIVERSITY



# Graduate Student Handbook

---

## 2013-2014

A resource guide for students pursuing a Master's or Doctoral degree program in the College of Veterinary Medicine & Biomedical Sciences at Texas A&M University.

Office of Research and Graduate Studies  
College of Veterinary Medicine & Biomedical Sciences  
Veterinary Medicine Administration Building (VMA), Room 101  
(979) 845-5092  
<http://vetmed.tamu.edu/graduate>



# Table of Contents

---

College of Veterinary Medicine & Biomedical Sciences (CVM)	
Overview	3
Office of the Dean Key Administrators	4
College Resources	4
College Building Maps	4
Graduate Studies in the CVM	
Overview	20
Programs of Study	20
Graduate Studies Administration & Department Contacts	21
General Degree Information & Policies	24
Graduate Faculty Research Interests	29
Graduate Courses in the CVM	48
Graduate Student Association (GSA)	58
Texas A&M University Office of Graduate and Professional Studies (OGAPS)	
Contact Information	59
Essential Guidelines and Policies	60
Degree Plan Fact Sheets	64
List of Forms and Petitions for Download from OGS Website	66
Graduate Studies Calendar & General Timelines for Degree	67
Student Resources	
Texas A&M University Graduate Student Services	74
International Student Services	78
Emergency Information	81
University Main Campus Map	84

# College of Veterinary Medicine & Biomedical Sciences

## Overview

### Our Mission

At the Texas A&M College of Veterinary Medicine & Biomedical Sciences (CVM), we support collaboration and teamwork that develops today's discoveries into proactive solutions for the benefit of animal, environmental, and public health, through our teaching, research, and service.

### One Health Initiative

We are committed to the One Health Initiative, and we embrace our responsibility to the health of animals, humans, and the environment.

### Our Signature & Highlighted Programs

Our college's strategic plan has been developed around the concept of "signature programs," areas central to veterinary medicine and biomedical research wherein the college plans to build the nation's number one programs. Some of the programs are college-wide, while others fields have been identified by the faculty for signature program status-fields identified as exceptionally productive programs. Many of these programs represent collaborations in the CVM, across campus, across Texas, and throughout the nation and the world.

#### *Teaching*

- Doctor of Veterinary Medicine (DVM) Professional Program
- Biomedical Sciences (BIMS) Undergraduate Program
- Graduate Studies MS and PhD degrees
- Veterinary Medical Teaching Hospital (VMTH)


#### *Research*

- Biomedical Genomics
- Cardiovascular Sciences/Michael E. DeBakey Institute
- Infectious Diseases and Biodefense
- Neurosciences
- Reproductive Biology
- Toxicology, Oncology, and Environmental Health Sciences
- Veterinary Clinical Research

#### *Service*

- TAMU VET (Veterinary Emergency Team)
- Gastrointestinal Laboratory
- Schubot Exotic Bird Health Center
- Winnie Carter Wildlife Center
- Stevenson Companion Animal Life-Care Center
- The Texas Department of Criminal Justice (TDCJ) Senior Veterinary Rotation
- Center for Executive Leadership in Veterinary Medici

## Office of the Dean

	D.V.M. Auburn University B.S. University of Florida - Gainesville	<b>Carl B. King Dean of          Veterinary Medicine</b>
<a href="#">Eleanor Green</a>		

Office of the Dean Key Administrators			
Name	Title	Phone	E-mail Address
Eleanor Green	Dean	979-845-5053	<a href="mailto:EGreen@cvm.tamu.edu">EGreen@cvm.tamu.edu</a>
Patricia Gerling	Chief of Staff	979-845-8612	<a href="mailto:PGerling@cvm.tamu.edu">PGerling@cvm.tamu.edu</a>
Dianne Cornett	Assistant to the Dean	979-845-5053	<a href="mailto:DGCornett@cvm.tamu.edu">DGCornett@cvm.tamu.edu</a>
Amanda Chattin	Customer Service Assistant	979-845-5051	<a href="mailto:AChattin@cvm.tamu.edu">AChattin@cvm.tamu.edu</a>
Belinda Hale	Assistant Dean for Finance	979-845-5097	<a href="mailto:BHale@cvm.tamu.edu">BHale@cvm.tamu.edu</a>
Dana McMahan	Business Coordinator	979-845-5989	<a href="mailto:DMcMahon@cvm.tamu.edu">DMcMahon@cvm.tamu.edu</a>

## College Resources

### College of Veterinary Medicine & Biomedical Sciences Website

<http://vetmed.tamu.edu>

### College of Veterinary Medicine & Biomedical Sciences Calendar

<http://vetmed.tamu.edu/calendar>

### Medical Sciences Library

<http://msl.library.tamu.edu/>

As one of the libraries in the TAMU Libraries umbrella, the Medical Sciences Library has a wealth of information resources. It is one of the large veterinary medicine libraries in North America, and the resources are enriched as it also serves the Texas A&M University Health Science Center.

### College of Veterinary Medicine & Biomedical Sciences Technology Access and Support

<http://vetmed.tamu.edu/support>

## College Building Maps (Click on the map title to go to the map)

*Texas Veterinary Medicine Center Complex*

*Veterinary Medicine Administration Building (VMA)*

*Veterinary Medical Sciences Building (VMS)*

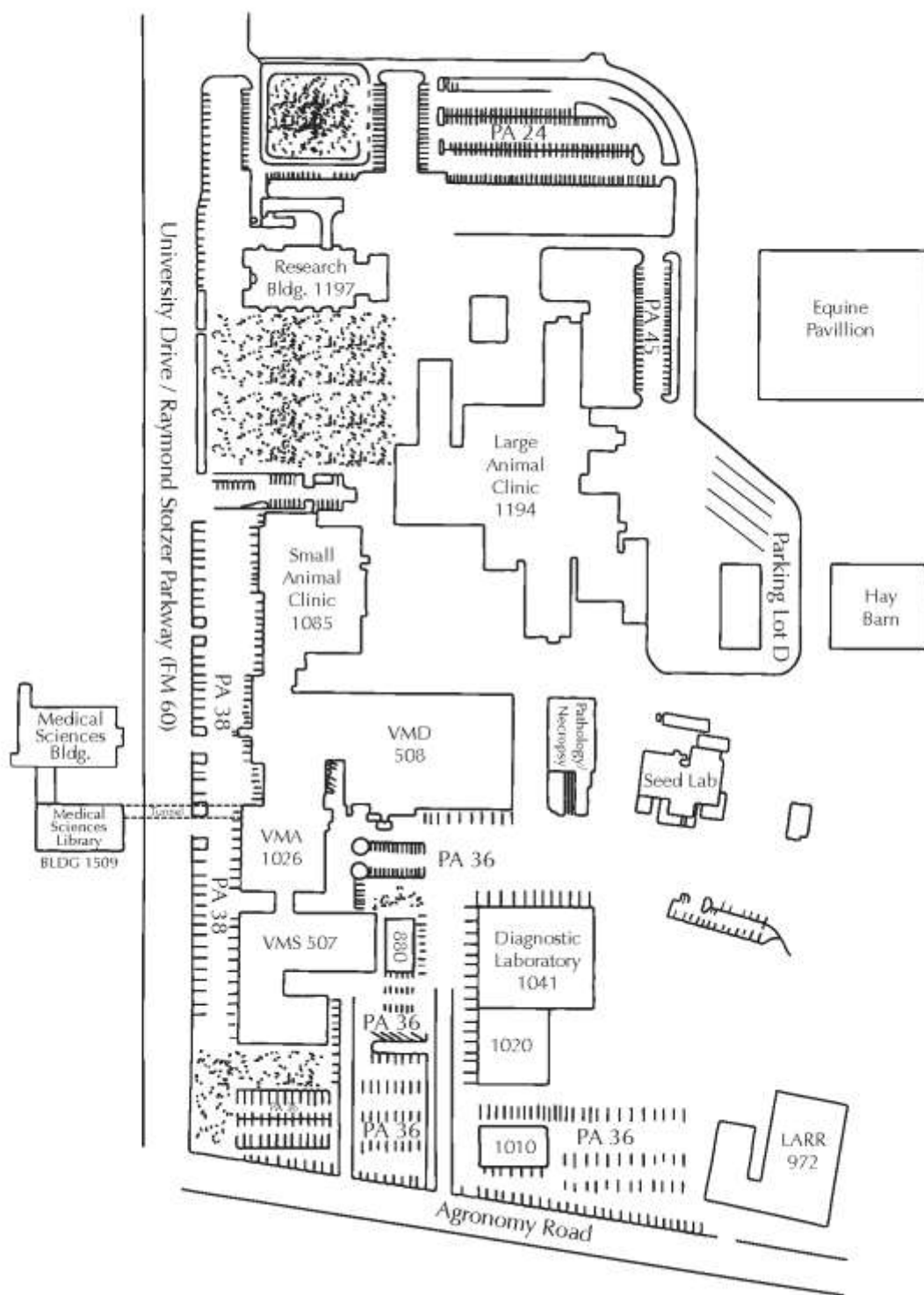
*Veterinary Multi-Disciplinary Building (VMD Map, VTH Class Schedule Abbreviation)*

*Small Animal Hospital (VSCS Map, VSAH Class Schedule Abbreviation)*

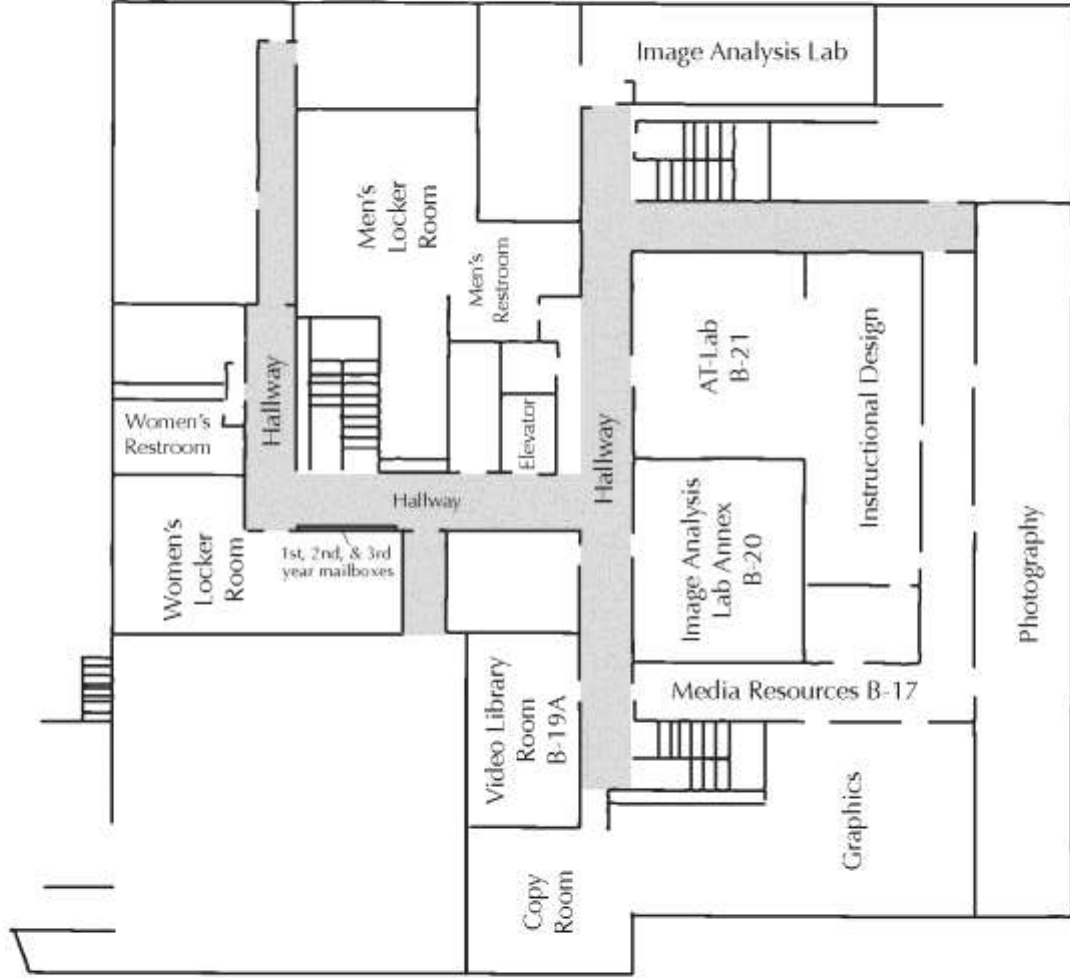
*Large Animal Hospital (VLCS Map)*

*Veterinary Medical Research Building (VRB Map)*

# Texas Veterinary Medicine Center Complex

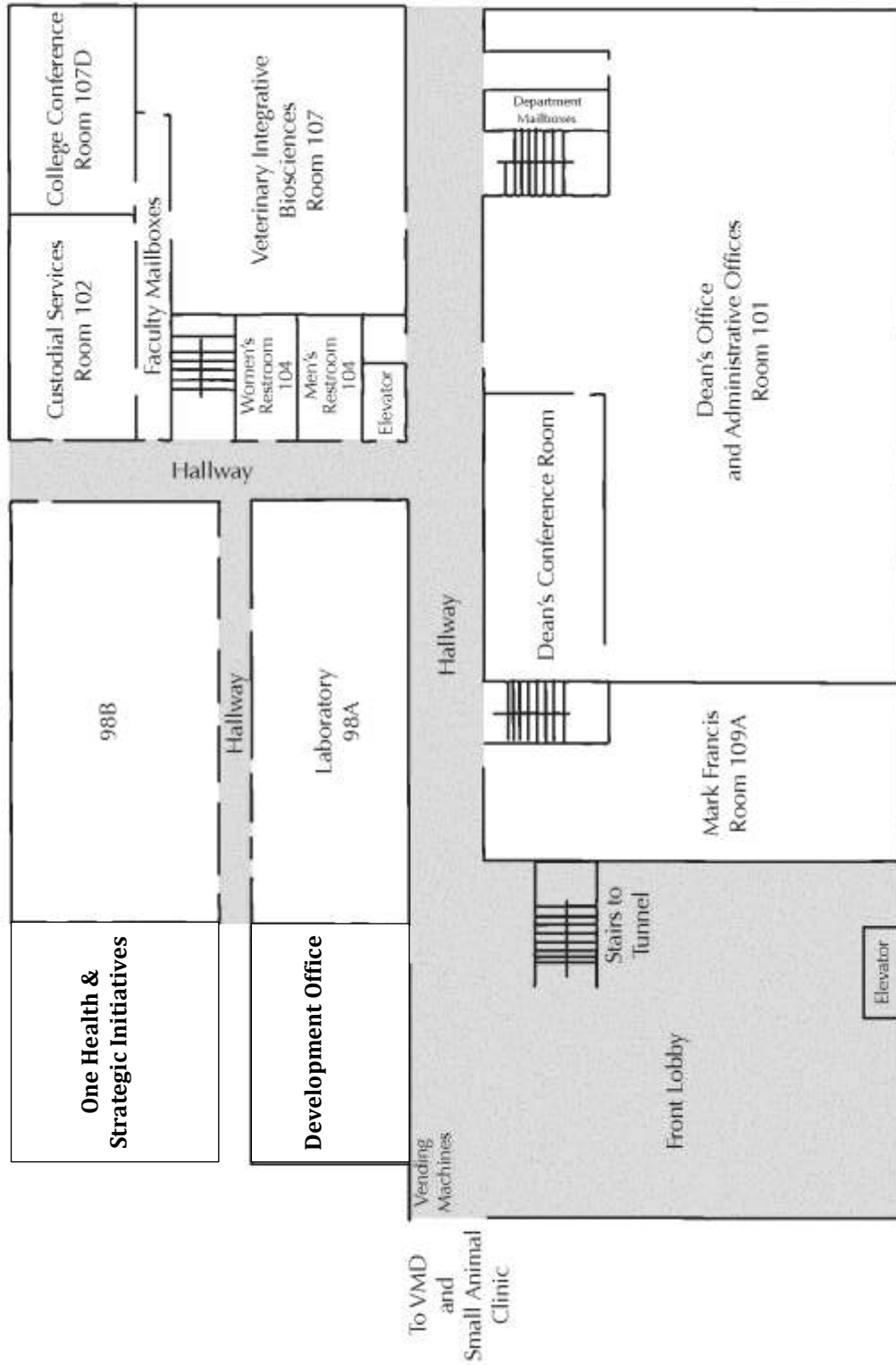


# VMA Basement (Bldg. 1026)



University Drive / Raymond Stotzer Parkway (FM 60)

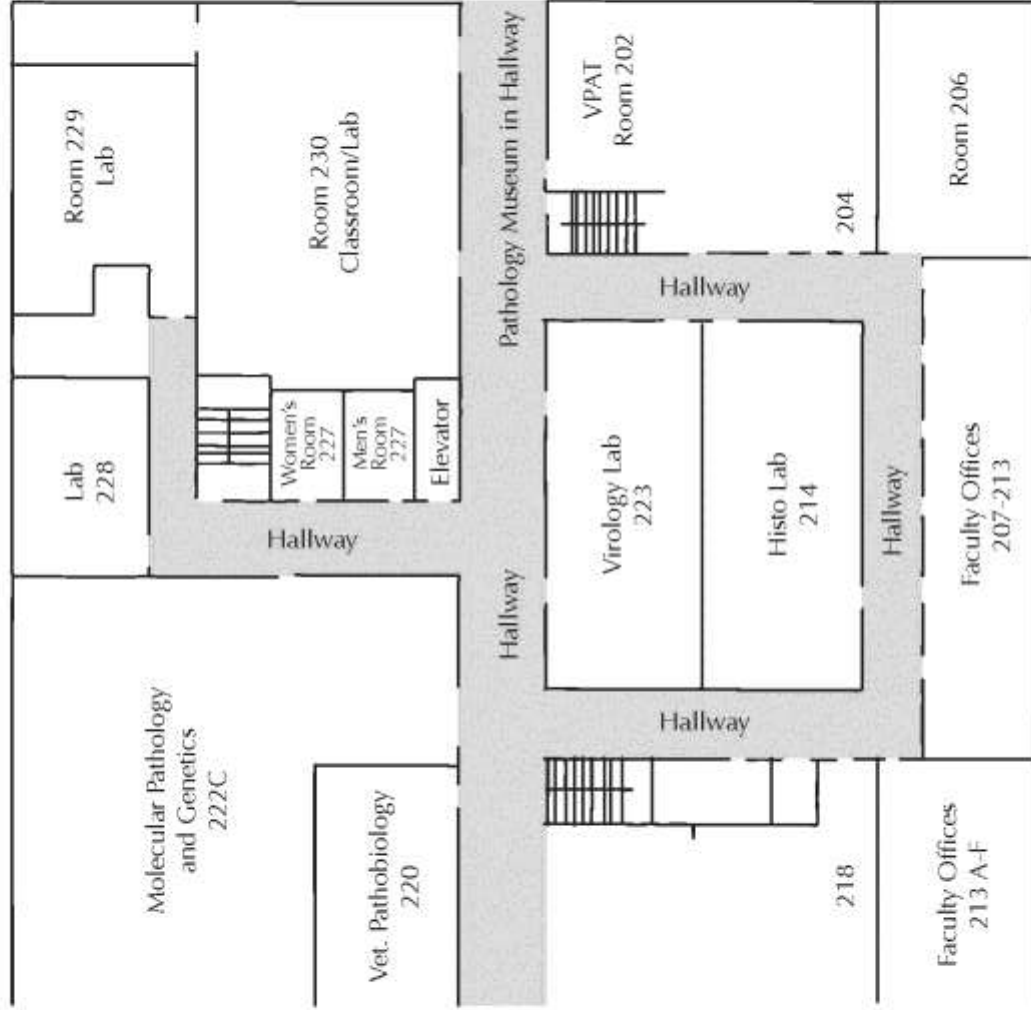
# VMA First Floor (Bldg. 1026)



University Drive / Raymond Stotzer Parkway (FM 60)

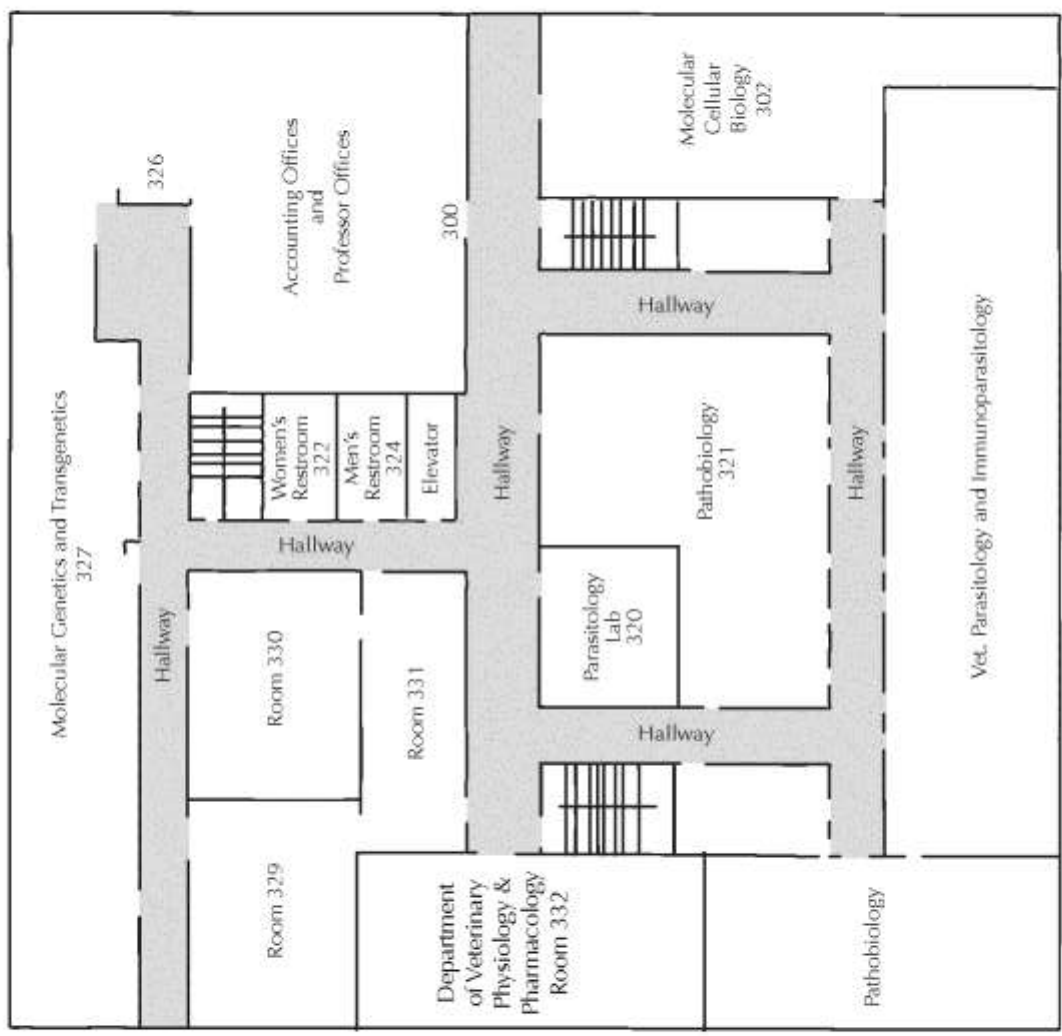


# VMA Second Floor (Bldg. 1026)



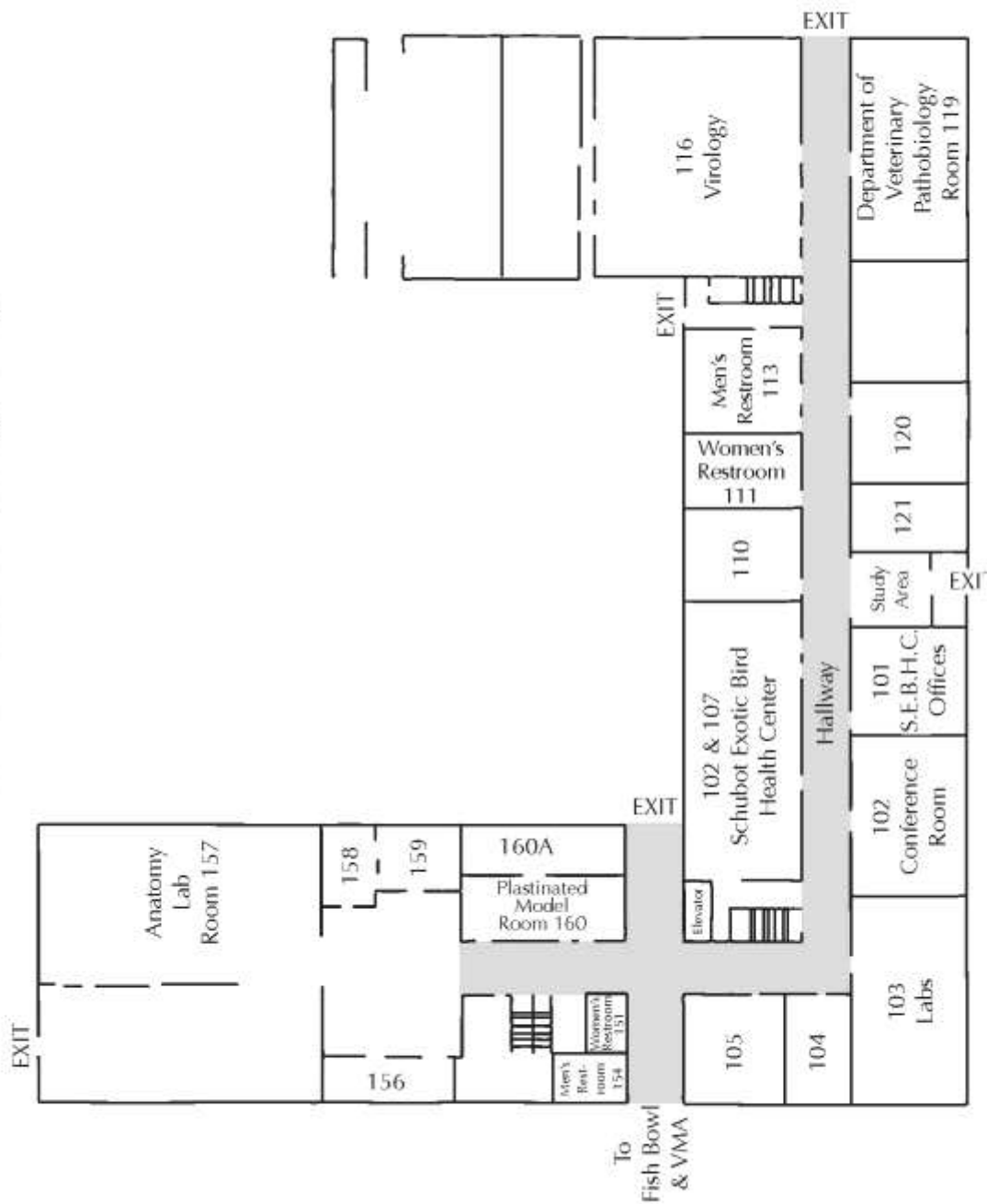
University Drive / Raymond Stotzer Parkway (FM 60)

# VMA Third Floor (Bldg. 1026)



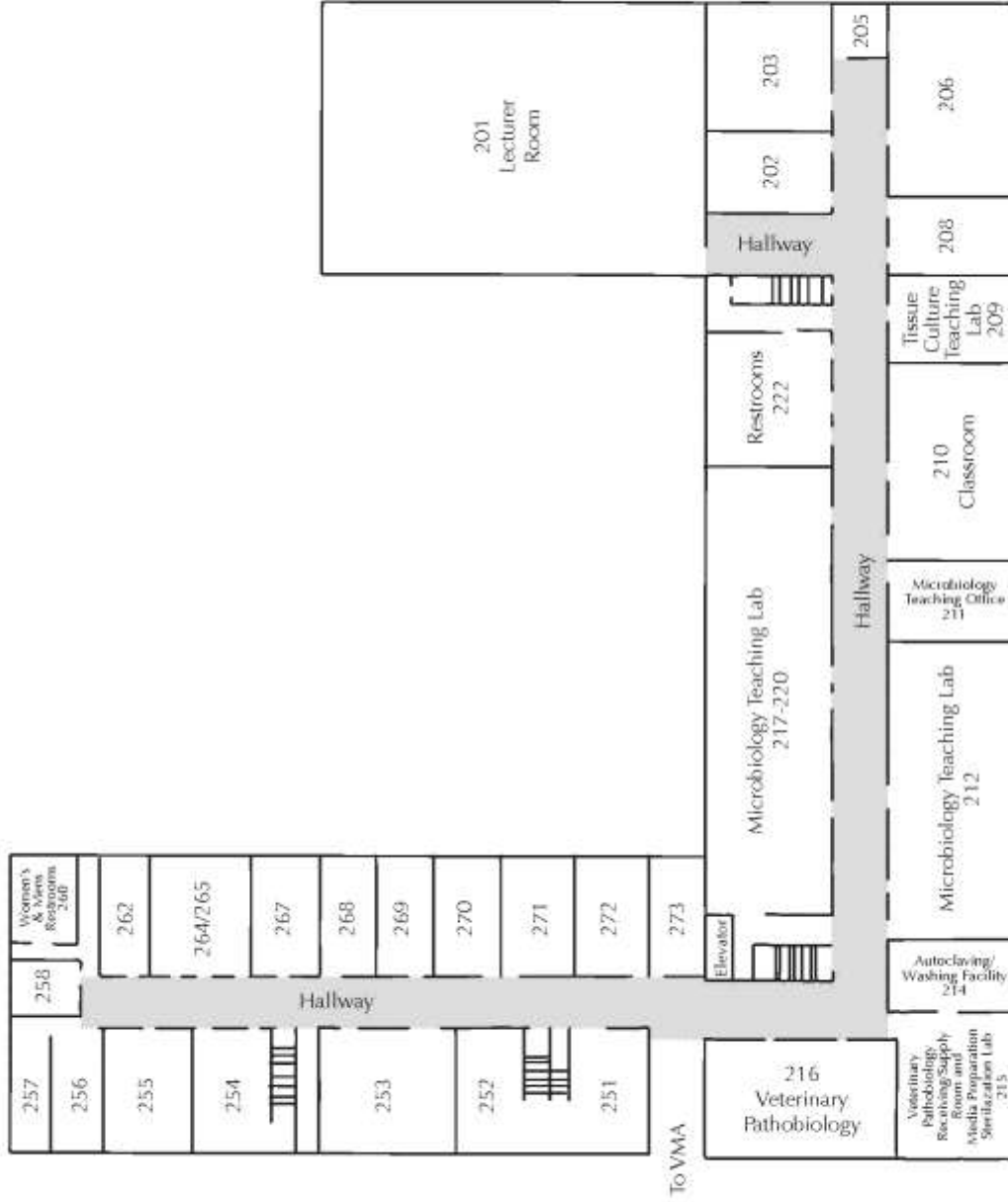
University Drive / Raymond Stotzer Parkway (FM 60)

# VMS First Floor (Bldg. 507)



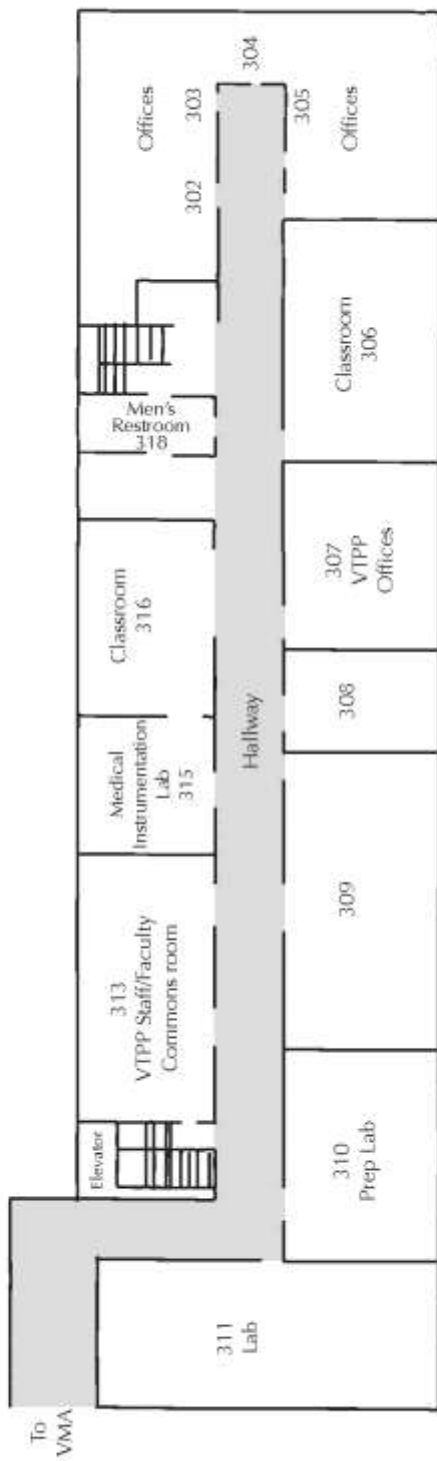
University Drive / Raymond Stotzer Parkway (FM 60)

# VMS Second Floor (Bldg. 507)



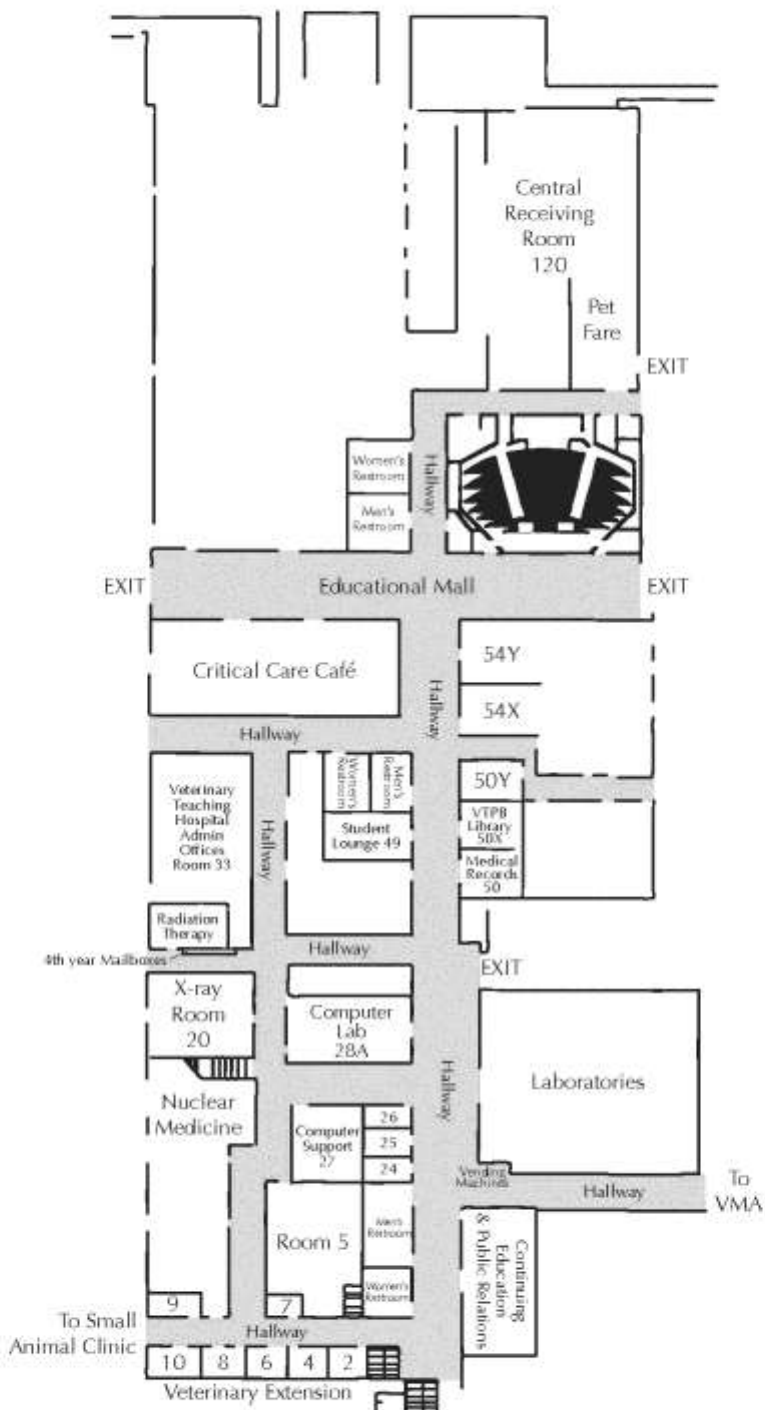
University Drive / Raymond Stotzer Parkway (FM 60)

# VMS Third Floor (Bldg. 507)



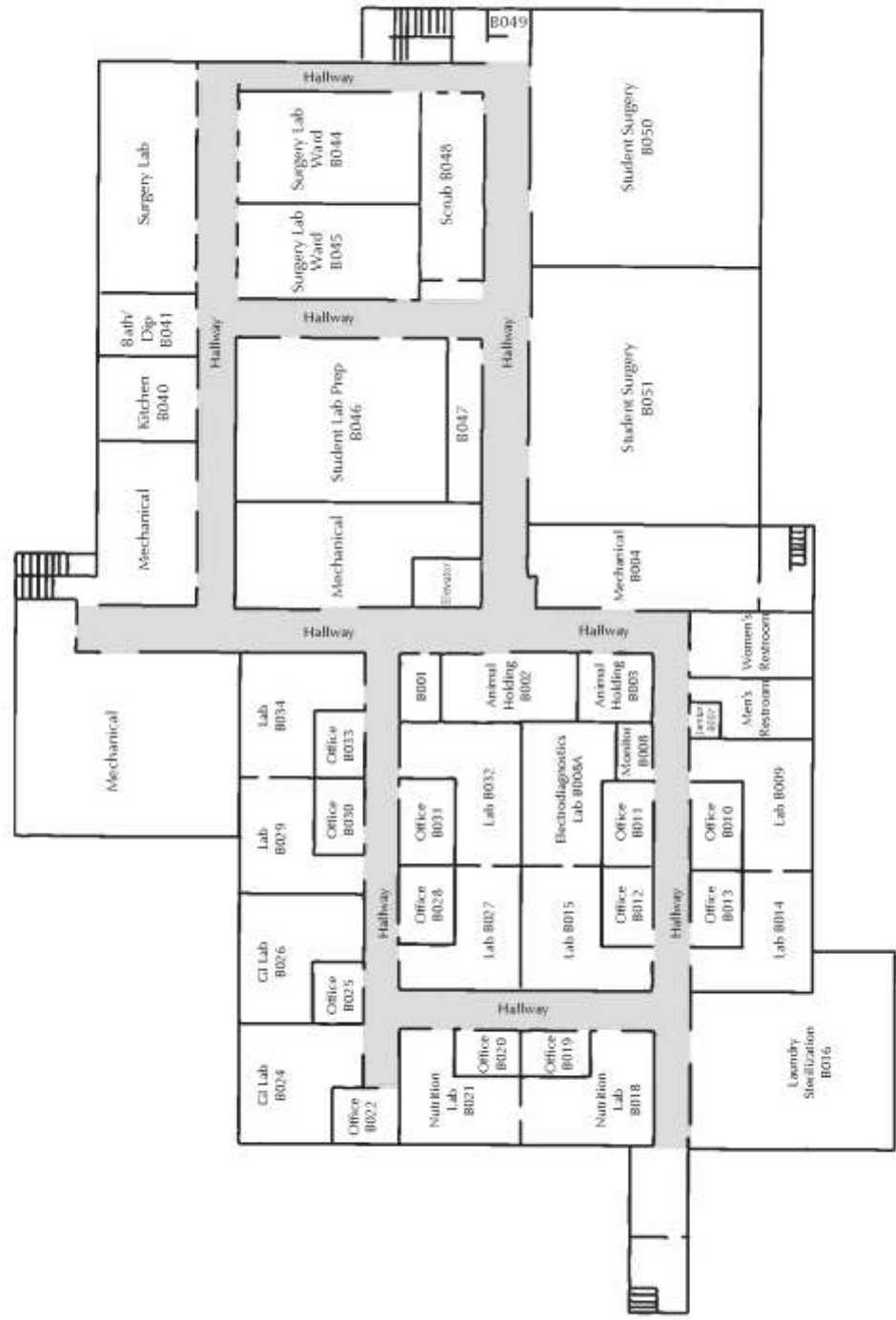
University Drive / Raymond Stotzer Parkway (FM 60)

## VMD (Bldg. 508)



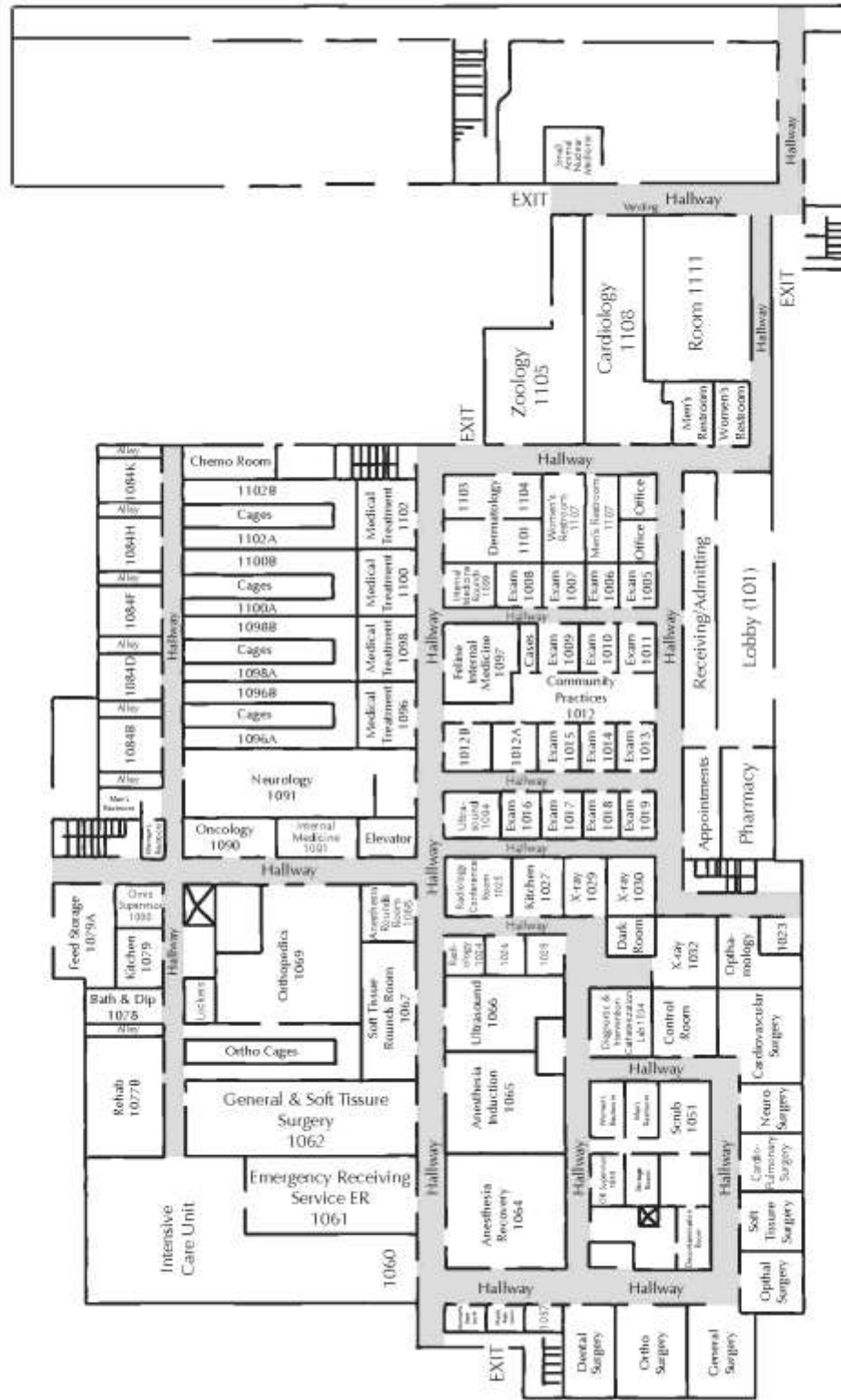
University Drive / Raymond Stotzer Parkway (FM 60)

# VSCS Basement (Bldg. 1085)



University Drive / Raymond Stotzer Parkway (FM 60)

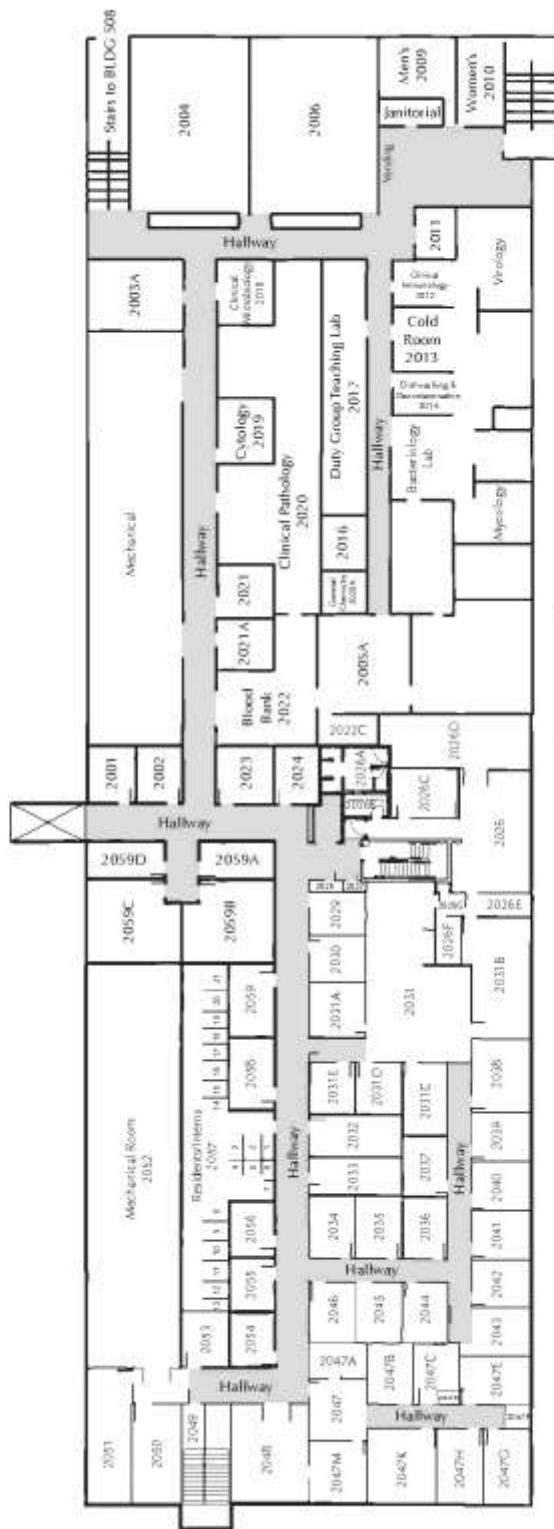
# VSCS First Floor (Bldg. 1085)



University Drive / Raymond Stotzer Parkway (FM 60)

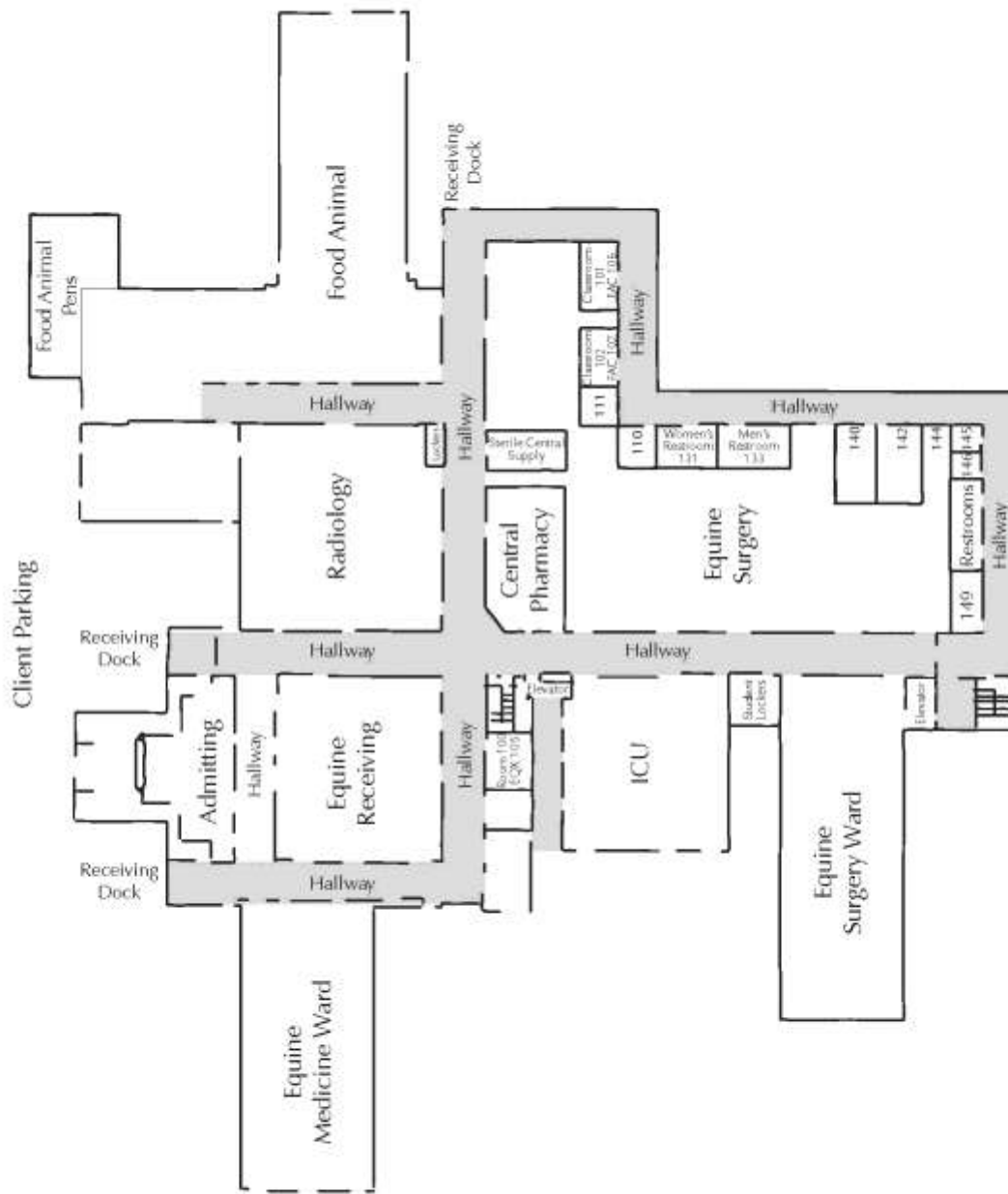


# VSCS Second Floor (Bldg. 1085)



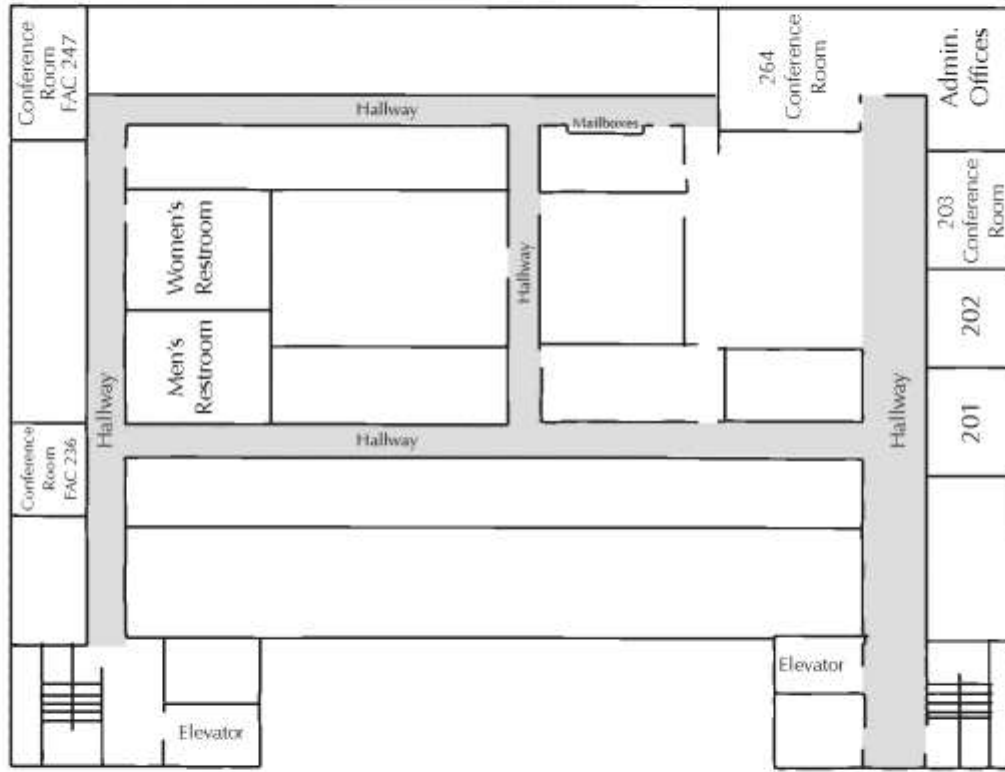
University Drive / Raymond Stotzer Parkway (FM 60)

# VLCS First Floor (Bldg. 1194)



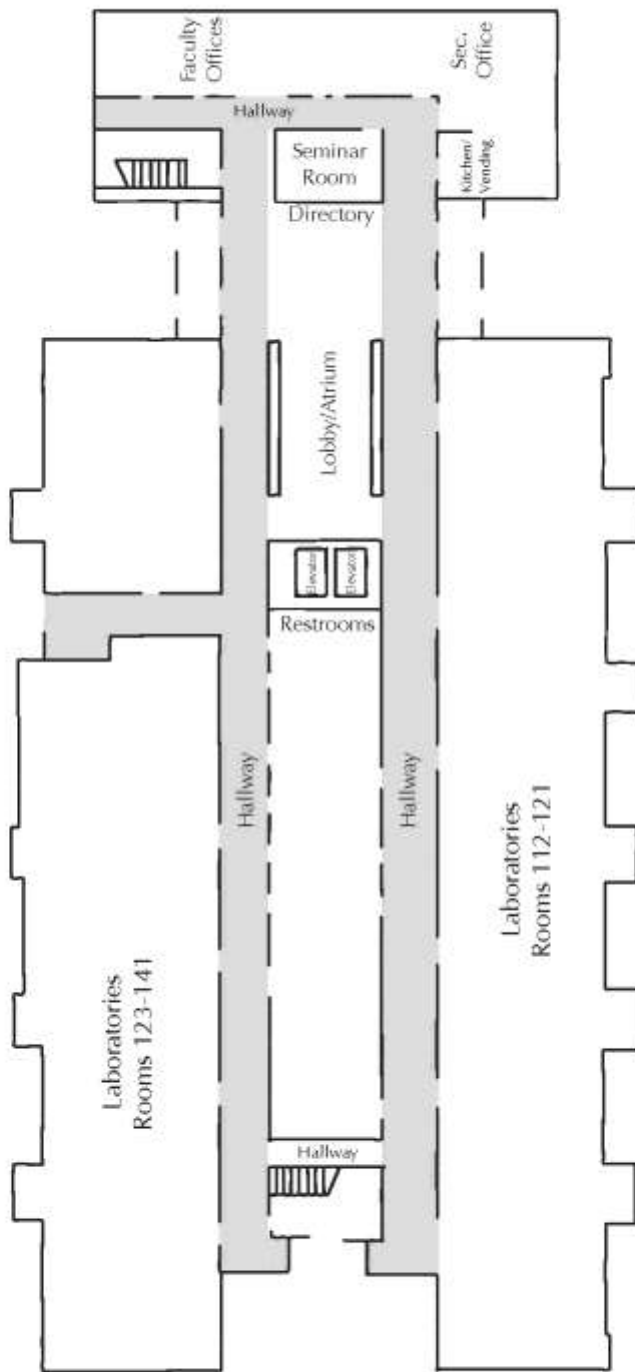
University Drive / Raymond Stotzer Parkway (FM 60)

# VLCS Second Floor (Bldg. 1194)



University Drive / Raymond Stotzer Parkway (FM 60)

# Vet Med Research Building (Bldg. 1197) First Floor



University Drive / Raymond Stotzer Parkway (FM 60)

# Graduate Studies in the CVM

## Overview

Graduate studies in the College of Veterinary Medicine & Biomedical Sciences (CVM) includes Master of Science and Doctor of Philosophy degrees that prepare students for further study as well as careers in academia, the pharmaceutical industry, state and federal research institutions, and private industry.

A major objective of graduate education in the CVM is to emphasize critical thinking, creativity, analysis, and good scientific judgment. The graduate faculty accomplishes this by fostering an atmosphere in the classroom and laboratory that is investigatory, challenging, confidence-building, and scholarly. They also help students develop their abilities to understand and critically evaluate the scientific literature in fields both within and outside their own personal research interests through lab meetings, journal clubs, classroom discussions of the primary literature, and individual discussions. The CVM has a vibrant research environment with state of the art equipment and technology. Our students are immersed in this stimulating environment and are poised to become successful researcher here with the strong mentorship of their faculty advisor.

Students are expected to take responsibility for their own learning, too, and are actively encouraged to attend seminars and participate in research symposia on campus as well as present at scientific meetings regionally, nationally, and internationally. The Associate Dean and team in the Office of Research and Graduate Studies support the CVM GSA Annual Research Symposium and additional graduate student enhancement activities, and many other opportunities exist for the presentation of each student's research to peers through oral or poster presentations.

## Programs of Study

**Biomedical Sciences** – offered by each Department in the CVM (MS Non-Thesis and Thesis Options, PhD)

**Epidemiology** – Department of Veterinary Integrative Biosciences (MS Thesis Option)

**Laboratory Animal Medicine** – Department of Veterinary Pathobiology (MS Thesis Option)



**Science & Technology Journalism** – Department of Veterinary Integrative Biosciences (MS Non-Thesis and Thesis Options)

**Veterinary Pathobiology** – Department of Veterinary Pathobiology (PhD)

**Veterinary Public Health** – Department of Veterinary Integrative Biosciences (MS Thesis Option)

*The College of Veterinary Medicine & Biomedical Sciences graduate faculty also mentor many students pursuing degrees in the interdisciplinary programs of [Genetics](#), [Neuroscience](#), and [Toxicology](#).*

## Graduate Studies Administration & Department Contacts

 <p><a href="#">Robert Burghardt</a></p>	<p>Ph.D. Biology, Wayne State University M.S. Biology, Wayne State University B.S. Zoology, University of Michigan</p>	<p><b>Professor and Acting Associate Dean for Research &amp; Graduate Studies</b></p>
 <p><a href="#">C. Jane Welsh</a></p>	<p>Ph.D. Biochemistry, London University, UK B.Sc. Microbiology, London University, UK</p>	<p><b>Professor and Assistant Dean for Graduate Studies</b></p>

Robert Burghardt	Professor and Acting Associate Dean for Research and Graduate Studies	979-845-5092	<a href="mailto:BChowdhary@cvm.tamu.edu">BChowdhary@cvm.tamu.edu</a>
Jane Welsh	Professor and Assistant Dean for Graduate Studies	979-462-4974	<a href="mailto:JWelsh@cvm.tamu.edu">JWelsh@cvm.tamu.edu</a>
Ashley G. Seabury	Program Coordinator for Research and Graduate Studies	979-845-6820	<a href="mailto:AGustafson@cvm.tamu.edu">AGustafson@cvm.tamu.edu</a>
David Kessler	Senior Academic Advisor for Graduate Studies	979-845-6161	<a href="mailto:DKessler@cvm.tamu.edu">DKessler@cvm.tamu.edu</a>
Robin Benbow	Administrative Assistant for Research and Graduate Studies	979-845-5092	<a href="mailto:RBenbow@cvm.tamu.edu">RBenbow@cvm.tamu.edu</a>

### Veterinary Integrative Biosciences

<http://vetmed.tamu.edu/vibs>

107 VMA  
979-845-2828

Our faculty and students are engaged in biomedical genetics, neuroscience, reproductive biology, toxicology, epidemiology, and public health.

#### Faculty Advisor

C. Jane Welsh, PhD  
Professor  
204 VRB  
979-862-4974  
[JWelsh@cvm.tamu.edu](mailto:JWelsh@cvm.tamu.edu)

#### Staff Advisor

Dana Parks  
Assistant to the Department Head  
107 VMA  
979-845-3268  
[DParks@cvm.tamu.edu](mailto:DParks@cvm.tamu.edu)

## **Veterinary Large Animal Clinical Sciences**

<http://vetmed.tamu.edu/vlcs>

204 LAH  
979-845-9127

Areas of emphasis in the Department currently include: Equine reproduction, Large and small ruminant reproduction, Equine infectious diseases, Clinical epidemiology and patient-based studies, and Spatial analysis of health outcomes.

### *Faculty Advisor*

Noah Cohen, DVM, PhD  
Professor  
255 LAH  
979-845-0741  
[NCohen@cvm.tamu.edu](mailto:NCohen@cvm.tamu.edu)

### *Staff Advisor*

Rachael Sears  
Office Associate for Administration & Graduate Studies  
204 LAH  
979-845-4731  
[RSears@cvm.tamu.edu](mailto:RSears@cvm.tamu.edu)

## **Veterinary Pathobiology**

<http://vetmed.tamu.edu/vtpb>

119 VMS  
979-845-5941

A major strength of the department is the number of diverse yet overlapping [research programs](#) in host/pathogen interactions and genetics of disease susceptibility and resistance. The graduate faculty are usually associated with more than one program, and several are also members of intercollegiate programs in [Genetics](#), [Virology](#) and in [Toxicology](#).

### *Faculty Advisor*

Patricia Holman, PhD  
Research Associate Professor  
318 VMA  
979-845-4202  
[PHolman@cvm.tamu.edu](mailto:PHolman@cvm.tamu.edu)

### *Staff Advisor*

Katie Cosby  
Program Coordinator  
119E VMS  
979-845-2851  
[KCosby@cvm.tamu.edu](mailto:KCosby@cvm.tamu.edu)

## **Veterinary Physiology and Pharmacology**

<http://vetmed.tamu.edu/vtpp>

332 VMA  
979-845-7261

The programs of study are focused on both veterinary and human physiology and pharmacology utilizing the unique aspects of each species to enhance our insights and understandings into basic processes in all other species.

### *Faculty Advisor*

Charles Long, PhD  
Associate Professor  
122 RSL  
979-845-2331  
[CLong@cvm.tamu.edu](mailto:CLong@cvm.tamu.edu)

### *Staff Advisor*

Yvonne Kovar  
Business Associate  
332 VMA  
979-845-7263  
[YKovar@cvm.tamu.edu](mailto:YKovar@cvm.tamu.edu)

## **Veterinary Small Animal Clinical Sciences**

<http://vetmed.tamu.edu/vscs>

2031 VSAH  
979-845-9053

Scholarly programs of the faculty are centered mainly on the study of the spontaneously occurring diseases of the patients presented to the Small Animal Clinic. Investigative programs are active in anesthesiology, animal behavior, cardiology, clinical nutrition, dermatology, feline internal medicine, gastroenterology, general surgery, G.I. Lab, internal medicine, neurology/neurosurgery, oncology, ophthalmology, and orthopedic and soft tissue surgery.

### *Faculty Advisor*

Jörg Steiner, PhD  
Professor  
B025 VSAH  
979-845-2351  
[JSteiner@cvm.tamu.edu](mailto:JSteiner@cvm.tamu.edu)

### *Staff Advisor*

Tricia Maginn  
Business Coordinator  
2031C VSAH  
979-845-9052  
[TMaginn@cvm.tamu.edu](mailto:TMaginn@cvm.tamu.edu)



## General Degree Information & Policies

### Degree Requirements

#### Master of Science (MS) Degrees

**Thesis Option:** A minimum of 32 semester credit hours of approved courses and research is required for the Thesis Option MS degree. Ordinarily, the student will devote the major portion of his or her studies in one or two closely related fields of interest.

**Non-Thesis Option:** A minimum of 36 semester credit hours of approved coursework is required for the Non-Thesis Option MS degree.

In accordance with University rules, there are limitations on the courses students pursuing an MS degree are allowed to use toward completion of their minimum degree requirements, including:

- **Any combination of courses numbered 684, 685, 690, 691, and 695 cannot exceed 12 hours of the total credits applied to the student's degree plan for the Thesis Option concentration and cannot exceed 9 hours for the Non-Thesis Option concentration.**
- Thesis Option students may earn a maximum of 8 semester credit hours in the combination of courses numbered 684 (Professional Internship) or 691 (Research).
- A maximum of 8 semester credit hours of 685 (Directed Studies) may be used.
- Up to 3 semester credit hours of 690 (Theory of Research) and 695 (Frontiers in Research) each may be used toward completion of the MS degree.
- A maximum of 2 semester credit hours of Seminar (681) may be used for the MS degree.
- *Non-Thesis Option (NTO) students cannot enroll in courses numbered 691 (Research) for any reason, and courses numbered 691 will not be used for credit toward a Non-Thesis Option Master of Science degree. NTO student may use a maximum of 4 hours of 684.*
- MS students are allowed to take a maximum of 9 credit hours at the 300 and 400 levels.

**Time Limit:** Students have a maximum of seven (7) consecutive years (21 consecutive semesters) from the first semester of enrollment to complete all Master of Science degree requirements.

#### Doctor of Philosophy (PhD) Degrees

**64-Hour PhD:** Those students who completed a Master's, Doctor of Veterinary Medicine (DVM), or Doctor of Medicine (MD) degree at an institution in the United States must earn a minimum of 64 hours of approved coursework for a PhD.

**96-Hour PhD:** A minimum of 96 hours is required on the degree plan for PhD students who have completed a baccalaureate degree but not a master's degree.

**Time Limit:** Students have a maximum of ten (10) consecutive calendar years (30 consecutive semesters) from the first semester of enrollment to complete all doctoral degree requirements. After passing the required preliminary oral and written examinations for a doctoral degree, the student must complete the final examination within four calendar years. Otherwise, the student will be required to repeat the preliminary examination. The dissertation must clear within one year of the final exam or by the 10-year deadline, whichever occurs first.

## Academic Standards

In accordance with all University rules and policies, graduate students must remain in Academic Good Standing by maintaining a 3.000 GPA for all eligible coursework cumulatively and a 3.000 GPA for all coursework included on the approved degree plan. Graduate students will not be able to meet significant milestones for their degree, including completing department and university required exams and being cleared for graduation, if they do not have a 3.000 cumulative and degree plan GPA.

Students who fall below the minimum 3.000 cumulative GPA are considered to be scholastically deficient and their academic standing will change to Academic Probation. When a student is on Academic Probation, the CVM Office of Research and Graduate Studies and the student's department will monitor the semester GPA and enrollment closely. Students have a maximum of two (2) semesters to return their GPA to the cumulative minimum of 3.000 or face dismissal from the graduate program.

A student is allowed to repeat only ONCE a course in which the grade earned was a C or lower. The first attempt and repeat will both remain on the student's record, and only the higher grade will affect the cumulative and degree plan GPA.

## Curriculum

Each program of study for a graduate degree from the CVM tailors the curriculum in a way that provides a framework of fact and theory upon which students can build a knowledge base that allows them to be competent in their chosen field. Please consult your department's graduate advisor and guidelines when choosing coursework for your degree plan.

## Graduate Advisory Committee

### Chairperson

The chairperson of the student's Advisory Committee will guide the student in selecting appropriate coursework, approve all courses on the student's degree plan, and assist the student in meeting all deadlines. During the admissions process, the applicant to the Thesis Option MS and PhD degree programs will have identified the faculty mentor who serves as a chairperson of that student's Advisory Committee for their degree. Students entering the Non-Thesis Option MS in Biomedical Sciences must choose a faculty mentor/chairperson for their Advisory Committee before the end of the first fall or spring semester of coursework. The chair or a co-chair of the student's Advisory Committee must be from the student's declared department.

### Committee Members

A student pursuing a **Master of Science degree** (Thesis and Non-Thesis Options), in consultation with the faculty mentor, will establish an Advisory Committee comprised of *no fewer than three members* of the graduate faculty representative of the student's fields of interest, with one of those members being the chairperson. The **Doctoral** student, in consultation with the faculty mentor, will form an Advisory Committee comprised of *no fewer than four members* of the graduate faculty representative of the student's fields of interest. *At least one of the committee members* for both the Master's and Doctoral committees must have an appointment to a department other than that through which the student is pursuing the degree. If a student is pursuing a graduate degree through an interdisciplinary program (Genetics, Neuroscience,

Toxicology, etc.) then the outside committee member must have an appointment to a department other than that of the chairperson.

### Change of Advisory Committee Chair/Members

There are extenuating circumstances when a student may need to change the membership of the advisory committee to ensure appropriate mentorship and guidance for success in academics or research. If you believe that a change is necessary, please consult with your committee chair. When considering a change of the faculty mentor/chair of your committee, please consult the department advisor(s) or the Academic Advisor for Graduate Studies in the Dean's Office.

## **Non-Course Requirements and Expectations**

### Degree Plan

All students pursuing a Master of Science degree, regardless of concentration or major, are required to submit the degree plan by the end of the 2<sup>nd</sup> month of their 2<sup>nd</sup> long (fall or spring) semester. All doctoral students, regardless of concentration or major, are required to submit the degree plan by the end of the 2<sup>nd</sup> month of their 4<sup>th</sup> long (fall or spring) semester of coursework. A hold will be placed on the record of any student who does not meet this degree plan requirement. *Regardless of when this deadline falls for each student, the degree plan must be submitted no later than 90 days prior to the first department or university-required examination.*

The degree plan and any petitions are submitted at the following website: <https://ogsdps.tamu.edu>

### Examinations

***To conduct department or university-required examinations, such as a preliminary or final exam, all graduate students must meet the following minimum requirements:***

- A minimum GPR of 3.000 or higher for all courses included on the degree plan that are completed
- A minimum GPR of 3.000 or higher cumulative for all courses eligible to be applied to the graduate degree plan that are completed
- International students must have satisfied all English Language Proficiency requirements

Some requirements in addition to those stated above may be applicable; please check with a staff advisor *early* if you have questions about whether you are eligible to take a required exam.

***Thesis Option:*** Besides completing the minimum 32 semester credit hours of coursework, a Thesis Option student must submit a Thesis proposal and successfully pass the Thesis Defense/Final Exam. The Thesis proposal must be completed in a timely manner that allows for all necessary approvals and requirements to be met before the deadline set by the Office of Graduate Studies. A final exam is comprehensive and covers the thesis material and all coursework approved for the student's degree plan. The exam format is determined by the student's advisory committee. Some students may be eligible for an exemption and should consult the chair of the committee for further guidance. Information about the completing the Thesis is available in the Office of Graduate Studies section of this handbook.

***Non-Thesis Option:*** Students pursuing the Non-Thesis Option are not required to complete a Thesis, but a final exam is required for all students completing this concentration. The exam will be comprehensive, covering the range of coursework approved for the student's degree plan, and the student's advisory committee determines the format of the exam. No exemptions allowed.

**PhD:** To earn the PhD, students must successfully complete a required preliminary exam, a final exam, and the dissertation (a department may have additional examination requirements beyond these as required by the university). A preliminary examination will be scheduled no earlier than a time in which the student is within 6 semester credit hours of completing all coursework approved for the degree plan (with the exception of 691 hours). The preliminary exam will have a written and oral component unless otherwise approved. A student must successfully complete the final examination and dissertation within four calendar years of passing the preliminary examination. *Please review the Texas A&M University Graduate Catalog and department policies for further information about examinations and the dissertation.*

### Goals and Expectations

A mission of Graduate Studies in the College of Veterinary Medicine & Biomedical Sciences is to prepare students for research or professional-level success, including placement in academia, industry, or professional programs of study. In keeping with these objectives, the CVM established the following expectations in addition to the degree requirements:

#### ❖ Presentations:

- Thesis Option students – Before graduation, each student earning a Master of Science with the Thesis Option concentration is expected to make at least one presentation at a local, regional, national, or international conference (unless otherwise determined by the student’s degree program coordinator).
- PhD students – By graduation, all PhD students are to present research findings at least once, and usually more often, at a national or international scientific meeting.

#### ❖ Publication or Professional Experiences:

- MS students – All students pursuing a Master of Science with a Thesis Option concentration will produce publishable research results and have at least one publication accepted to a refereed journal in their field of study. Non-Thesis Option concentration students will complete the internship or other professional experience requirements as stated for their major.
- PhD students – Before graduation, all doctoral students in the CVM will have published a minimum of two manuscripts in one or more refereed journals in their field.

### Annual Evaluations

All graduate students pursuing the Biomedical Sciences degree programs and any degree through the Department of Veterinary Pathobiology must complete an annual evaluation and progress report **before August 31 each academic year**. As a way to provide appropriate structure for student success and timely completion of degree requirements, the student will document their academic and research activities and any hindrances to their degree progress during the current academic year and submit an updated curriculum vitae. The student’s committee chair and committee members will complete the progress report and document their evaluation of the student’s activities during the current academic year and create a set of expectations for student success in the next academic year.

Individual departments may have their own deadlines for completion of the annual evaluation process as long as the annual evaluation and progress report are completed before August 31. Additional requirements beyond the evaluation, progress report, and updated curriculum vitae are at the discretion of the department or advisory committee. If the annual evaluation process is

not complete by August 31 annually, a hold will be placed on the student's record preventing registration for future classes.

The Biomedical Sciences annual evaluation and progress report is available at the following website: <http://vetmed.tamu.edu/graduate/current-graduate-students/student-resources>

The Department of Veterinary Pathobiology form is available at: <http://vetmed.tamu.edu/vtpb/academics>

## **English Language Proficiency Requirements for International Students**

All departments in the College of Veterinary Medicine & Biomedical Sciences follow the minimum requirements of English Language Proficiency for international students as stated in the Graduate Catalog. International students from a country of origin where the official language is not English must, at a minimum, satisfy the requirements for English Language Verification, and those international students holding a Teaching Assistantship must meet the minimum requirements for English Language Certification. Students who have not passed the required sections of the English Language Placement Exam (ELPE) with the minimum score of 80 must enroll in the appropriate ELI class(es) as determined by the graduate advisor for your degree program until the English Language Proficiency requirements are complete.

## **Assistantships & Funding**

### *Assistantships*

Most students in a CVM Master's Thesis or PhD program hold a graduate assistantship or teaching assistantship. Students with these types of funding through a department at the University are required to register for the minimum number of semester credit hours for full-time enrollment each semester (9 hours each fall and spring, 6 hours during the entire summer) and maintain a 3.000 cumulative and degree plan GPA or higher. The select students who are recipients of the CVM Merit Scholars Fellowship or the Association of Former Students Merit and Diversity Fellowships must also maintain the minimum full-time enrollment each semester and meet all other academic and research guidelines as required for the fellowship.

All students on an assistantship or fellowship are expected to register as early as possible, and at least three weeks before the first day of classes for the next semester to ensure that there is no difficulty with your funding.

Students pursuing a Master's Non-Thesis program generally do not hold an assistantship and are not eligible for fellowships. To inquire about assistantship opportunities, please contact the individual department's staff advisor for more information.

### *Funding*

Graduate Studies in the CVM has developed numerous funding opportunities to help support students. Please visit the [website](#) for additional information.

## **Network Accounts**

Most, if not all, students will gain access to the CVM Network with a User ID for email and other applications for use in relation to academics and research. It is important to follow all instructions and guidelines for use of this account. For assistance, please contact the Help Desk at 979-862-4554 or [helpdesk@cvm.tamu.edu](mailto:helpdesk@cvm.tamu.edu).

## Graduate Faculty Members & Research Interests

### Veterinary Integrative Biosciences

**Abbott, Louise C.** – Developmental neurobiology of the mammalian nervous system; neuroanatomy; neurochemistry; specific neurologic disorders including cerebellar ataxia and spatial learning and memory; developmental neurotoxicology with special interest in mercury toxicity and autism; environmental influences on muscle development and the pathogenesis of neurodegenerative diseases with special interest in Alzheimer's disease; programmed cell death (apoptosis) in the developing and adult nervous system.

**Arosh, Joe** – Central role of prostaglandins on molecular and cellular aspects of reproductive processes, gynecologic diseases and endocrine cancers.

**Banu-Arosh, Sakhila K.** – Endocrine toxicology; endocrine oncology; reproductive toxicity of chromium-VI on ovarian development and function, pregnancy, and fetal development; vitamin C and nitroxidants' intervention on heavy metal-induced toxicity; prostaglandin E2 biosynthesis, signaling and transport on mammary gland cancer development.

**Bazer, Fuller W.** (Joint Appointment) – Reproductive physiology; reproductive endocrinology; uterine biology; pregnancy; reproductive immunology; and fetal-placental development.

**Bratton, Gerald R.** – Gross anatomy; neuroanatomy; nutritional influences on lead intoxication; metal effects on reproductive function; localization of central nervous system neurons and their peripheral distribution.

**Budke, Christine** – Epidemiology; burden of disease indicators; zoonotic diseases (larval cestodes); transmission dynamics of parasitic diseases; international veterinary medicine and public health.

**Burghardt, Robert C.** – Cellular signaling and signal transduction; reproductive physiology; uterine biology, pregnancy and parturition; development/application on non-invasive imaging tools using biosensors and biomarkers; in vitro toxicology.

**Cai, James** – population genomics: theory, methods and applications; Evolutionary interpretation of genotype-phenotype map; scientific computing, algorithms, and software tools; genetic disorders and complex traits, interaction network, alternative splicing, and the evolution of gene expression.

**Chapkin, Robert S.** (Joint Appointment) – Chemoprevention; dietary effects on chronic inflammation, T-cell biology and colon cancer; plasma membrane microdomain organization and protein trafficking; functional genomics and systems biology.

**Chowdhary, Bhanu** – Comparative genomics of domesticated animals; molecular cytogenetics; equine genome analysis; physical and comparative gene mapping; disease genetics; molecular analysis of equine fertility; functional analysis of the equine genome.

**Cothran, Ernest (Gus)** – Heredity basis of equine congenital defects and economically significant traits in domestic animals (mainly the horse); interrelationships of inbreeding,

genetic polymorphism, and reproductive performance in horses; population genetics of feral horses; comparative aspects of genetics variation in horses under human selection and under natural selection; genetic aspects of captivity; genetics of domestication. Management of genetic polymorphism in small populations and conservation of rare breeds; genetic relationship among domestic horse breeds; changes in gene regulation based upon environmental factors; gene mapping of the horse.

**Cummings, Kevin** – My research focuses on the use of analytic and molecular epidemiology to study Salmonella and other foodborne pathogens at the pre-harvest level. Work is targeted at minimizing zoonotic transmission of pathogens that threaten food safety, as well as reducing disease burden among veterinary species. Additional areas of interest include emerging infectious diseases, antimicrobial resistance, and hospital biosecurity.

**Dees, W. Les** – neuroendocrinology; reproductive physiology; puberty and sexual maturation.

**Frank-Cannon, Tamy** – veterinary anatomy, neurodegeneration & neuroinflammation in Parkinson's disease.

**Gastel, Barbara** – science journalism; medical journalism; science editing; scientific writing; international scientific communication.

**Geller, Susan C.** (Joint Appointment) – bioinformatics; statistics; commutative algebra I k-theory I cyclic homology.

**Hamer, Sarah** – Disease ecology and epidemiology; one health initiative; wildlife diseases; vector-borne diseases; ticks; Lyme disease and other tick-borne zoonoses; Chagas disease; conservation medicine

**Hoffman, Anton** – comparative and applied gross anatomy; comparative and clinical neuroanatomy; surgical and radiographic anatomy; medical illustration; computer assisted instruction

**Ing, Nancy H.** (Joint Appointment) – molecular endocrinology, steroid regulation of gene expression, functional genomics, uterine and testis function.

**Ivanek-Miojevic, Renata** – Epidemiology and ecology of infectious and foodborne diseases; Addressing methodological research needs in epidemiology and ecology; Research at the interface between empirical and theoretical approaches to identify measures that would protect public and animal health; Analytical epidemiology; Mathematical modeling; Spatial epidemiology; Public health; Food safety; Risk assessment; Microarray analysis; Listeria monocytogenes; Escherichia coli; Salmonella spp.

**Janecka, Jan** – Population Genetics; Conservation Genetics; Phylogenetics; Noninvasive Genetics; Ecology; Wildlife Monitoring; Mammals; Felids; Equids; Snow Leopards; Mountain Lions; Ocelots; Bobcats; Adaptation to High-Altitude; Mongolia; Wildlife in Central Asia; Equine Genomics; Laminitis; Y Chromosome Evolution

**Johnson, Greg A.** – reproductive physiology; molecular, cellular, and physiological mechanisms that influence uterine function, conceptus development, and implantation/placentation in mammals.

**Johnson, Larry** – toxicology; histology; spermatogenesis; gamete physiology; gene expression of Sertoli cells; aging of the testis; seasonal reproductive changes; infertility in males and promotion of science in youth.

**Klemm, William R.** – neurobiology; neurophysiology; neuropharmacology; brain mechanisms of catalepsy; electroencephalography and cognition; educational technology.

**Ko, Gladys Y.-P.** – Integrating major research fields in neuroscience, pharmacology, neurotoxicology, chronobiology, cell and molecular biology, and signal transduction; research projects focusing on circadian regulation of ion channels and their functions in retina photoreceptors and cardiomyocytes, circadian regulation of metabolism and synaptic plasticity, and the roles of micro RNAs in circadian rhythms; techniques used in the lab including electrophysiological recordings, biochemical and pharmacological assays, and various techniques in molecular biology and morphology.

**Kornegay, Joe** – neurology (feline) and genomics

**Li, Jianrong** – mechanisms underlying the effects of neuroimmune molecules in the mammalian central nervous system on oligodendrocyte development, myelination, demyelination and/or remyelination. Interactions among oligodendrocytes, microglia, neurons and astrocytes under physiological and pathophysiological conditions, and identification of key targets for therapeutic approaches.

**Li, Qinglei** – female reproductive tract development; regulation of ovarian/uterine function; TGFbeta signaling pathway; gonadal tumor development.

**Lupton, Joanne** (Joint Appointment) – cell biology; digestive anatomy; physiological effects of dietary fibers; serum lipids; colonic physiology and morphology.

**McDonald, Thomas** (Joint Appointment) – complex mixture interactions; environmental sampling and remediation.

**McMurray, David N.** (Joint Appointment) – cell biology; immunology; infectious disease resistance; effect of nutrition on immunity; and experimental tuberculosis.

**Murphy, William** – Feline genomics; mammalian comparative genomics and genome evolution; mammalian molecular phylogenetics; sex chromosome genes and hybrid sterility.

**Pine, Michelle D.** – neurotoxicology; neuroendocrinology; the mechanism underlying the effects of pesticides (particularly synthetic pyrethroids) on neurodevelopment.

**Porter, Weston W.** – role of transcription factors in mammary gland development and breast cancer; stromal-epithelial interactions; environmental influences on development and breast cancer; mouse models.



**Ramanathan, Balaji** – Antiviral immunity, Innate immunity, Cancer, Drug discovery (Nanotechnology) and Stem cell research.

**Raudsepp, Terje** – reproduction genomics (horse); organization, function & evolution of mammalian sex chromosomes; animal cytogenetics & gene mapping.

**Reagor, John C.** (Joint Appointment) – clinical toxicology; nutritional toxicology; metal toxicology.

**Riggs, Penny K.** (Joint Appointment) – Functional genomics; skeletal muscle genomics (beef cattle); epithelial differentiation & inflammation; gene and genome structure & regulation, animal models of carcinogenesis.

**Russell, Leon H.** – epidemiology; medical mycology; zoonotic diseases (rabies); food toxicology.

**Samollow, Paul B.** – Comparative functional genomics; structural organization of genetic material and its relationship to patterns of gene regulation and expression within and among species. Population genomics: genetic and ecological processes that influence the distribution of genetic diversity within and among population subdivisions in nature, and their roles in promoting population structuring, isolation, and speciation. Research in my laboratory focuses primarily on the structure and function of the newly sequenced genome of the gray, short-tailed opossum, *Monodelphis domestica*, a small South American marsupial that serves as the world's primary laboratory marsupial model for genomic, biomedical, and evolutionary research. Interest areas include linkage and physical map construction, EST discovery and documentation, genome annotation, epigenetic determinants in sex-specific patterns of meiotic recombination, the marsupial MHC and other immune-related gene families, QTL mapping, and comparative vertebrate genome structure.

**Skow, Loren C.** – Comparative genomics of mammals with emphasis on organization and evolution of the mammalian genome; molecular analysis of the major histocompatibility complex of hoofed animals; genetic mechanisms of inherent resistance to infectious diseases.

**Tiffany-Castiglioni, Evelyn** – cell biology; cellular mechanisms of neurotoxicity; functions of neuroglia; astroglial response to disease and trauma.

**Welsh, C. Jane** – Understanding the mechanisms involved in autoimmune diseases, neuroimmunology, neurovirology, psychoneuroimmunology, cell biology, viral infections of the central nervous system, animal models of multiple sclerosis, effects of stress on viral pathogenesis, cerebrovascular endothelial cells and blood-brain barrier function, therapies for multiple sclerosis, factors involved in susceptibility to multiple sclerosis.

**Welsh Jr., Thomas H.** (Joint Appointment) – endocrine physiology; investigate growth; stress; and reproductive biology; especially interactions of adrenal; reproductive and immune systems.

## **Veterinary Large Animal Clinical Sciences**

**Bissett, Wesley T.** – Investigation of the spatial distribution of adverse effects associated with exposure to industrial pollutants with an emphasis on genotoxicity in food animals and marine species. Investigation of adverse responses in sentinel species in close proximity to industrial and Superfund sites.

**Blanchard, Terry L.** – Stallion and mare fertility and infertility.

**Brinsko, Steven P.** – Equine reproduction; sperm membrane function; and semen preservation.

**Carter, G. Kent** – Equine lameness. Chaffm, M. Keith -Equine internal medicine; equine respiratory disease; equine pediatrics; equine ultrasonographic imaging; *Rhodococcus equi* foal pneumonia; equine infectious disease; equine gastrointestinal disease; equine urogenital disease; and equine neurologic disease.

**Cohen, Noah D.** – Equine epidemiology; equine infectious diseases; clinical epidemiology; genetic and molecular epidemiology.

**Dabareiner, Robin M.** – Joint pathology; degenerative joint disease; navicular diseases; corrective shoeing; microvascular pathology; equine lameness and gastrointestinal disease, i.e., colic; osteoarthritis; and western performance events.

**Dinges, Lewis R.** – Beef cattle production medicine.

**Dominguez, Brandon** – Third-party assessment of food animal health and welfare; prevention and control of disease in populations; surveillance of diseases between the domestic/wildlife interface, biosecurity in emergency response.

**Easterwood, Leslie** – Skin tumors in horses, and equine ophthalmology.

**Eichelberger, Bunita** – Musculoskeletal imaging, magnetic resonance imaging, computed tomography.

**Faries, Jr., Floron C.** – Clinical epidemiology, biosecurity, bovine parasitology, beef herd health management, and veterinary science youth career development.

**Gold, Jenifer R.** – Equine neonatology-specifically sepsis and the HP A axis; equine respiratory disease, equine immunology, emergency medicine and critical care.

**Griffin, Cleet** – Topics and clinical problems related to equine dentistry.

**Griffm, John F., IV.** – MRI of the nervous system and musculoskeletal system.

**Hardy, Joanne** – Gastrointestinal disorders in horses. Equine emergency and critical care. Equine guttural pouch mycosis.

**Hooper, R. Neil** – Soft Tissue Surgery.

**Love, Charles** – Equine reproduction; sperm function; evaluation of fertility; and flow cytometry.

**Martin, Michael T.** – Radiographic survey of dental disorder in miniature horses.

**Mays, Glennon B.** – Infectious disease epidemiology in livestock, theriogenology in livestock, and equine dentistry.

**Moyer, William A.** – Racetrack safety and design; foot problems and shoeing; musculoskeletal injuries; effects of training on injury.

**Norman, Tracy** – Equine internal medicine; equine diagnostic ultrasound.

**Posey, R. Dan** – Beef cattle production medicine; issues associated with sustainable agriculture; instruction and teaching of non-technical competencies, and outcome assessment in teaching.

**Rakestraw, Peter C.** – Post-operative complications of equine colic; gastrointestinal motility; postoperative ileus; upper airway disease in horses; equine pharyngeal cicatrix syndrome; wound healing in horses.

**Romano, Juan** - Pregnancy diagnosis in ruminants and pregnancy loss in ruminants.

**Roussel, Allen J., Jr.** - Paratuberculosis; gastrointestinal motility of domestic animals.

**Schmitz, David G.** – Diagnostic ultrasonography.

**Spaulding, Kathy** – Abdominal ultrasound: vascular anomalies; gastrointestinal abnormalities; biliary disease.

**Swor, Tamara** – Equine gastrointestinal and orthopedic surgery; equine emergency and critical care.

**Thompson, James A.** – Environmental health, reproduction and cancer.

**Varner, Dickson D.** – Fertility probes for stallions; in-vitro preservation of equine spermatozoa; capacitation of equine spermatozoa; assisted reproductive techniques; and subfertility in stallions.

**Washburn, Kevin E.** – Developing and investigating the disposition of extra-label antimicrobials in small ruminants; pharmacokinetics of respiratory antimicrobials; comparison of different treatment modalities for small ruminant caseous lymphadenitis; the value of the HI test for diagnosis of small ruminants with caseous lymphadenitis; diagnosis of transmission of CAEV via colostrum; and antemortem diagnosis of malignant lymphoma in cattle. Investigating infection of swine with *Mycobacterium avium* subspecies paratuberculosis in attempts to create an animal model for human inflammatory bowel disease.

**Watkins, Jeffrey P.** – Equine fracture management including: intramedullary interlocking nail fixation; fracture biomechanics; biomaterials; implant design and testing; arthrodesis techniques; management of infection; and orthopedic applications of stem cell therapy.

**Young, Ben** – Small animal abdominal ultrasonography; MRI of neurologic disease.

## Veterinary Pathobiology

**Adams, L. Garry** – Select agents -Intracellular bacterial pathogens -Brucella, Mycobacterium, Salmonella and Mycoplasma; infectious diseases; molecular mechanisms of host-pathogen interaction in immunity and disease; intracellular pathogens; molecular basis of disease resistance; macrophage function; molecular pathogenesis; comparative host-pathogen genomics, transcriptomics and proteomics; pathomics and interactomics; food animals; diagnostics; vaccines: therapeutics; biodefense; homeland security; BSL3 and BSL3Ag.

**Ball, Judith M.** – Our studies focus on the molecular and biochemical aspects of viruses, interactions of viral proteins with host cell moieties and intracellular transport. The overall goal of our work is to identify unique therapeutic targets for viral intervention. We employ a multitude of techniques such as yeast two-hybrid assays, laser-scanning confocal microscopic techniques (single and multiphoton), synthetic peptide chemistry, protein analyses and mutagenesis studies. Our primary interest is rotavirus, the single most important cause of pediatric, life-threatening gastroenteritis that annually claims ~610,000 young lives worldwide and results in hospitalization of 1 in 60 children in the U.S. at an annual cost of one billion dollars. We also study other viral systems that impact human and animal health with a focus on dissecting the association viral proteins with plasma membrane microdomains, such as caveolae.

**Bazer, Fuller W.** (Joint Appointment) – Reproductive biology with emphasis on uterine biology and pregnancy. Mechanisms of action of pregnancy recognition signals from the conceptus to the maternal uterus, including interferon tau and estrogen from ruminant and pig conceptuses, respectively, are studied at the molecular and cellular levels. The roles of uterine secretions as transport proteins, regulatory molecules, growth factors and enzymes and endocrine regulation of their secretion is another major research interest. The endocrinology of pregnancy, especially the roles of lactogenic and growth hormones in fetal-placental development and uterine functions are being studied. The mechanism(s) of action and potential therapeutic value of conceptus interferons and uterine-derived hematopoietic growth factors are areas of research with both pigs and sheep as models for human disease.

**Berghman, Luc** (Joint Appointment) – Major long-term goals are (1) to acquire fundamental new knowledge of avian immune system and (2) to apply this new knowledge toward the development of novel immuno-biotechnological tools, such as vaccines, immunoassays and diagnostics. Basic avian immune studies include the study of cellular and humoral interactions, especially those involving the chicken professional antigen-presenting cells (APC)s (macrophages, dendritic cells and B-cells). This includes immunohistochemical micro-anatomical studies and the study of gene expression profiles. Immuno-biotechnological applications include the development of monoclonal antibodies (a routine procedure and hallmark of our lab), polyclonal antibodies and chicken egg yolk antibodies for diagnostic, prophylactic and therapeutic purposes. Current projects feature the development of antibody-targeted, "smart" vaccines and vectored vaccines, and the development of immunodiagnostic and analytical tools for the detection of a wide variety of molecules and microorganisms.

**Brightsmith, Donald J.** – Avian diseases; avian ecology; geophagy (consumption of soil); avian conservation; disease threats from the live bird trade; diets of wild and captive exotic birds;

role of infectious diseases in wild and endangered bird populations. Specialization in psittacines (parrots, macaws, parakeets and allies).

**Caldwell, David J.** (Joint Appointment) – Avian immunology; gut immunology in commercial poultry; immunopotential of the innate immune system in poultry; immunity to important poultry pathogens such as Salmonella and Coccidia.

**Clubb, Fred** – Electron microscopic evaluation of myocardial and renal biopsies; qualitative and quantitative evaluation of implantable cardiovascular devices for nonGLP and GLP\preclinical trials.

**Conover, Gloria M.** – Our research is focused on the cell biology of muscle disease. Mutations in desmin have been identified in humans as causative for dilated and restrictive cardiomyopathies. Our goal is to decipher the molecular and regulatory mechanisms underlying how inherited single missense mutations in desmin lead to cardiac and skeletal muscle dysfunction. In particular, we are interested in studying the effect that these mutations have on sarcomere protein function and actin cytoskeletal dynamics. We use advanced cell biological and biochemical approaches to investigate the histological, physiological and ultrastructural impact that these mutations confer in live muscle cells.

**Corapi, Wayne V.** – Diagnostic pathology and infectious diseases of domestic animals, particularly viral diseases and the immune response to viral infections.

**Craig, Thomas M.** – Primary interest is in the epidemiology and control of internal parasites of grazing animals, including improved diagnostics, evaluation of and sustainable use of anthelmintics. Anthelmintic resistance is an increasing problem. Identifying the problem before it occurs by looking at both the worm and the hosts are important aspects of this research. Exploitation of the parasite at times of vulnerability by management is an area of interest. Research in arthropod borne protozoan infections including pathogenesis and the epidemiology of parasites of man and domesticated animals is also something I do.

**Criscitiello, Michael** – I am interested in diverse mechanisms by which adaptive immunity can be mediated: novel receptors, novel cells, novel lymphoid architectures, novel paratopes and novel systems for repertoire generation and selection. These have been devised by natural selection and battle-tested in the myriad of vertebrate adaptive immune systems. By studying unconventional comparative models such as shark, shrimp, cattle and frog, hypotheses of immune system origins and natural history are tested while discovering new ways of achieving lymphocyte repertoires that protect against pathogens while limiting autoimmunity and hypersensitivity.

**Cyr, Tracy** – As a Med/Vet Entomologist, my research interests focus on vector borne diseases affecting humans and animals. I especially enjoy involving students in short-term directed scientific research projects with both field and lab components. My research studies include avian hemoprotozoan parasites and their insect vectors, epidemiology of fly vectors of EHD in white-tailed deer, and the utilization of molecular methods to identify flies of forensic importance.

**Dai, Susie Y.** – My research interests focus on several aspects: 1) Proteomics and interactomics in cancer and bioenergy. 2) Protein structure dynamics and structure-function relationship

study with a focus in nuclear receptor and cellulase enzymes. 3) Biomonitoring programs which include analyzing veterinary drugs, mycotoxins, etc., in feed and food. We utilize a variety of techniques including shotgun proteomics, hydrogen deuterium exchange mass spectrometry and mass-spec based multiple target analysis. The major goals of the lab are: 1) Establish systems biology approaches to characterize and elucidate protein-protein interaction and mechanistic study of protein functions with the ultimate goal for novel therapies in cancer and breakthroughs for bioenergy production. 2) Develop methods for food and feed safety monitoring programs in a high throughput, multiple residue based fashion.

**Davis, Donald S.** – Infectious and parasitic diseases of native, exotic and/or feral wildlife captive or free-ranging, particularly those shared with traditional domestic livestock, farmed/ranched ungulates, and/or humans, with emphasis on experimental, controlled infections to evaluate improved diagnostics vaccines suitable for wildlife, and the systems to deliver chemotherapeutic agents or vaccines to wildlife. Development of handling and restraint facilities appropriate for captive wildlife, and natural (genetic) disease resistance in wildlife. Brucellosis, tuberculosis, anthrax, hemaprotazon, trematodes, and nematodes.

**Derr, James N.** – Molecular genetics of mammals including; characterization of genetic traits and disease, population and conservation genetics, and the evolution of genes and genomes at the nucleotide level in domestic and wild populations.

**Dindot, Scott V.** – My laboratory is interested in understanding the epigenetic and genetic mechanisms of gene regulation and their role in development and disease. We utilize genome-wide epigenomic and genomic profiling approaches to identify regulatory elements within the genome that are essential for proper gene expression. We combine these approaches with genetic analyses in mouse and fruit fly model systems to further elucidate the functional interplay between epigenetics, genetics, and gene regulation. In particular, my laboratory is interested in (he study of genomic imprinting in domestic animals and model organisms. The long-term goals of my laboratory are to identify variable or dysregulated epigenetic modifications that are causal for phenotypic variation, disease, and disease susceptibility. Other work in my laboratory is to develop customized genomic tiling arrays to investigate the role of gene copy number variation in phenotypic variability in domestic animals and to identify pathologic rearrangements in the genomes of domestic animals to develop alternate models for human genetic conditions.

**Edwards, John F.** – Diagnostic pathology, infectious diseases of domestic livestock particularly of cattle and horses; in utero teratogenicity (viral and toxic), pathology of the reproductive system and infertility; diseases of the fetus and neonate; food safety of red meat species, pathology of animals at slaughter.

**Esteve-Gassent, Maria** – Understanding how *B. burgdorferi*, the causative agent of Lyme disease can spread from the site of the tick bite to other organs such as joints and heart. To do these studies we are incorporating the tick model together with the mouse model of Lyme disease.

**Ficht, Thomas A.** – Mechanisms of invasion and survival of intracellular bacteria within host cells; study of bacterial and host gene expression during infection and its use in the development and application of biosignatures; development of improved vaccines using

genetic approaches to attenuate survival and identify therapeutic targets; development of subunit vaccines. Characterization of bacterial population structures through genomic analysis.

**Holman, Patricia J.** – Molecular mechanisms driving interactions between *Babesia* spp. and their hosts; characterization of potential vaccine or drug targets for babesiosis; molecular phylogeny of the hemoparasites; genetic basis of bovine resistance/susceptibility to ectoparasitism; development of molecular diagnostic tests for piroplasms.

**Jeter, Elizabeth** – Animal Shelter Medicine Participates in the veterinary student rotations at the Brazos Valley Animal Shelter.

**Johnson, Mark C.** – Professional courses in pathology and service/teaching responsibilities including clinical pathology hospital service. Diagnostic and investigative immunopathology with emphasis on immunohistochemistry and immunocytochemistry interpretations for characterization of lymphoma and other neoplasia.

**Kier, Ann B.** – Understanding the actions of intracellular lipid binding proteins in fat and carbohydrate metabolism: using biochemical, structural and molecular biological approaches, how these proteins affect lipid and sugar absorption and metabolism, and how they may serve as ligands for second messengers or activators for nuclear transcription factors. As well as in vitro studies, fat and sugar absorption, trafficking, and pathology are studied in genetically altered mice over expressing the respective proteins or in gene deleted mice in which these proteins are not expressed. Collaborative research: pathology of transgenic mice.

**Lawhon, Sara** – My work seeks to understand, on a molecular level, the interactions between the intestinal pathogen, *Salmonella enterica*, and mammalian hosts. I am particularly interested in how *Salmonella* spp. regulate their genes in response to environmental signals present in the gastrointestinal tract, the pathogenic mechanisms by which *Salmonella* spp. induce enteritis and diarrhea in mammalian hosts, and how the host responds to *Salmonella* infection. I am also interested in how *Salmonella* spp. survive in the external environment and are transmitted within populations of cattle and other mammals. As an outgrowth of my clinical interests, my research program has also begun to focus on understanding the carriage of *Staphylococcus* in veterinary species and the role of methicillin resistance on survival and virulence of commensal and pathogenic *Staphylococcus*.

**Leibowitz, Julian L.** – Replication and gene expression of corona viruses, particularly mouse hepatitis virus (MHV) and the SARS corona virus; the structure and function of the MHV and SARS corona virus untranslated regions (UTRs); the interaction of MHV and SARS coronavirus UTRs with host cell proteins; virus-host interactions; molecular pathogenesis of MHV induced hepatitis, demyelination (a model of multiple sclerosis), and pneumonia (a model for SARS); platforms for the development of anti-virals for SARS coronavirus; intracellular signaling and patterns of gene expression during corona virus infection.

**Libal, Melissa C.** – Epidemiology of infectious disease, antimicrobial sensitivity testing, bacterial antimicrobial resistance.

**Logan, Linda** – Has a longstanding interest in tropical diseases of livestock. Trans-boundary diseases, vector-borne diseases and blood borne parasites have been the areas in which I have

had the greatest research interest and experience. My interests more recently have focused on regulatory medicine, international livestock disease control and international agricultural trade. I have worked collaboratively with international organizations to build stronger laboratory and epi-surveillance capacity building for livestock and zoonotic diseases in Africa and the Middle East and Central Asia.

**Lupiani, Blanca** – Research in my laboratory focuses on better understanding the ecology and evolution of avian influenza and avian paramyxoviruses. By carrying out surveillance and characterization of viruses isolated from wild bird populations from the wintering grounds of the Central Flyway (Texas Coast), we are able to better understand how these viruses are maintained in nature and how they evolve to adapt to new hosts. Molecular characterization of the viruses, together with ecological data are used for epidemiological and modeling studies. Another aspect of my research includes the study of molecular mechanisms of pathogenesis of avian influenza viruses. Using reverse genetics, specific mutations are introduced in the avian influenza virus genome in order to study their role in virus pathogenesis as well as to determine gene function. Using genomic approaches the host/virus interaction is also being studied. We are also interested in understanding molecular mechanisms of pathogenesis of Mareks disease virus, a chicken oncogenic alphaherpesvirus, and in the development of improved vaccines to control this important poultry pathogen.

**Mansell, Joanne** – Comparative pathology with particular interest in dermatopathology. The effects of systemic disease on skin. The use of immunohistochemistry in neoplastic and inflammatory skin disease.

**Mora, Miguel** – My main research area is in wildlife toxicology. My laboratory conducts basic and applied research on the effects of contaminants on animal populations, with particular emphasis on birds. We conduct field and laboratory studies to determine the effects of persistent bioaccumulative toxicants, metals and other environmental pollutants on wildlife.

**Musser, Jeffrey** – Dairy production medicine, mastitis prevention and control, and quality milk production; pharmacokinetics in exotic and food animals and drug residue prevention.

**Mwangi, Waithaka** – Research is focused on development of biotherapeutics for livestock and humans. Studies are directed at optimizing *in vivo* antigen presentation by dendritic cells following immunization to enhance vaccine efficacy. In addition, strategies for induction and maintenance of memory cellular immune responses in outbred species are being evaluated. We are interested in defining key molecular processes involved in the development and regulation of innate immunity in an outbred species model and the influence of these processes on the development of adaptive immune responses to gain knowledge needed for adjuvant development. Interaction between dendritic cells and food animal pathogens, especially zoonotics, is an area under development and is expected to define correlates of protection needed for vaccine design. Major efforts are directed at generating efficacious vaccines for induction of protection against Bovine Viral Diarrhea Virus (BVDV) in neonates, *Clostridium perfringens*, and development of cross-protective vaccine against Foot and Mouth disease virus and Porcine Reproductive and Respiratory Syndrome Virus (PRRSV).



**Nabity, Mary** – Renal pathology and its relation to the urine proteome: evaluation of changes in urine proteins with naturally progressive renal disease, and identification of novel clinical biomarkers for early detection and progression of renal disease.

**Omran, Tawfik** – Immunopathogenesis and host immune response to infectious and noninfectious disease; signal transduction in inflammation. Specific interests include Lyme Disease (*Borrelia burgdorferi*) infection, pathogenesis, and vaccine studies in humans and animal models.

**Payne, Susan** – Molecular aspects of retroviral replication, pathogenesis, and evolution focusing on equine infectious anemia virus as a model system. Specific studies include: evolution of virulence during rapid virus passage, modification of cell signaling pathways mediated by viral glycoproteins, effects of proinflammatory cytokines on virus replication and disease, detailed mapping of EIA V virulence determinants.

**Pool, Roy** – Histopathologic diagnosis and investigations into the pathogenesis of spontaneous bone and joint diseases of domestic mammals with special interest in the diagnosis of bone and joint tumors and in the diagnosis and pathogenesis of musculoskeletal disorders of athletic horses.

**Porter, Brian F.** – Comparative neuropathology; diseases of special interest include necrotizing meningoencephalitis of pug dogs and GM2 gangliosidosis in Jacob sheep; wildlife disease and environmental conservation.

**Reddy, Sanjay** – The long-term goal of my laboratory is to understand the molecular basis of pathogenesis of Marek's disease virus (MDV), a potent oncogenic herpesvirus that causes T - cell tumors in chickens. MDV codes for a protein (Meq), which shares significant resemblance with the Jun/Fos family of transcriptional factors. We have shown that this gene plays a critical role in latency and transformation of T-lymphocytes. Understanding the basic mechanism of viral pathogenesis will aid in the development of improved vaccine. We are also interested in other important poultry disease like avian influenza.

**Rice-Ficht, Allison C.** – Microencapsulation research and vaccine delivery vehicles; use of proteins and protein composites in controlled release for vaccines and pharmaceuticals. Mechanisms of protein folding directed by alpha crystallins and other small heat shock proteins. Mechanisms of genetic polymorphism and diversity among *Mycobacterium avium* paratuberculosis isolates; innate immunity and host gene expression in response to paratuberculosis infection.

**Rivera, Gonzalo M.** – The long-term goal of our research is to understand how extracellular signals control actin dynamics and cell motility. We are particularly interested in regulation mediated by signals that alter tyrosine phosphorylation and inositol phospholipids. Current research projects are aimed at elucidating the role of Src homology 2 (SH2) and SH3 domain-containing adaptor proteins in actin-driven protrusion formation, adhesion turnover and cell migration. These adaptors can bind tyrosine phosphorylated proteins via SH2 domain-mediated interactions and engage, through their SH3 domains, proline-rich effectors involved in cytoskeletal remodeling. It is hypothesized that the SH2/SH3 domain-containing adaptors play a critical role in cell migration by modulating, in space and time, the activation

of key effectors involved in protrusion and adhesion dynamics. Our recent data also suggest that the SH2/SH3 domain-containing adaptors may be a critical link between signaling mediated by tyrosine phosphorylation and inositol phospholipids to the actin cytoskeleton. To test these hypotheses we employ a combination of genetics, cell biology and proteomic approaches coupled to high resolution imaging of living cells.

**Russell, Karen E.** – Platelet pathophysiology and the interaction of platelets with infectious agents, with an emphasis on the thrombocytopenia associated with Equine Infectious Anemia Virus. Investigation of platelet activation markers in veterinary species. Investigation of total and free (ionized) magnesium concentrations in veterinary species.

**Scanlan, Charles M.** – Ecology and pathogenesis studies of selected foodborne pathogens of food-producing animals and poultry and their potential role in human foodborne infections. Specific pathogens include selected *Escherichia coli* and *Salmonella* serovars, *Campylobacter jejuni*, *Clostridium difficile* and *Clostridium perfringens*. Investigations with a defined porcine culture with 15 bacterial species to prevent enteric bacterial infections in neonatal piglets are being conducted. These investigations are a component of the commercialization process for this product.

**Seabury, Christopher M.** – Mammalian genetics, with emphasis on bovine and cervid genomics, population genetics, and animal disease genomics; utilization of population and quantitative genetics to elucidate host loci and relevant variation influencing differential susceptibility to disease among mammalian species.

**Smith III, Roger** – Application of flow cytometry to study of animal disease and clinical veterinary medicine; core flow cytometry laboratory.

**Snowden, Karen F.** – Parasites of public health importance, host-parasite interactions, development of animal models for the study of parasitologic diseases and treatments, and development of molecular and immunologic methods for parasitologic diagnosis.

**Steiner, Jorg** (Joint Appointment) – Studies in small animal and comparative gastroenterology as it relates to etiology, pathophysiology, diagnosis, and treatment of gastrointestinal disorders, using technologies such as protein purification, immunoassay development and validation, molecular genetics, and proteomics.

**Stoica, George** – Mechanism(s) of retro viral-induced neurodegeneration. Pathogenesis of brain and bone metastases of mammary gland tumors; application of flow cytometry in the study of tumors; lectin and immunohistochemistry; chemical carcinogenesis; animal models for retro virus-induced neoplasia. Genetic alterations in tumors of the nervous system. Investigation into the mechanism(s) of neurodegeneration associated with Ataxia telangiectasia disease in a mouse animal model. Application of non-invasive technologies in biomedical science. Use of molecular markers in non-invasive optical imaging technologies.

**Tizard, Ian R.** – Comparative avian and mammalian immunology and the evolution of the immune system. Avian diseases. Avian phylogeny. Role of infectious diseases in wild and endangered bird populations.

**Waghela, Surya** – Immunoparasitology; infectious diseases; emerging and foreign animal diseases, especially tick-borne diseases; use molecular biology techniques to develop better diagnostic tests and immunogens for infectious diseases in ruminants of tropical areas of the world; development of biopharmaceuticals and biosensors; engineer recombinant antibodies for diagnosis and prevention of infectious diseases.

**Wagner, G. Gale** – The molecular basis of virulence of protozoal parasites, including identification of functional antigens for serodiagnosis and immunization. Host-parasite interrelationships, especially the role of the vector (if involved) in promoting infection, and in the prevalence and incidence of infections in areas of low vector populations.

**Weeks, Bradley R.** – Diagnostic anatomic pathology; collaborative research of inflammatory and neoplastic gastrointestinal disease, and cardiovascular disease. Veterinary medical education, particularly general pathology.

**Wells, Gregg B.** (Joint Appointment) – Role of protein structure in disease, particularly in neurological disease; structure and function of the superfamily of neurotransmitter-gated ion channels that includes nicotinic acetylcholine, serotonin 5HT<sub>3</sub>, glycine, and GABA<sub>A,C</sub> receptors from eukaryotes and prokaryotes; interpreting electrophysiological properties of ligand gated ion channels in terms of structure and thermodynamics; computational models of functions of mechanotransduction channels and calcium and potassium ion channels to explain electrophysiological function of cochlear hair cells; clinical neuropathology.

**Welsh, C. Jane** (Joint Appointment) – Mechanisms by which viruses cause autoimmune diseases. Multiple sclerosis (MS) and Theiler's virus-induced demyelination (TVID) as a model of MS. Blood-brain barrier function. The role of stress in the neuropathogenesis of TVID. Novel therapies for the treatment of MS.

**Womack, James E.** – Comparative mammalian genomics with emphasis on bovids and laboratory animals. Study of evolution of gene families and genomic variation underlying disease resistance. Investigation of genetic mechanisms in innate immunity with focus on livestock, select agents, and agricultural biosecurity.

**Zhang, Shuping** – My research focuses on the mechanisms of pathogenesis, with particular emphasis on pathogen-host interactions between *Salmonella* and avian/bovine/murine host species. My laboratory has established and utilized different *in vivo* and *in vitro* infection models to characterize the host immune responses to *Salmonella enterica*, *Mycobacterium paratuberculosis*, and *Cryptococcus neoformans* at the cellular and molecular levels. A second line of research is data and need driven clinical investigations. My clinical/diagnostic laboratory has been routinely analyzing cases of infectious diseases; characterizing clinical bacterial, fungal, and viral isolates; and developing new diagnostic tests. As the Director of the Clinical Microbiology Laboratory, I also provide consultations to clinical faculty, clients, and residents.

**Zhu, Guan** – Molecular biology, biochemistry and pathogenesis of parasitic protists; biosynthesis and metabolism of primary and secondary metabolites (lipids, carbohydrates, and polyketides, etc.) in apicomplexan parasites (*Cryptosporidium*, *Eimeria* and *Toxoplasma*); molecular interactions between parasites and host cells; DNA replication and

regulations associated with the complex life cycle of apicomplexans; discovery and validation of molecular targets for the drug development against parasites; molecular phylogeny and evolution of apicomplexans.

---

## **Veterinary Physiology and Pharmacology**

**Bailey, E. Murl** – toxicology; veterinary toxicology; toxic plants; wildlife, and environmental toxicology; anesthesiology; pharmacology; experimental surgery; clinical medicine; emergency medicine, bioterrorism, weapons of mass destruction.

**Blue-McLendon, Alice** – veterinary physiology, avian reproductive physiology, medicine of exotic animals, management of exotic animals teaching and research projects.

**Cudd, Timothy A.** – Dr. Cudd is an active researcher in the field of Fetal Alcohol Spectrum Disorders (FASD) which is the full collection of fetal abnormalities that can occur when a woman abuses alcohol during pregnancy. It is estimated that 2-5% of children born in the United States are affected resulting in significant societal costs. Specifically, Dr. Cudd uses sheep to model this condition and is interested in identifying the basic pathological mechanisms responsible for causing these disorders, how to better identify these disorders in children and ways to prevent or reduce the negative impact of prenatal alcohol exposure.

**Fajt, Virginia** – Clinical pharmacology, antimicrobial therapy and dose design, pharmacokinetics and pharmacodynamics, food animal therapeutics, evidence-based medicine, teaching and outcomes assessment in pharmacology.

**Golding, Michael C.** – epigenetic mechanisms that control retroviral elements and other parasitic DNA within the mammalian genome; applications using retroviral vectors to make transgenic animals; function of non-coding RNAs.

**Han, Guichun** – Cardiovascular physiology; vascular physiology and pharmacology, especially signaling pathways for estrogen and selective estrogen receptor modulator (SERM) effects on coronary artery; molecular mechanisms of estrogen receptors in vascular remodeling and hypertension.

**Heaps, Cristine** – Cardiovascular physiology and pathophysiology; effects of coronary artery disease and exercise training on smooth muscle and endothelial function in the coronary circulation.

**Herman, James** – evaluation of student and instructor performance; optimization of curricula and the learning environment; modeling behavior of complex systems; application of technology to the classroom.

**Hinrichs, Katrin** – equine reproductive physiology; oocyte maturation; fertilization; nuclear transfer; early developmental biology of equine embryos; and assisted reproductive techniques.

**Hood, David M.** – physiopathology of the digital cutaneous circulation.

- Hunter, Jon F.** – experiential learning in the physiology laboratory teaching environment; preparing undergraduate students for professional and graduate programs and careers in the allied health professions; development of products and the application of technology to enhance teaching and learning.
- Ivanov, Ivan V.** – Clinical pharmacology, antimicrobial therapy and dose design, pharmacokinetics and pharmacodynamics, food animal therapeutics, evidence-based medicine, teaching and outcomes assessment in pharmacology.
- Jones, Daniel H.** – veterinary and environmental toxicology.
- Kraemer, Duane C.** – gamete and embryo physiology; embryo transfer, cloning, genetic engineering of mammals; preservation of endangered animals; contraception in animal pests.
- Laine, Glen A.** – emergency and critical care medicine in trauma patients; biophysics and bioengineering; quantitative analysis of biological systems; fluid resuscitation; abdominal compartment syndrome; myocardial and pulmonary edema; cardiopulmonary bypass; lymphatic function; edema formation and interstitial fibrosis.
- Long, Charles** – developmental biology, gamete and embryo physiology, embryonic stem cells, assisted reproductive technologies, animal transgenics, somatic cell nuclear transfer, epigenetics and control of gene expression, RNA interference.
- Quick, Christopher M.** – cardiovascular engineering, modeling and simulation; interstitial fluid balance; lymphatic function, arterial hemodynamics and pulse wave phenomena; coordination of vascular adaptation in vascular networks.
- Safe, Stephen H.** – toxicology and molecular biology of estrogenic and antiestrogenic compounds; molecular mechanisms of estrogen receptor and Ah receptor action and their crosstalk in breast cancer cells, PPAR $\gamma$  agonists and inhibition of cancer cell growth.
- Schroeder, Friedheim** – intracellular lipid transfer proteins; lipid metabolism; multiphoton imaging of intracellular lipid transport and targeting in living cells and tissues of gene targeted animals.
- Scott, Maya** – Clinical pharmacology; therapeutic drug monitoring; pharmacology instruction; small animal therapeutics; adverse drug events; in vitro-in vivo correlation of drug-induced toxicity.
- Stallone, John** – vascular physiology and pharmacology; endocrinology; hypertension; gonadal steroid hormone regulation of vascular function, especially eicosanoid and nitric oxide interactions between vascular smooth muscle and endothelium.
- Stewart, Randolph** – cardiovascular physiology; lymphatic function; microvascular physiology; interstitial and cavity fluid balance.
- Tian, Yanan** – epigenetic mechanisms of gene-environment interactions with emphasis on signaling cross-talk between nuclear receptor (PXR and AhR)-regulated detoxification pathways and NF-KB-regulated inflammatory pathways.

**Wasser, Jeremy S.** – cardiovascular physiology; biological applications of magnetic resonance spectroscopy; comparative physiology of acid-base balance; mechanisms of hypoxia tolerance.

**Westhusin, Mark E.** – gamete physiology; developmental biology; embryo physiology; assisted reproductive techniques; in vitro fertilization; embryo transfer; cloning animals by nuclear transplantation, genetic engineering in animals, epigenetics and control of gene expression, RNA interference.

**Wilson, Shannon** – Fetal Alcohol Spectrum Disorders (FASD) mechanisms; neuroimaging and nutritional interventions for FASD; clinical medicine; pharmacology; pathophysiology; teaching methods and learning in the professional program.

**Zhou, Beiyuan** – molecular genetics; genetic mapping of loci!genes underlying economic traits in poultry; molecular mechanisms of host defense against pathogens; identification and characterization of avian genes associated immunity; and phenotypic definition of genetic resistance to avian diseases.

## **Veterinary Small Animal Clinical Sciences**

**August, John R.** – feline internal medicine; distance education; educational technology.

**Barr, James W.** – Mechanical ventilation; coagulation; fluid therapy; cytokine response in sepsis.

**Barton, Claudia L.** – oncology; small animal reproduction; aspiration cytology.

**Bauer, John E.** – nutrition; lipid biochemistry; disorders of lipid metabolism; obesity; weight management.

**Beaver, Bonnie V.** – normal and abnormal domestic animal behavior; human-animal interrelationships; animal welfare.

**Black, Dorothy M.** – sepsis; infectious disease; coagulation; critical case management.

**Carroll, Gwendolyn L.** – anesthesiology; assessment of pain and stress; feline osteoarthritis; rehabilitation and recovery.

**Cook, Audrey** – endocrinology; gastroenterology; endoscopy and interventional radiology.

**Crist, M.A.** – anesthesiology; physical medicine; rehab; pain management; dentistry; nutrition.

**Davidson, Jacqueline R.** – physical rehabilitation; pain management; soft tissue surgery; orthopedic surgery.

**Diesel, Alison** – Inflammatory skin conditions in animals, particularly feline allergic skin disease; skin associated side effects of radiation therapy.

**Dodd, Johnathon** – dentistry.

- Dziezyc, Joan** – ophthalmology; ophthalmic surgery; ocular ultrasonography; ocular inflammation.
- Eckman, Stacy L.** – feline medicine; zoonotic diseases of companion animals; preventative medicine.
- Fossum, Theresa W.** – cardiovascular surgery; myocardial ischemia and angiogenesis; cardiac assist devices; cardiopulmonary bypass; hypertension; canine chronic degenerative valve disease; canine cardiomyopathy.
- Gordon, Sonya G.** – canine chronic degenerative valve disease; cardiovascular imaging; interventional cardiology; cardiac clinical trials.
- Griffin, Sarah C.** – emergency medicine; feline medicine; preventative medicine.
- Hartsfield, Sandee M.** – Anesthesiology; cardiopulmonary effects of anesthetics; anesthetic equipment.
- Heatley, J. Jill** – fluid therapy; emergent & critical care; electrolytes of nondomestic species; wildlife population health biomonitoring.
- Hobson, H. Phil** – upper respiratory system; reconstructive surgery; urogenital surgery.
- Hoppes, Sharman M.** – avian and exotic analgesia; proventricular dilation disease; aflatoxins in birds.
- Howe, Lisa M.** – upper respiratory disease; soft tissue surgery; prepubertal gonadectomy.
- Hulse, Donald A.** – comparative orthopedics; biodegradable implants; biomechanics of fracture fixation.
- Kerwin, Sharon C.** – Orthopedic and neurosurgery; canine and feline lameness; osteoarthritis, fracture fixation, spinal surgery, and intervertebral disk disease.
- Lees, George E.** – Urinary tract diseases and renal pathology in companion animals; canine hereditary nephritis.
- Levine, Jonathan M.** – Neurology/neurosurgery; spinal cord injury; intervertebral disk herniation; Neuro-oncology.
- Loria Lepiz, Mauricio** – anesthesiology; cardiovascular & respiratory physiology; monitoring technology-anesthesia and critical care.
- Martinez, Elizabeth A.** – anesthesiology; cardiopulmonary physiology; neuromuscular blocking agents.
- Matthews, Nora S.** – anesthesiology; analgesics; equine cardiovascular physiology; donkeys and mules.
- McDonald, Darryl** – soft tissue surgery; reconstructive surgery; surgical oncology; external skeletal fixation.

**Miller, Matthew W.** – cardiology; cardiomyopathies; interventional catheterization; vascular stenting; ventricular assist devices; catheter based therapy of vascular malformations; hemorrhagic shock, animal models of cardiac disease.

**Nelson, David A.** – cardiothoracic surgery; thoracoscopic surgery; cardiopulmonary bypass; cardiovascular assist device development; effects of time varying electromagnetic fields on bone healing; anti-coagulation therapy.

**Patterson, Adam P.** – Dermatology; allergic skin disease; otitis; cutaneous infections; autoimmune skin disease.

**Peycke, Laura E.** – soft-tissue surgery; gastrodilatative volvulus.

**Saunders, Ashley B.** – Congenital heart disease; interventional cardiology; transesophageal echocardiography; heart failure management.

**Saunders, W. Brian** – joint replacement; arthroscopy; molecular aspects of osteoarthritis and fracture repair; cell-matrix interactions; MMPs.

**Steiner, Jörg M.** – small animal and comparative gastroenterology as it relates to etiology, pathophysiology, diagnosis, and treatment of gastrointestinal disorders.

**Stickney, Mark J.** – elective surgery; pain management; mammary cancer; electrosurgery and laparoscopic surgery.

**Suchodolski, Jan S.** – comparative gastroenterology; intestinal microbial ecology; molecular microbiology.

**Willard, Michael D.** – gastroenterology; internal medicine; fiberoptic and rigid endoscopy.

**Wilson, Heather M.** – Congenital heart disease; interventional cardiology; transesophageal echocardiography; heart failure management.

**Witsberger, Tige H.** – Orthopedic surgery; fracture fixation; arthroscopy; minimally invasive surgery (laparoscopy and thoracoscopy); intervertebral disk herniation.

**Zoran, Debra L.** – nutrition; GI; feline medicine.



## Graduate Courses in the CVM

### Department of Veterinary Integrative Biosciences

[vetmed.tamu.edu/vibs](http://vetmed.tamu.edu/vibs)

**Head:** E. Tiffany-Castiglioni

The departmental graduate programs are aimed at educating students to be able to advance biomedical science through original research and to disseminate that knowledge for the protection and promotion of animal and human health. The department offers both MS and PhD degrees in Biomedical Sciences (with major specialty areas of cell/molecular biology, developmental biology/embryology, epidemiology, reproduction and neuroscience). MS degrees are also offered in Veterinary Public Health-Epidemiology and Science and Technology Journalism.

Many of the faculty participate in University-wide graduate training programs in Neuroscience, Reproductive Biology, Food Science and Technology, Genetics, Toxicology and Biotechnology.

In addition to the specialty area research training, students have the opportunity to learn anatomy and public health practices in a variety of domestic species and wild, aquatic and laboratory animals. The training in microscopic anatomy includes histology, histochemistry, cytology and ultrastructure (transmission and scanning electron microscopy). The training in public health emphasizes epidemiology, food safety, food toxicology and control of zoonotic diseases.

The Master of Science in Veterinary Public Health-Epidemiology is designed to serve the needs of veterinarians wishing to go into some aspects of government service, military veterinary personnel seeking advanced training in public health and students with a career goal of academia or research.

The Master of Science in Science and Technology Journalism (MS/STJR) is a distinctive program to prepare students for careers as science and technology writers, reporters and editors in the public media, government, industry, academia and other sectors. It also can serve as a foundation for doctoral study.

Study programs are prepared in consultation with the student and a committee of graduate faculty members and its chairperson. The general procedural rules are those specified in this catalog. More detail on core course requirements, degree plans, and administrative matters is available in the department's "Guidelines and Policies" manual.

### Veterinary Integrative Biosciences (VIBS)

- 601. Anatomy. (2-6). Credit 4 each semester.** Topographical dissection of one of the following domestic animals: horse, ox, dog or cat. May be taken more than once but not to exceed 12 hours of credit toward a graduate degree. Prerequisite: VIBS 912 or 305 or equivalent.
- 602. Histology. (2-6). Credit 4.** Molecular phenomena placed in context with tissues, organs and organ systems; cell and tissue structures visualized by light microscopy and electron micrographs for functional relationships; clinical correlations reveal relevance of histology in specific disease states; conceptual thinking exercises facilitate problem-solving skills. Prerequisite: Graduate classification.
- 603. Neuroanatomy. (2-6). Credit 4.** Gross, developmental and microscopic anatomy of nervous system of selected laboratory and domestic animals. Prerequisite: Approval of instructor. Cross-listed with NRSC 603.576 Course Descriptions/Veterinary Integrative Biosciences
- 604. Biomedical Neuroendocrinology and Endocrine Disorders. (3-0). Credit 3.** Gross and functional anatomy and endocrine functions of neuroendocrine systems, hypothalamus and pituitary. Neuroendocrine control of puberty, sexual behavior, menstruation, ovulation, pregnancy, labor, lactation, testis, thyroid, growth, stress, diabetes, obesity, sleep, memory, learning and aging and their disorders. Overview biosynthesis, transport and signaling of neuropeptides, prostaglandins, peptide and steroid hormones. Prerequisite: Approval of instructor. Cross-listed with NRSC 604.
- 605. Chemical Hazard Assessment. (3-0). Credit 3.** Chemical and biological methods for testing hazardous chemicals and complex mixtures; chemical analysis; microbial bioassays; developmental toxicity; enzyme induction; mammalian cell culture. Prerequisite: Graduate classification.
- 606. Neuroanatomical Systems. (3-0). Credit 3.** Emphasis on major neural systems that govern identifiable physiological functions, behavior and neurodegenerative disease; whole-brain anatomy is approached from a "systems" perspective, wherein components of defined functional systems are described in terms of their location, inputs and outputs, and physiological /behavioral significance in health and disease. Prerequisite: Approval of instructor. Cross-listed with NRSC 605.

- 607. Applied Epidemiology. (3-3). Credit 4.** An introductory course of the application of epidemiological concepts to the study of disease occurrence in populations of lower animals and man. The purpose of epidemiology is to identify the host, agent and environmental determinants and dynamics of disease spread that provide the basis for successful preventive medicine and public health programs.
- 608. Epidemiology Methods I. (3-3). Credit 4.** Epidemiology concepts and methods used in the investigation of determinants of health or disease in populations; stressing basic methods for experimental design, conduct and analysis of both observational and experimental studies. Prerequisite: STAT 651 or equivalent.
- 609. Anatomy of Reproductive Systems. (2-6). Credit 4.** Gross and microscopic anatomy of the reproductive systems of domestic animals. Prerequisite: VIBS 601 or VIBS 602 or VIBS 910 or equivalent. (Offered in alternate years.)
- 610. Epidemiologic Methods II and Data Analysis. (3-3). Credit 4.** Principles and methods for the analysis of data from epidemiologic studies including the purpose of data analysis and role of statistics, sampling distributions, probability distributions, analysis of crude, stratified and matched data, and the use of linear and logistic regression methods. Prerequisites: VIBS 608 and STAT 651 or approval of instructor.
- 611. Tumor Cell Biology and Carcinogenesis. (3-0). Credit 3.** Basic principles of tumor biology; role of gene-environment interactions; molecular mechanisms regulating cancer initiation and progression; therapeutic treatment of cancer. Prerequisites: BIMS 320 or equivalent; graduate classification.
- 612. Mammalian Embryology. (3-0). Credit 3.** Embryology of domestic mammals; gametogenesis, fertilization, cell proliferation and differentiation, and organogenesis; selected commonly occurring congenital defects of domestic animals used to emphasize embryologic sequences and processes. Prerequisite: Approval of instructor.
- 613. Evolutionary Bioinformatics. (2-2). Credit 3.** Principles and concepts in molecular evolution, population genetics, and evolutionary genomics; applications of quantitative approaches (computation, statistics, and mathematics) in analyzing large and complex biological data sets; algorithm design and development of scientific software using high-level high-performance computer languages; emerging techniques for integrative data analysis, and the assumptions, advantages, and limitations of these techniques. Prerequisites: BIOL 451 or GENE 320/BIMS 320 or equivalent; or approval of instructor.
- 615. Food Hygiene. (3-3). Credit 4.** Clinical description, pathogenesis, diagnosis, source, epidemiology and prevention or control of food borne diseases caused by biological, chemical and natural hazards. Prerequisite: Graduate classification.
- 616. Advanced Developmental Neurotoxicology. (3-0). Credit 3.** Study of mechanisms of toxicity of substances potentially devastating to the developing brain and spinal cord including lead, mercury and other heavy metals, alcohol, nicotine (smoking), pesticides, flame retardants, and others. Prerequisite: Approval of instructor.
- 617. Cell Biology. Credit 1 to 5.** Series of five 1-hour credit modules focusing on selected aspects of structure, function, and signal transduction in eukaryotic cells through critical analysis of recent literature in the field. Each module listed as separate course section; students may enroll in up to five 1-hour module sections per semester. Prerequisite: Approval of instructor.
- 619. Food Toxicology II. (3-0). Credit 3.** Public health implications of toxic factors in foods, their source, nature, occurrence and distributions; emphasis on mycotoxins including their isolation, detection, identification and toxicology; study of state-of-the-art food safety research techniques. Prerequisite: Graduate classification.
- 620. Cytogenetics. (3-0). Credit 3.** Examination and analysis of variation in chromosome structure, behavior and number; developmental and evolutionary effects of this variation. Prerequisite: GENE 603. Cross-listed with GENE 620.
- 627. Optical Microscopy and Live Cell Imaging. (2-3). Credit 3.** Principles and practice of optical microscopy for life sciences; applications with fixed samples and live cells using digital microscopy, confocal and multiphoton microscopy, TIRF and laser capture microscopy equipment; applications with fluorescence probes of cellular function. Prerequisite: Approval of instructor.
- 633. Animal Diseases in Comparative Medicine. (3-0). Credit 3.** Study of major zoonotic diseases, including frequency of occurrence, clinical signs, diagnosis, epidemiology, bioterrorism concerns and the prevention or control in animals and humans. Prerequisite: Graduate classification.
- 640. Neurobiology. Credit 1 to 5.** Biology of the mammalian central nervous system with emphasis on cellular and molecular interactions; contemporary research topics in areas such as neuron-glia interactions, neuroimmunology, neuroendocrinology, developmental neurobiology and neurogenetics; extensive readings from primary literature. Prerequisites: Undergraduate or graduate cell biology, genetics and biochemistry or approval of instructor. Cross-listed with NRSC 640.

650. **Education in a Veterinary Medical and Biomedical Environment. Credit 1 to 3.** Philosophical, stylistic and methodological consideration for designing, planning implementing and evaluating effective veterinary medical and biomedical teaching and learning. Orientation for graduate school. Prerequisite: Graduate classification.
655. **Methods of Specialized Journalism. (3-0). Credit 3.** Writing and placement of magazine and journal articles in specialized areas of media content such as agriculture, ecology, science, business, education, natural resources; individual projects directed to student's field of interest.
657. **Issues in Science and Technology Journalism. (3-0). Credit 3.** Current issues, fundamental concepts in science and technology journalism, communication theory, science and journalism components, philosophy and literature of the field.
658. **Research Methods in Science and Technology Journalism. (3-0). Credit 3.** Research methods including theory, hypothesis formulation, design, data collection, data analysis, measurement and report writing. Qualitative and quantitative methods. Research topics.
660. **Reporting Science and Technology. (3-0). Credit 3.** Gathering, writing and editing complex information, translation techniques, interpretation and analysis, literary and organizational devices and measurement of readability.
663. **Biomedical Reporting. (3-0). Credit 3.** Sources of biomedical information, specialized information-gathering skills, key biomedical vocabulary/concepts, audiences, outlets, translation/interpretation, research, ethical issues.
664. **Risk and Crisis Reporting. (3-0). Credit 3.** Assessment and analysis of environmental and health risk, analytical procedures, interpretation of risk factors, reporting science crisis events.
670. **Basic Environmental Toxicology. (3-0). Credit 3.** Introduction to general principles of toxicology; test methods, target organs, toxicity of major classes of toxins/toxicants, and risk assessment for engineers and other non-toxicologists; risk assessment methodology. Prerequisite: VIBS 602 or approval of instructor.
681. **Seminar. (1-0). Credit 1.** Review and discussion of current scientific work in one of the department's areas of specialization (anatomy, cellular and molecular biology, epidemiology, food safety, genetics, informatics, neuroscience, public health concepts, reproduction/developmental biology, toxicology, zoonoses).
684. **Professional Internship. Credit 1 to 4.** A directed internship in an organization to provide students with on-the-job training with professionals in settings appropriate to the student's professional objectives. Prerequisite: Approval by committee chair.
685. **Directed Studies. Credit 1 to 4 each semester.** Research problem in one of the department's areas of specialization (anatomy, cellular and molecular biology, epidemiology, food safety, genetics, informatics, neuroscience, public health concepts, reproduction/developmental biology, toxicology, zoonoses, science and technology journalism).
688. **Epidemiological Modeling of Infectious Diseases. (2-2). Credit 3.** Concepts of mathematical modeling of infectious diseases; steps and methods for the development and analysis of models. Prerequisite: Graduate classification.
689. **Special Topics in... Credit 1 to 4.** Selected topics in one of the department's areas of specialization (anatomy, cellular and molecular biology, epidemiology, food safety, genetics, informatics, neuroscience, public health concepts, reproduction/developmental biology, toxicology, zoonoses, science and technology journalism).
690. **Theory of Research. (3-0). Credit 3.** Theory and design of research related to current biomedical problems especially those involving study of animal disease; philosophical perspectives underlying historical advances in research pertaining to the study, prevention and treatment of disease. Prerequisite: Graduate classification. Cross-listed with VTPP 690 and VPAT 690.
691. **Research. Credit 1 or more each semester.** Research reported by writing of thesis or dissertation as partial requirement for MS or PhD degree. Prerequisite: Approval of department head.

Department of Veterinary Large Animal Clinical Sciences

[vetmed.tamu.edu/vlcs](http://vetmed.tamu.edu/vlcs)

Head: A. J. Roussel; Graduate Advisor: N. D. Cohen

**Veterinary Large Animal Clinical Sciences  
(VLCS)**

- 622. Equine Disease and Epidemiology. (3-0). Credit 3.** Principles and methods of epidemiology applied to equine health and prevention and control of selected equine infectious diseases. Prerequisites: Enrollment in equine certificate and graduate classification, or approval of instructor.
- 681. Seminar. (1-0). Credit 1.** Oral communication of current research and selected topics in large animal veterinary medicine and clinical research methodology to include lectures, presentations, interviews, and discussions. Prerequisite: Approval of instructor.
- 685. Directed Studies. Credit 1 to 8 each semester.** Original investigations of problems in the field of large animal surgery, therapeutics, preventive veterinary medicine or radiology. May be repeated for credit. Prerequisites: Approval of instructor.
- 691. Research. Credit 1 or more each semester.** Research for thesis.

**Veterinary Medicine—Interdisciplinary  
(VMID)**

- 601. Veterinary Medicine--Interdisciplinary Study Abroad. Credit 1 to 12.** For students in approved programs abroad. May be repeated for credit. Maximum 6 hours free elective credit in a graduate program. Course will be graded on a satisfactory/unsatisfactory basis. Prerequisite: Attend TAMU the semester before and after program.
- 686. Scientific Ethics. (1-0). Credit 1.** Ethical issues of research and methods for resolution of such issues; overview of ethical issues encountered by scientists in the conduct and dissemination of their research, in their pursuit of resources, in their interactions with the press and the broader public and resulting from the extension and technological application of their findings. Prerequisite: Graduate classification.
- 689. Special Topics in... Credit 1 to 4.** Selected topics in an identified area of veterinary medicine. May be repeated for credit. Prerequisite: Approval of instructor.

## Department of Veterinary Pathobiology

[vetmed.tamu.edu/vtpb](http://vetmed.tamu.edu/vtpb)

**Head:** L. L. Logan; **Graduate Advisor:** P. J. Holman

The department offers programs of graduate instruction and research leading to the Master of Science degree in Biomedical Sciences or Laboratory Animal Medicine. The Doctor of Philosophy degree is offered in Veterinary Pathobiology or Biomedical Sciences. Degrees in the Intercollegiate Graduate programs such as Genetics, Toxicology or Biotechnology may also be pursued. Major specialty areas including infectious diseases (virology, bacteriology, parasitology), biodefense and emerging infectious diseases, metabolic diseases, genetics/genomics, neuroscience, cardiovascular science and immunology may be studied for any of the departmentally offered graduate degrees.

The department offers post-doctoral (DVM) Residency/Graduate programs in anatomic pathology, clinical pathology and clinical microbiology. Residents are required to enroll in graduate courses and may pursue either a Master of Science or Doctor of Philosophy degree. Minimum DVM Residency qualifications include a DVM/VMD degree from an accredited college of veterinary medicine and eligibility to obtain a license to practice in the state of Texas. Selection of residents is made on the basis of academic achievement, letters of recommendation and pertinent experience.

The College of Veterinary Medicine and Biomedical Sciences, Texas A&M University and the Comparative Medicine Program through the Department of Veterinary Pathobiology offer a three-year postdoctoral (DVM) Residency/Graduate program in Laboratory Animal Medicine (LAMD). Residency certificate and Master of Science degree in LAMD are awarded following successful completion of the required coursework, scholarly research and a master's thesis. A student may opt to pursue a Doctor of Philosophy degree in a related field (pathology, microbiology, genetics) following completion of the LAMD residency. A primary objective of the program is to provide postdoctoral veterinary training in the management of clinical problems of laboratory animals with an emphasis on comparative and preventive medicine, both individual and population, for a wide variety of species used for teaching and research.

The program offers training to support preparation toward American College of Laboratory Animal Medicine (ACLAM) board certification and to provide individuals with a broad foundation in laboratory animal medicine.

For further information regarding these programs, please contact Dr. Patricia Holman, Graduate Advisor, Department of Veterinary Pathobiology, (979) 845-4202, ([pholman@cvm.tamu.edu](mailto:pholman@cvm.tamu.edu)). Also browsing the following websites may provide additional information: Comparative Medicine Program ([cmp.tamu.edu](http://cmp.tamu.edu)); Veterinary Pathobiology ([vetmed.tamu.edu/vtpb](http://vetmed.tamu.edu/vtpb)); Texas A&M University ([tamu.edu](http://tamu.edu)); Office of Graduate and Professional Studies ([ogaps.tamu.edu](http://ogaps.tamu.edu)); College of Veterinary Medicine and Biomedical Sciences ([vetmed.tamu.edu](http://vetmed.tamu.edu)); and a guide to the Bryan-College Station area ([vetmed.tamu.edu/college/about-the-area](http://vetmed.tamu.edu/college/about-the-area)).

### Veterinary Microbiology (VTMI)

- 601. Fundamentals of Pathobiology. (5-0). Credit 5.** Encompasses the concepts of pathobiology including bacterial, viral and parasitic diseases, the host response to infectious agents, pathology, and metabolic and genetic diseases; includes animal and human diseases and provides enough background to facilitate in advanced graduate courses. Prerequisite: Graduate classification.
- 614. Fermentation and Gastrointestinal Microbiology. (3-0). Credit 3.** Fermentation and gastrointestinal ecosystems in terms of microorganisms present, their activities and requirements and their interactions in a dynamic system. Prerequisite: Beginning microbiology and/or biochemistry or approval of instructor. Cross-listed with POSC 614 and NUTR 614.
- 615. Immunogenetics and Comparative Immunology. (3-0). Credit 3.** Genetic mechanisms used to diversify immune receptors; immunoglobulins, T cell receptors, major histocompatibility complex, natural killer cell receptors, toll-like receptors and many others; selected comparative and veterinary examples of different immune recognition systems; evolution of the immune system; theoretical immune surveillance and vaccine development. Prerequisite: Graduate classification; GENE 320 and VTPB 409, or equivalent, or approval of instructor.
- 619. Molecular Methods for Microbial. (2-2). Credit 3.** Underlying principles of molecular methods for microbial detection and characterization in natural and man-made ecosystems; emphasis on method application and data interpretation; emphasis on microbial pathogens and indicator organisms in foods and environment; laboratory covers select protocols. Prerequisite: POSC 429/FSTC 326/SCSC 405/approval of instructor. Cross-listed with SCSC 619, FSTC 619, POSC 619.584 Course Descriptions/Veterinary Microbiology



- 629. Laboratory Quality Systems. (3-0). Credit 3.** Quality systems and method development used within a laboratory; ensuring the integrity of procedures used in lab processes, chain of custody, information management, and international laboratory standards; regulatory requirements for laboratory operation; bio-security precautions; laboratory management. Cross-listed with SCSC 629.
- 643. Pathogenic Bacteriology I. (3-4). Credit 4.** Pathogenic bacteria, their cultural and biological characteristics and pathogenicity. Prerequisite: Minimum of 8 hours of undergraduate microbiology.
- 645. Host-Agent Interaction. (3-0). Credit 3.** Basic concepts of infection versus disease; molecular approaches to problems in microbiology; inducible host responses, agent escape mechanisms and movement of potential pathogens in the ecosystem. Prerequisite: GENE 431 or equivalent.
- 647. Virology. (3-3). Credit 4.** Virus infections in animals and humans; types of infections, mode of transmission, intracellular pathology, epidemiology, isolation and identification of inciting agents; tissue cultivation, animal inoculations and diagnostic tests. Prerequisite: VTPB 438 or equivalent.
- 648. Medical Mycology. (3-3). Credit 4.** Actinomycetes, yeasts and molds that are pathogenic to humans and animals; morphology, cultural characteristics, pathogenicity and identification; practice consists of exercises in cultural methods, morphological characteristics, biochemical reactions and diagnosis. Prerequisite: Minimum of 8 hours of undergraduate microbiology.
- 649. Immunology. (3-0). Credit 3.** Cellular basis of the immune response; relationships between inflammation and acquired immunity, MHC and cell activation; the role of cytokines in immunoregulation and hypersensitivity, vaccines, and the mechanism of immunity to viruses, bacteria and parasites. Prerequisite: VTPB 409 or equivalent. Cross-listed with POSC 649.
- 650. Experimental Immunology. (3-3). Credit 4.** Familiarization, development and integration of techniques into experimental design of immunologic investigation; antibody production, protein purification, immunofluorescence, agar-gel diffusion, immunoelectrophoresis and specialized serologic tests. Cross-listed with POSC 660.
- 654. Cell Culture Techniques. (1-6). Credit 3.** Introduction to the theory and practice of cell culture and provides illustrations of its applications; how to maintain a cell culture unit and culture cell lines; how to derive new cell cultures from animal tissues, characterize cultured cells, optimize in vitro conditions and introduce genetic changes into cultured cells. Prerequisite: Approval of instructor.
- 662. Advanced Immunologic Concepts. Credit 1 to 5.** Modular course with detailed discussions, workshops and assigned reading/problem solving on advanced topics; structural organization of molecules; genetic regulation; cytokine cascades; pathophysiology of autoimmunity. May be repeated for credit. Prerequisites: VTMI 649; BICH 603 or equivalent; approval of instructor.
- 663. Molecular Biology of Viruses. (3-0). Credit 3.** In-depth studies of the biochemistry and the replication strategies of viruses and molecular mechanisms of pathogenesis for selected viral systems. Prerequisite: Graduate classification in pathology, molecular biology, biochemistry, or approval of instructor. Cross-listed with MMPA 663.
- 664. Mammalian Genome Modification for Biomedical Research. (3-0). Credit 3.** Reviews the uses of genetic manipulation in biomedical research and provides a working knowledge of the various strategies used to modify mammalian genomes including transgenes, homologous recombination, gene-trapping, RNA interference, cloning, and gene therapy.
- 665. Viral Vectors and Gene Therapy. (3-0). Credit 3.** Describes various viral vector systems, their development and their use as research tools in biotechnology and gene therapy; consists of a mixture of short lectures and discussion of papers from the literature. Prerequisites: VTMI 663, VTMI 647, PLPA 616, or PLPA 620 or approval of instructor. Cross-listed with MMPA 665 and PLPA 665.
- 681. Seminar. (1-0). Credit 1.** Review and discussion of current scientific work and research in field of microbiology and related subjects. Prerequisite: Approval of instructor.
- 685. Directed Studies. Credit 1 to 4 each semester.** Problems course in microbiology. Prerequisite: Approval of instructor.
- 689. Special Topics in... Credit 1 to 4.** Selected topics in an identified area of veterinary microbiology. May be repeated for credit. Prerequisite: Approval of instructor.
- 691. Research. Credit 1 or more with a maximum of 23.** Research for thesis or dissertation.

### Veterinary Parasitology (VPAR)

- 601. Parasitology. (3-3). Credit 4.** Important helminth parasites of animals and humans; their identification, distribution and life history. Prerequisites: VTPB 487 or equivalent or approval of instructor.
- 604. Parasitic Protozoa. (3-3). Credit 4.** Taxonomy, morphology, life cycle, physiology, distribution, genetics, host relations, methods and diagnosis concerned with protozoan parasites affecting vertebrates including humans. Prerequisite: VTPB 487 or ENTO 208 or BIOL 438 or equivalent or approval of instructor.
- 605. Molecular and Immunological Parasitology. (3-0). Credit 3.** Basic concepts and recent advancement in molecular biology and molecular immunology of parasitic diseases. Molecular-based host-parasite interactions.
- 685. Directed Studies. Credit 1 to 4 each semester.** Special problems concerned with parasites of animals or humans. Prerequisites: VPAR 601 or equivalent; approval of instructor.
- 689. Special Topics in... Credit 1 to 4.** Selected topics in an identified area of biomedical parasitology. May be repeated for credit.
- 691. Research. Credit 1 or more each semester.** Research for thesis.

### Veterinary Pathology (VPAT)

- 601. Comparative Pathology. (3-3). Credit 4.** Pathologic processes occurring in diseased cells, tissues and organs of animals and humans; their pathogenesis and morphologic manifestations. Prerequisites: Courses in gross and microscopic mammalian anatomy and physiology and approval of instructor.
- 620. Humane, Public Health and Regulatory Aspects of Animal Use. (1-0). Credit 1.** Emphasizes thoughtful and humane use of animals in teaching, research and service; human and animal health benefits of biomedical research; governmental policies regulations, public health implications, management practices, and public relations pertaining to animal use in research and teaching.
- 640. Advanced Mechanisms of Disease. (3-0). Credit 3.** Concepts of pathogenesis of disease processes. Prerequisite: DVM degree or approval of instructor.
- 641. Systemic Pathology I. (2-4). Credit 4.** Disease manifestations in special organs and tissues and interrelations of pathologic processes in individual and functionally related organs. Prerequisite: DVM degree or equivalent.
- 642. Mechanisms of Metabolic Disease. (3-0). Credit 3.** Characteristics and mechanisms of diseases caused either by deficiency, imbalance, excess of specific nutrients or chemicals, or by regulatory disturbances of metabolism. Prerequisite: DVM degree or approval of department head.
- 643. Applied Pathology. Credit 1 or more each semester.** Application of information and concepts of anatomic and clinical pathology to the diagnosis of animal disease; gross pathological changes observed in necropsy are correlated with and corrected by histopathologic observations; confirmatory methods of clinical pathology and laboratory medicine used where indicated. May be taken more than once but not to exceed 6 hours of credit toward a graduate degree. Prerequisite: DVM degree or equivalent.
- 645. Neoplastic Diseases. Credit 1 to 8.** Theoretical, histopathological and clinical aspects of neoplasia. Diagnosis of neoplastic and related conditions in all species. May be taken more than once but not to exceed 8 hours of credit toward a graduate degree. Prerequisite: DVM degree or equivalent.
- 650. Neuropathology of Animals. Credit 1 to 4.** Pathology and pathogenesis of diseases of the central and peripheral nervous systems. Interpretation of gross and microscopic lesions of the nervous system associated with disease processes. May be taken more than once but not to exceed 4 hours of credit toward a graduate degree. Prerequisite: DVM degree or equivalent.
- 651. Systemic Pathology II. (1-3). Credit 2.** Continuation of VPAT 641. Disease manifestations in special organs and tissues and interrelations of pathologic processes in individual and functionally related organs. Prerequisite: VPAT 641.
- 653. Diseases of Laboratory Animals. (3-0). Credit 3.** Pathology and pathogenesis of spontaneous infectious, parasitic, metabolic and neoplastic diseases of laboratory animals. Prerequisite: VTPB 922 or equivalent. 586 Course Descriptions/Veterinary Pathobiology

- 681. Seminar. (1-0). Credit 1.** For graduate and special students in veterinary or comparative pathology; presentation and discussion of special topics and research data concerning pathology and pathogenesis of disease. Prerequisite: Approval of instructor.
- 685. Directed Studies. Credit 1 to 4 each semester.** Advanced special problems concerned with pathogenesis and pathology of disease. Prerequisite: Approval of instructor.
- 689. Special Topics in... Credit 1 to 4.** Selected topics in an identified area of veterinary or comparative pathology. May be repeated for credit.
- 690. Theory of Research. (3-0). Credit 3.** Theory and design of research related to current biomedical problems especially those involving study of animal diseases; philosophical perspectives underlying historical advances in research pertaining to the study, prevention and treatment of disease. Prerequisite: Graduate classification. Cross-listed with VIBS 690 and VTPP 690.
- 691. Research. Credit 1 or more each semester with a maximum of 23.** Research for thesis or dissertation.

### Department of Veterinary Physiology and Pharmacology

[vetmed.tamu.edu/vtpp](http://vetmed.tamu.edu/vtpp)

Head: G. A. Laine

Graduate programs leading to the Master of Science and Doctor of Philosophy degrees in biomedical sciences or toxicology are designed to prepare the graduate for research, teaching and other related areas. Faculty specialty areas include cardiovascular sciences, reproductive sciences and toxicology. Several departmental faculty members serve on university intercollegiate faculties.

There is no departmental requirement for foreign languages. These are considered in the same status as other supplementary areas of study to be included when indicated by the individual needs of students.

### Veterinary Physiology and Pharmacology (VTPP)

- 605. Systemic Veterinary Physiology I. (5-0). Credit 5.** Aspects of cellular physiology, physiology of excitable membranes, physiology of body fluids, neurophysiology, and the physiology of smooth, cardiac and skeletal muscle; provides a basic understanding of mammalian physiology essential as a framework for advanced graduate studies. Prerequisite: Graduate classification.
- 606. Systemic Veterinary Physiology II. (5-0). Credit 5.** In-depth study covering cardiovascular, respiratory, renal physiology, gastrointestinal and endocrine physiology; provides a basic understanding of mammalian physiology essential as a framework for advanced graduate studies. Prerequisite: VTPP 605.
- 610. Physiology I. (5-2). Credit 6.** Introduction to physiology: cell physiology, cell signaling, cell cycle, body fluids, translocation of materials, membrane potentials, neurophysiology, autonomic nervous system, thermoregulation, cardiovascular, and muscle physiology. Prerequisites: Enrollment in MS/PhD program in Veterinary Physiology and Pharmacology; approval of instructor.
- 612. Physiology II. (5-2). Credit 6.** Blood and lymph, respiration, renal physiology, and acid-based balance, gastrointestinal physiology, metabolism, endocrinology, and reproduction. Prerequisites: Enrollment in MS/PhD program in Veterinary Physiology and Pharmacology; approval of instructor.
- 623. Biomedical Physiology I. (3-2). Credit 4.** Physiological principles, review of cellular physiology, and development of an understanding of the nervous system and muscle, cardiovascular, and respiratory physiology; clinical applications related to organ systems. Prerequisites: Graduate classification; BICH 410 and VIBS 305 recommended.
- 625. Pharmacology. (3-0). Credit 3.** Introduction to pharmacokinetics and pharmacodynamics; survey of major pharmaceutical classes; uses, mechanisms of action and adverse reactions of selected agents. Prerequisites: Graduate classification; VTPP 423 or approval of instructor.
- 627. Biomedical Physiology II. (3-0). Credit 3.** Continuation of VTPP 623 Fluid balance and acid-base balance; development of an understanding of renal, gastrointestinal, endocrine and reproductive physiology using human and other mammalian models; clinical applications related to organ systems. Prerequisites: Graduate classification; VTPP 623. Course Descriptions/Veterinary Physiology and Pharmacology 587



628. **Pharmacology I. (4-2). Credit 5.** Pharmacokinetics, pharmacodynamics, CNS pharmacology, autonomic pharmacology, antineoplastic agents, immunopharmacology, recombinant products, fluid and electrolyte therapy, diuretics, pharmacology of the integument. Prerequisite: Approval of instructor.
629. **Pharmacology II. (2-2). Credit 3.** Antimicrobials, endocrine pharmacology, eicosanoids, anti-inflammatory agents, respiratory pharmacology, anticoagulants and hematinics, GI pharmacology, cardiovascular pharmacology. Prerequisite: Approval of instructor.
630. **Pharmacology/Toxicology. (2-2). Credit 3.** Management and treatment of toxicosis, antidotal pharmacology, toxic plants, mycotoxins, chemical toxicants, metals, euthanasia. Prerequisite: Approval of instructor.
634. **Physiology for Bioengineers I. (3-3). Credit 4.** Cellular anatomy, cellular physiology and biochemistry; systems analysis of digestive, endocrine and musculoskeletal system function including information related to gross anatomy, histology and disease states; quantitative aspects of physiology and engineering applications to clinical medicine. Prerequisite: Biomedical Engineering major or approval of instructor.
635. **Physiology for Bioengineers II. (3-3). Credit 4.** A systems analysis of nervous, cardiovascular, respiratory and urinary function including information related to gross anatomy, histology and disease states; quantitative aspects of physiology and engineering applications to clinical medicine. Prerequisite: VTPP 634.
638. **Analysis of Genomic Signals. (2-2). Credit 3.** Overview of current high throughput technology for data acquisition and analysis of genomic signals (e.g., mRNA or proteins); emphasis on microarray technology, methods for analyzing microarray data, and approaches to model the underlying phenomena from the systems biology perspective. Prerequisites: BIOL 451 or GENE 320/BIMS 320 or equivalent; STAT 651 or equivalent; or approval of instructor.
652. **Fetal and Embryo Physiology. (3-0). Credit 3.** Introduction to the physiologic processes driving embryonic development and pregnancy; focus on embryo implantation, establishment of the placenta, development of the fetal circulatory systems and the molecular processes governing embryo differentiation and development; special emphasis on the major organ systems affected by pediatric disease and on the actions of teratogens. Prerequisites: Graduate classification.
653. **Endocrinology. (3-3). Credit 4.** Physiology, biochemistry and pharmacology of the endocrines. Laboratory emphasizes a number of classical experiments with clinical application. Prerequisite: Approval of instructor.
654. **Molecular Endocrinology. (3-0). Credit 3.** Structure-function relationships of hormones, their receptors and biologic activities. Prerequisites: VTPP 653 or BIOL 649 and BICH 410 or equivalent or approval of instructor.
655. **Vascular Physiology. (4-0). Credit 4.** Structure and function of blood vessels and vascular beds; molecular and cell biology of endothelium and vascular smooth muscle; microcirculation; capillary exchange; regulation of blood flow by local, neural and humoral signals. Prerequisite: MPHY 901 or approval of department head.
656. **Physiology of the Heart. (4-0). Credit 4.** Structure and function of the heart; molecular and cell biology of cardiac myocytes; electrophysiology of myocardium, pacemaker cells and conducting tissue; cardiac mechanics; control of cardiac performance; coronary circulation. Prerequisite: MPHY 901 or MPHY 604 or approval of department head.
657. **Cardiovascular Physiology. (3-3). Credit 4.** Physiological considerations of the circulatory system including general and integrative aspects of the heart and blood vessels. Prerequisites: Approval of instructor.
659. **Gamete and Embryo Physiology. (2-2). Credit 3.** Physiology of gametes and preimplantation embryos in livestock and laboratory animals; oocyte growth and maturation in-vivo and in-vitro, fertilization in-vivo and in-vitro, embryo transfer, cryopreservation, nuclear transfer, chimera formation, gene transfer.
667. **Current Topics in Pharmacology. (3-0). Credit 3.** Discussions of literature regarding topics of current research interest; physiochemical or physiologic effects of drugs at sites from molecular to whole body. Prerequisite: Approval of instructor.
673. **Metabolic and Detoxication Mechanisms. (3-0). Credit 3.** Fate of foreign compounds; their inhibitory and antagonistic action toward normal metabolic processes of the animal body. Prerequisites: BICH 603; approval of instructor and department head. 588 Course Descriptions/Veterinary Physiology and Pharmacology

- 675. Industrial and Environmental Toxicology. (3-0). Credit 3.** Fundamentals of toxicology and risk assessment; effects of selected classes of hazardous chemicals encountered in the workplace or environment on human health will be considered. Prerequisite: Approval of instructor.
- 676. Genetic and Molecular Toxicology. (3-0). Credit 3.** Mechanisms of toxicant-induced target organ toxicity with emphasis on molecular control of mammalian and cell growth differentiation. Prerequisite: Graduate course in cell biology and biochemistry.
- 677. Fluorescence Detection: Steady State, Time Resolved and Imaging. (4-0). Credit 4.** Fluorescence spectroscopy and confocal/multiphoton microscopy in research; intro of pharmacology, life science, and physical science students to fluorophores, anisotropy, ligand binding, energy transfer, cytometry, lifetime imaging, correlation spectroscopy, immunocytochemistry, and image analysis with an emphasis on instrumental/sample artifacts, fluorescence application, literature evaluation, and communication of rationales to other scientists. Prerequisite: General chemistry and biology course.
- 681. Seminar. (1-0). Credit 1.** Review and discussion of current scientific work in physiology and related subjects. Prerequisite: Approval of department head.
- 685. Directed Studies. Credit 1 to 4 each semester.** Problems in physiology, pharmacology or toxicology. Prerequisite: Approval of instructor.
- 689. Special Topics in... Credit 1 to 4.** Selected topics in an identified area of veterinary physiology and pharmacology. May be repeated for credit. Prerequisite: Approval of instructor.
- 690. Theory of Research. (3-0). Credit 3.** Theory and design of research related to current biomedical problems especially those involving study of animal disease; philosophical perspectives underlying historical advances in research pertaining to the study, prevention and treatment of disease. Prerequisite: Graduate classification. Cross-listed with VIBS 690 and VPAT 690.
- 691. Research. Credit 1 or more each semester.** Original investigations in veterinary physiology, pharmacology or toxicology to be submitted by writing of thesis or dissertation as partial fulfillment for MS or PhD degree. Prerequisite: Approval of department head.

**Department of Veterinary Small Animal Clinical Sciences**

[vetmed.tamu.edu/vscs](http://vetmed.tamu.edu/vscs)

**Head:** S. M. Hartsfield

**Veterinary Small Animal Clinical Sciences  
(VSCS)**

- 681. Seminar. (1-0). Credit 1.** Current scientific work in medical and surgical fields in and related to small animal medicine and surgery. May be repeated for credit. Prerequisite: DVM degree or approval of department head.
- 685. Directed Studies. Credit 1 to 8 each semester.** Original investigations of problems in field of small animal surgery, therapeutics or radiology. Prerequisite: DVM degree or approval of instructor and department head.
- 689. Special Topics in... Credit 1 to 4.** Special topics in an identified area of small animal medicine or surgery. May be repeated for credit. Prerequisite: DVM degree or approval of instructor and department head.
- 691. Research. Credit 1 or more each semester.** Research for thesis.

## Graduate Student Association (GSA)

<http://vetmed.tamu.edu/gsa>

### About the Organization

The Graduate Student Association (GSA) of the CVM represents graduate student interests through dialogue with the CVM administration and strives to enhance the quality of graduate education. Membership includes students enrolled in a program of study leading to a graduate degree awarded by a department in the CVM or students whose faculty mentor has an appointment to a department in the CVM. There are no membership fees, and all graduate students are welcome to attend the monthly lunch meetings and participate in service and social events.

Major programs and events sponsored by the GSA include:

- Monthly lunch meetings with guest speakers
  - Monthly Meetings September – November and January – April (once a month at Noon in the Mark Francis Room of the VMA Building)
- Travel Awards provided to eligible students
  - GSA members may apply for funding to cover the costs of registration and travel to present their own research at scientific conferences. Eligibility information is available on the GSA website.
- Spring Research Symposium & Dinner
  - The GSA co-sponsors a Spring Research Symposium with the CVM Postdoc Association each spring semester for platform and poster presentations by graduate students; a dinner with a keynote speaker follows the symposium
- Participation in the annual CVM Open House
  - GSA sponsors a booth with activities for children during the annual CVM Open House held each spring semester.

### Leadership

**President:** Jessica Rodriguez ([JYRodriguez@cvm.tamu.edu](mailto:JYRodriguez@cvm.tamu.edu))

**Vice President:** Alexandra Trott ([ATrott@cvm.tamu.edu](mailto:ATrott@cvm.tamu.edu))

**Treasurer:** Joseph Cyrus ([JCyrus@cvm.tamu.edu](mailto:JCyrus@cvm.tamu.edu))

**Travel Award Secretary:** Rachana Bhattarai ([RDhungel@cvm.tamu.edu](mailto:RDhungel@cvm.tamu.edu))

**General Secretary:** Kristal Brown ([KABrown@cvm.tamu.edu](mailto:KABrown@cvm.tamu.edu))

# Texas A&M University

## Office of Graduate and Professional Studies

### Contact Information

	<p><i>Dr. Karen Butler-Purry</i>  <i>Associate Provost for Graduate and Professional Studies</i>            979-845-3631  <i>klbutler@tamu.edu</i></p>		<p><i>Brenda Thomas</i>  <i>Director</i>            979-845-3631  <i>brenda-thomas@tamu.edu</i>  <i>Assists Dr. Karen Butler-Purry</i></p>
<h3>Leadership Team</h3>			
	<p><i>Dr. Kevin Heinz</i>  <i>Assistant Provost</i>            979-845-3631  <i>kmheinz@tamu.edu</i>  <i>Ombudsman</i>  <i>Recruiting</i></p>		<p><i>Dr. Susan Bloomfield</i>  <i>Assistant Provost</i>            979-845-3631  <i>sbloom@tamu.edu</i>  <i>Ombudsman</i>  <i>Professional Development</i></p>
	<p><i>Rachelle Dudley</i>  <i>Director/Chief of Staff</i>            979-845-3631  <i>r-dudley@tamu.edu</i>  <i>Budget, HR</i></p>		<p><i>Dr. Laura Hammons</i>  <i>Director, Graduate Records Processing and Thesis Office</i>            979-845-2225  <i>lhammons@tamu.edu</i></p>

## Essential Guidelines & Policies

### Expectations for Graduate Study

The major goals of graduate education at Texas A&M University are to instill in each student an understanding of and a capacity for scholarship, independent judgment, academic rigor, and intellectual honesty. Faculty and graduate students have a shared obligation to work together to foster these goals through relationships that advance freedom of inquiry, demonstrate individual and professional integrity, and encourage common respect.

Graduate student progress is guided and evaluated by an advisor and a graduate committee. These individuals give direction and support for the appropriate developmental and learning goals of graduate students. The advisor and the graduate committee also have the obligation of evaluating a graduate student's academic performance. The graduate student, the advisor, and the graduate committee constitute the basic core of graduate education. It is the quality, scope, and extent to interaction in this group that determine the significance of the graduate experience.

High quality graduate education requires professional and ethical conduct of the participants. Faculty and graduate students have mutual responsibilities in ensuring academic standards and quality graduate programs. Excellence in graduate education is achieved when faculty and students are inspired, have the academic and professional backgrounds essential to function at the highest level, and are genuine in their mutual desire to see one another triumph. Any action that negatively affects this interaction—from either faculty member or student—destroys the whole relationship. Mutual respect is critical to the successful process.

### Ombudsperson

The Ombudsperson for Graduate Education assists graduate students, faculty, staff and administrators in solving conflicts informally. This is accomplished by serving as a neutral listener, information resource, advisor, intermediary and mediator. For more information refer to the graduate catalog or email [ombuds@tamu.edu](mailto:ombuds@tamu.edu).

### Registration

#### Full-Time

Nine hours fall/spring; six hours summer in any combination for full summer benefits or three hours in any combination for an individual summer session benefit, is required to be considered full-time for assistantship, scholarship, and fellowship purposes.

#### Half-Time

In order for domestic graduate students to be eligible for financial aid, they must be registered at least half-time. Half-time registration means

Fall/Spring – 5 hours

10 Week Summer – 3 hours

5 Week Summer – 2 hours

#### Continuous Enrollment

Students in graduate degree programs requiring a thesis, dissertation, internship or record of study, who have completed all graded course work on the degree plan are required to be in continuous registration until all requirements for the degree have been completed. Non-thesis

students must maintain continuous enrollment until all degree plan courses are completed, but are not held to the continuous registration requirement after that unless the department or college has a requirement.

### Excess Hours

Students are allowed to enroll for a maximum of 15 hours during the fall/spring semesters, 6 hours for each summer session, and 12 hours during the 10-week session. **If you wish to enroll in more than the maximum number of hours allowed, please provide a written request to the Academic Advisor for Graduate Studies in the Office of the Dean for the CVM.**

### **Grade Point Average (GPA)**

All graduate students have two GPAs and both must be at least 3.0 to be in good standing, to conduct any type of exam, and to graduate. Course levels included in the GPAs are 300, 400, 600, and 900. Courses NOT included in the GPAs are transfer courses, except courses from the Health Science Center, and 100-200 level.

**Degree Plan GPA** – includes all courses listed on the degree plan except transfer course work.

**Cumulative GPA** – calculated on all course work completed at TAMU that is eligible to be applied to the degree plan.

### Scholastic Requirements

Graduate students must maintain a minimum grade point average (GPA) of 3.000 (B average based on a 4.000 scale) for all courses on the degree plan and for all graded graduate and advanced undergraduate course work completed at A&M and eligible to be applied to a graduate degree.

The cumulative GPA is computed by using all graded graduate and advanced undergraduate (300- and 400-level) course work taken at Texas A&M and eligible to be applied toward a graduate degree. Grades of Satisfactory (S), Unsatisfactory (U) and Q-Drop (Q) are not included. If either of a student's cumulative GPA or the GPA for courses listed on the degree plan falls below the minimum of 3.000, he or she will be considered scholastically deficient. If the minimum GPA is not attained in a reasonable time, the student may be dropped from graduate studies. Departments or colleges may adopt specific guidelines pertaining to scholastic deficiency or dismissal. Graduate assistantships, fellowships, and scholarships may be suspended for graduate students who fail to maintain a minimum 3.000 GPA as defined above. If the student receives a D or F on the degree plan and wants that course to remain on the degree plan, he or she must repeat the course at Texas A&M and attain a C or higher. A grade of Unsatisfactory (U) on the degree plan must be repeated at Texas A&M and a grade of Satisfactory (S) must be obtained.

A course in which a grade of C or below is earned may be repeated one time. When a course is repeated, the original grade remains on the permanent record, and *the most recent grade will be used in computing the cumulative and degree plan GPAs*. Repeated courses are not automatically replaced; this must be entered manually by OGS. Anytime you see that a student has repeated a course and qualifies for the original grade to be replaced, please contact OGS.

### Calculating GPAs

To calculate the GPA for a student, multiply the number of course hours by the grade points to get the quality points. Add all of the quality points and then divided by the total number of hours to get the GPR. Courses which are completed S/U are not used in calculating the GPAs. Grade Points: A=4; B = 3; C=2; D=1; F=0.

### Checking GPA without a Degree Plan on File

When a student does not have an approved degree plan, the cumulative GPA is calculated by generating a degree evaluation on the student's current program. The cumulative GPA displays under the credits used column on the 'Program GPA' line. Courses which are eligible to apply toward the graduate degree will display in the 'Courses for Degree Plan GPA' area with a note indicating there is not an approved degree plan on file.

## **Data and Laboratory Property**

Original results and data belong to the PI. All laboratory notes must remain at Texas A&M University. Under no circumstances should data be disseminated without the consent and permission of the PI (including email, abstracts, and publications). A student should never remove chemical or biological agents, books, laboratory files, or software from the laboratory without the PI's permission. All students will help maintain the accuracy of the chemical inventory and laboratory supplies. MSDS information/safety precautions must be understood before a student is permitted to work with toxic chemicals.

## **Academic Dishonesty**

The Texas A&M University Aggie Code of Honor states, "**An Aggie does not lie, cheat or steal, or tolerate those who do.**"

Plagiarism is just one example of academic misconduct. The Aggie Honor System Office provides the following definitions of academic misconduct and acts that are characterized as scholastically dishonest:

***Cheating:*** Intentionally using or attempting to use unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise.

***Fabrication:*** Making up data or results, and recording or reporting them; submitting fabricated documents.

***Falsification:*** Manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

***Multiple Submissions:*** Submitting substantial portions of the same work (including oral reports) for credit more than once without authorization from the instructor of the class for which the student submits the work.

***Plagiarism:*** The appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

***Complicity:*** Intentionally or knowingly helping, or attempting to help, another to commit an act of academic dishonesty.

***Abuse and Misuse of Computer Access:*** Students may not misuse computer access or gain unauthorized access to information in any academic exercise. See [student rule 22](#).



***Violation of Departmental or College Rules:*** Students may not violate any announced departmental or college rule relating to academic matters.

***Violation of University Rules on Research:*** Students involved in conducting research and/or scholarly activities at Texas A&M University must also adhere to standards set forth in [University Rule 15.99.03.M1 - Responsible Conduct in Research and Scholarship](#).

Additional information can be found at the [Aggie Honor System website](#).

#### *Departmental Policy on Academic Dishonesty*

Academic dishonesty will not be tolerated. All graduate students are expected to embrace professional integrity values. Sanctions for academic dishonesty may include a failing grade for an exam or assignment, a score of zero for the exam or assignment, dismissal from the course, assignment of F or F\* for the course grade, and/or dismissal from the graduate program.

#### *Departmental Policy on Plagiarism*

Inform and educate on first offense. Remediation may be negotiated, such as allowing the student to re-do the assignment or retake an exam. In such cases, a reduction in the grade may be made.

Punitive action will be taken on a subsequent violation. Sanctions may range from a score of zero on the assignment or exam with no remediation allowed, assignment of an F\* grade for the course, or dismissal from the program. Regardless of the sanction imposed, the department will file a violation report with the Honor System Office, as per Texas A&M University policy.

Note: This does not differentiate between intentional and unintentional plagiarism.

Please see the following website for more information on forms of Academic Misconduct: <http://library.tamu.edu/help/help-yourself/using-materials-services/online-tutorials/academic-integrity/index.html>

### **Aggie Honor System Office**

It is the Mission of the Aggie Honor System Office to serve as a centralized system established to educate about the Aggie Code of Honor, respond to reported academic violations of the Aggie Code of Honor, and facilitate remediation efforts for students found responsible for violations of the Aggie Code of Honor.

For more information, please visit: <http://aggiehonor.tamu.edu/>



## Office of Graduate Studies Degree Plans Fact Sheet

Each graduate student must submit an official degree plan to the Office of Graduate Studies (OGS) for approval. The degree plan formally declares your degree objective, the membership of your advisory committee, and the specific courses that you will be required to complete as part of your degree program. You will develop your proposed degree plan in consultation with your advisory committee. The degree plan must be approved by your advisory committee members, your department head and, if applicable, your intercollegiate faculty chairperson.

Completed degree plans must be submitted to OGS according to the following regulation with the student meeting whichever of these deadlines falls earliest:

- *following the deadline imposed by the student's college or interdisciplinary degree program.*
- *no later than 90 days prior to the date of the final oral examination or thesis defense for master's students or 90 days prior to the date of the preliminary examination for doctoral students*
- *according to deadlines published in the OGS calendar each semester for graduation that semester.*

The calendar may be found at: <<http://ogs.tamu.edu/OGS/currentCalendars.htm>>.

Specific rules and limitations on course work and committee membership can be found in the Texas A&M University *Graduate Catalog*. Once a degree plan is approved by OGS, changes in course work or committee membership may be re-quested by petition to OGS. "Petition Forms" may be downloaded from the OGS homepage. Changes of major, degree or department must be requested by submitting a petition and/or a new degree plan/course work petition.

### Degree Plan Checklist

Did you remember to:

- Provide your correct Student Identification Number?*
- Have all required transcripts sent to the Office of Graduate Admissions?*
- Use official course numbers and department abbreviations?*
- Confirm eligibility of transfer work?*
- Confirm that all committee members are members of the Graduate Faculty?*
- Provide correct names and departmental affiliations of committee members?*
- Make sure any special appointments have been approved or that the proper paperwork is sent to OGS along with the degree plan?*
- Observe all requirements and limitations on use of course work, outlined in the Graduate Catalog?*

## Office of Graduate Studies Degree Plans Fact Sheet

### Q&A

**Q:** When should I submit my degree plan?

**A:** Prior to the deadline imposed by the student's college, or interdisciplinary degree program, if applicable, and no later than 90 days prior to the date of the final exam (Masters), or the preliminary exam (Doctoral), or by the deadline on the OGS calendar.

**Q:** *May I submit my degree plan after the published deadline?*

**A:** Students are advised to meet the deadlines that apply to them. Failure to do so may jeopardize approval for the student to graduate at the end of the desired semester.

**Q:** *How long does it normally take for OGS to process degree plans?*

**A:** The processing time depends on when the degree plan is submitted. If the degree plan is submitted near the published deadline for the semester, processing can take 6 to 8 weeks. Degree plans submitted at other times during the semester can be processed in 2 to 4 weeks.

**Q:** *How many hours are needed on my degree plan?*

**A:** Specific requirements vary by degree. Generally, master's non-thesis-option students must carry 36 hours and master's thesis-option students must carry 32 hours for the MS, and 30 hours for the MA, MCS and MEN. Students should check the Graduate Catalog for their specific hour requirements. Doctoral students must carry 96 hours if they do not have a master's degree, and they must carry 64 hours if they have a master's degree. See the *Graduate Catalog* for additional information.

**Q:** *How should I list courses on my degree plan: alphabetically or by course number?*

**A:** As long as your ordering system is uniform, you may use either system.

**Q:** *How many committee members do I need?*

**A:** Advisory committees for master's degrees must have at least three members, and advisory

committees for doctoral degrees must have at least four members. Special appointments to your committee are not included in this count. Your chairperson must be from your department or from your intercollegiate faculty (if applicable), and you must have at least one member from outside of your department.

In some departments the student's committee will be comprised of the Graduate Program Director. Your department can tell you which type of committee applies to you.

**Q:** *What do I need to do if changes are needed AFTER my degree plan has been approved?*

**A:** Once your degree plan has been approved, any changes must be requested by submitting the appropriate OGS Petition Form. Your signature together with those of your committee, department head and intercollegiate faculty chair (if applicable) are required on the petition.

**Q:** *If one of my committee members is out of town, can someone else sign the degree plan for him or her?*

**A:** Yes, any authorized signer for that member's department or intercollegiate program may sign.

**Q:** *Where can I go for help in completing my degree plan?*

**A:** Start with your graduate advisor in your department. The *Graduate Catalog* and a copy of your transcript are also useful. If you still have questions, call the OGS staff at (979) 845-3631 or e-mail them at [ogaps@tamu.edu](mailto:ogaps@tamu.edu).

**Q:** *Why is it important to have deadlines for the submission of degree plans?*

**A:** The degree plan is to be a "plan" of courses the student and advisory committee have selected to fulfill the degree requirements. The plan should be formulated early in the student's graduate career and not serve as a report of courses taken.

If you have additional questions, you may contact the Office of Graduate Studies (OGS) at 979-845-3631, or you may e-mail the staff at [ogaps@tamu.edu](mailto:ogaps@tamu.edu). This supplement should be used only in conjunction with the *Graduate Catalog* and the *Texas A&M University Student Rules*.

More information is available at: <http://ogs.tamu.edu/wp-content/themes/ogs-genesis/student-resources/ogsdpsf1.pdf>

You are here: [Home](#) / [Incoming Students](#) / [Student Forms and Information](#)

## Student Forms and Information

You must obtain all required signatures on any form that you submit to OGAPS. If one of the required signers is unavailable, each program has faculty members who are authorized signers for the faculty in that program. Please check with that program's graduate office to determine who may sign. Additionally, OGAPS will accept scanned copies of signatures for most documents. At a minimum, if the form has a place for the Department Head of Interdisciplinary Program Chair to sign, that signature must be original. If this form does not require this signature, then the committee chair's signature must be original.

### Forms

#### Academic Process Forms

- [Preliminary Examination Checklist and Report \(PDF\)](#)
- [Proposal Approval Page for Thesis, Dissertation \(PDF\)](#)
- [Request and Announcement of the Final Examination \(PDF\)](#)
- [Request for Exemption from Final Examination \(PDF\)](#)
- [Request for Letter of Completion \(PDF\)](#)
- [Letter of Intent to Pursue Another Graduate Degree \(PDF\)](#)
- [Graduation Cancellation Form \(PDF\)](#)
- [Special Request Letter \(PDF\)](#)

#### Petition Forms

\*\*If your degree plan was approved by the Office of Graduate Studies on or after February 1, 2013, you may utilize the [Document Processing Submission System](#) to submit petitions. If your degree plan was approved prior to February 1, 2013, please continue to file paper petitions. We are working to update all of the data within that system to allow everyone to file petitions through DPSS, and will notify you when this is done.\*\*

To determine if a course work petition has been approved by OGAPS, run a degree evaluation through Howdy Portal. If the new courses are listed in the degree evaluation, the petition has been processed. To find out the status of other petitions, contact the graduate advising staff within their program.

- [Change of Committee \(PDF\)](#)
- [Change of Major/Degree/Department \(PDF\)](#)
- [Course Change \(PDF\)](#)
- [Waivers or Exceptions to University Requirements \(PDF\)](#)
- [Petition for Extension of Time Limits \(PDF\)](#)

#### International Students

- [F-1 Reduced Course Load Form \(PDF\)](#)
- [J-1 Reduced Course Load Form \(PDF\)](#)

### Information

#### Getting a Degree

- [Steps to Fulfill Master's Degree Requirements](#)
- [Steps to Fulfill Doctoral Degree Requirements](#)
- [Steps to Fulfill Preliminary Exam Requirements](#)

#### Degree Plan Information

- [Degree Plan Fact Sheet \(PDF\)](#)
- [Online Document Processing Submission System \(PDF\)](#)
- [Online Document Processing Submission System \(Link\)](#)

#### Graduate Appeals

- [Information on Graduate Appeals Panel](#)
- [Instructions for Appealing Suspension or Blocks for Scholastic Deficiency](#)
- [Instructions for Appealing Disputes Over Final Course Grades](#)
- [Instructions for Appealing Graduate Student Examination Results at the Program/Department Level](#)

#### Graduation

- [Steps to Graduation](#)
- [Graduation Ceremony Information](#)
- [Graduation Deadlines](#)
- [Verification of Degree Awarded](#)

## Thesis/Dissertation Forms and Information

#### Approval Form

- [Thesis \(M.S., M.A.\) \(PDF\)](#)
- [Dissertation \(Ph.D.\) / Record of Study \(Ed.D., D.Eng.\) \(PDF\)](#)

#### Factsheets/Supplemental Info

- [Approval Form Guidelines](#)

#### Required for Master's Students

- [Copyright and Availability Form \(PDF\)](#)

#### Required for Doctoral Students

- [Copyright and Availability Form \(PDF\)](#)
- [Online Survey of Earned Doctorates and AAUDE Survey](#) – Not Required for Doctor of Education (Ed.D.) Degree

# Graduate Studies Calendars & General Timelines for Degree

Revised 8/23/13

Office of Graduate and Professional Studies Calendar\*

## FALL SEMESTER 2013

*NOTE: Failure to meet deadlines may result in the postponement of receipt of the degree.*

**\*These dates are subject to change.**

**Degree plans** should be **approved** by our office at least **90 working days** prior to submission of the Request and Announcement of the Final Examination.

### MASTER'S – NON-THESIS OPTION

July 5	Friday	Last day for degree plan to be received by the Office of Graduate and Professional Studies if graduating in Fall 2013.
August 21	Wednesday	First day to apply for degrees to be awarded in Fall 2013.
August 23	Friday	Last day to register for fall semester classes by 5:00 p.m.
August 26	Monday	First day of fall semester classes.
August 30	Friday	Last day for adding/dropping courses for the fall semester by 5:00 p.m.
September 2	Monday	Last day to pay fees by 5:00 p.m.
September 27	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN DECEMBER BY 5:00PM</b> without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. <b>A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 09-27-13.</b>
October 4	Friday	Last day for MS students to change degree to M.Eng. or M.C.S. and still graduate in December 2013.
October 25	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
October 25	Friday	Last day to submit "Request for Exemption from Final Examination" for students in M.Eng., MCS or M.Ed. in EPSY.
November 8	Friday	Last day to take final examination.
November 15	Friday	Last day for <u>all</u> students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.

### MASTER'S – THESIS OPTION

May 27	Monday	Last day for degree plan to be received by the Office of Graduate and Professional Studies if graduating in December 2013.
July 31	Wednesday	Electronic Thesis/Dissertation System Re-Opens for December 2013 degree candidates.
August 21	Wednesday	First day to apply for degrees to be awarded in December 2013.
August 21	Wednesday	First day students are able to clear the Thesis Office for Fall graduation.
August 23	Friday	Last day to register for fall semester classes and pay fees by 5:00 p.m.
August 26	Monday	First day of fall semester classes.
August 30	Friday	Last day to clear Thesis Office by 5:00 p.m. to avoid registration in Fall 2013 semester.
August 30	Friday	Last day for adding/dropping courses for the fall semester by 5:00 p.m.
September 9	Monday	Last day to submit thesis research proposal.
September 27	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN DECEMBER BY 5:00PM</b> without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. <b>A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 09-27-13.</b>
September 27	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
September 27	Friday	Last day to submit "Request for Exemption from Final Examination"
October 4	Friday	Last day for MS students to change degree to M.Eng. or M.C.S. and still graduate in December 2013.
October 11	Friday	Last day to take final exam (defend thesis)
October 18	Friday	Last day to submit a signed approval form and a PDF file of the thesis in final form by 5:00 p.m. The signed approval form is submitted to the <b>Thesis Office</b> . The PDF file must be submitted via the web to <a href="http://thesis.tamu.edu">http://thesis.tamu.edu</a> .
November 15	Friday	Last day for <u>all</u> students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.
November 27	Wednesday	Last day to submit final corrections of thesis to the Thesis Office by 5:00 p.m.

\*Note: Meeting Thesis Office deadlines does not guarantee, but merely maintains, eligibility for graduation/clearance in a certain time frame.



**DOCTORAL DEGREES**

**Preliminary examination results must be received by the Office of Graduate and Professional Studies at least 14 WEEKS prior to the final examination date.**

May 27	Monday	Last day for degree plan to be received by the Office of Graduate and Professional Studies if graduating in December 2013.
July 31	Wednesday	Electronic Thesis/Dissertation System Re-Opens for December 2013 degree candidates.
August 21	Wednesday	First day to apply for degrees to be awarded in December 2013.
August 21	Wednesday	First day students are able to clear the Thesis Office for Fall graduation.
August 23	Friday	Last day to register for spring semester classes and pay fees by 5:00 p.m.
August 26	Monday	First day of fall semester classes.
August 30	Friday	Last day to clear Thesis Office by 5:00 p.m. to avoid registration in Fall 2013 semester.
August 30	Friday	Last day for adding/dropping courses for the fall semester by 5:00 p.m.
September 27	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN DECEMBER BY 5:00PM without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 09-27-13.</b>
September 27	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
October 11	Friday	Last day to take final exam. (defend dissertation or record of study)
October 18	Friday	Last day to submit a signed approval form and PDF of the dissertation in final form by 5:00 p.m. Signed approval form is submitted to <b>Thesis Office</b> . The PDF file must be submitted via the web to <a href="http://thesis.tamu.edu">http://thesis.tamu.edu</a> .
November 15	Friday	Last day for <u>all</u> students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.
November 27	Wednesday	Last day to submit final corrections of dissertation or record of study to the Thesis Office by 5:00 p.m.

**ADDITIONAL DEADLINES FOR DEGREES TO BE CONFERRED IN DECEMBER 2013**

November 8	Friday	Last day to submit petitions to change degree plan coursework for students in master's programs without a final examination requirement: MAB, MBA, MMR, MIA, MID, MPSA, MRE, MS programs in the Lowry Mays College of Business, and MS programs in EHRD – HRD option.
January 17, 2014	Friday	Last day to CLEAR for fall 2013 graduation. (Applies <b>ONLY</b> to those students not clearing final audit on degree audit night.)

**CLEARANCE FOR ALL DECEMBER 2013 DEGREE CANDIDATES**

December 12	Thursday	Academic Degree Evaluations conducted <i>after</i> 5:00 p.m.
December 13	Friday	Academic Degree Evaluation results available.

**COMMENCEMENT CEREMONIES**

December 13	Friday	Commencement
December 14	Saturday	Commencement

\*Note: Meeting Thesis Office deadlines does not guarantee, but merely maintains, eligibility for graduation/clearance in a certain time frame.

Revised 8/23/13

## Office of Graduate and Professional Studies Calendar\*

**SPRING SEMESTER 2014***NOTE: Failure to meet deadlines may result in the postponement of receipt of the degree.***\*These dates are subject to change.**

**Degree plans** should be **approved** by our office at least **90 working days** prior to submission of the Request and Announcement of the Final Examination.

**MASTER'S – NON-THESIS OPTION**

November 15	Friday	Last day for the Office of Graduate and Professional Studies to receive degree plan if graduating in May 2014.
January 2	Thursday	First day to apply for degrees to be awarded in May 2014.
January 10	Friday	Last day to register for spring semester classes and pay fees by 5:00 p.m.
January 13	Monday	First day of spring semester classes.
January 17	Monday	Last day for adding/dropping courses for the spring semester by 5:00 p.m.
February 14	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN MAY BY 5:00PM</b> without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. <b>A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 02-14-14.</b>
February 21	Friday	Last day for MS students to change degree to M.Eng. or M.C.S. and still graduate in May 2014.
March 28	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
March 28	Friday	Last day to submit "Request for Exemption from Final Examination" for students in M.Eng., MCS or M.Ed. in EPSY.
April 11	Friday	Last day to take final examination.
April 14	Monday	Last day for <u>all</u> students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.

**MASTER'S – THESIS OPTION**

October 11	Friday	Last day for the Office of Graduate and Professional Studies to receive degree plan if graduating in May 2014.
November 27	Wednesday	Electronic Thesis/Dissertation System Re-Opens for May 2014 degree candidates.
January 2	Thursday	First day to apply for degrees to be awarded in May 2014.
January 2	Thursday	First day students are able to clear the Thesis Office for Spring graduation.
January 10	Friday	Last day to register for spring semester classes and pay fees by 5:00 p.m.
January 13	Monday	First day of spring semester classes.
January 17	Friday	Last day to clear Thesis Office by 5:00 p.m. to avoid registration in Spring 2014 semester.
January 17	Friday	Last day for adding/dropping courses for the spring semester by 5:00 p.m.
February 3	Monday	Last day to submit thesis research proposal.
February 14	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN MAY BY 5:00PM</b> without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. <b>A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 02-14-14.</b>
February 21	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
February 21	Friday	Last day to submit "Request for Exemption from Final Examination"
March 7	Friday	Last day to take final exam (defend thesis)
March 21	Friday	Last day to submit a signed approval form and a PDF file of the thesis in final form by 5:00 p.m. The signed approval form is submitted to the <b>Thesis Office</b> . The PDF file must be submitted via the web to <a href="http://thesis.tamu.edu">http://thesis.tamu.edu</a> .†
April 14	Monday	Last day for <u>all</u> students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.
April 23	Wednesday	Last day to submit final corrections of thesis to the Thesis Office by 5:00 p.m.

†Note: Meeting Thesis Office deadlines does not guarantee, but merely maintains, eligibility for graduation/clearance in a certain time frame.

**DOCTORAL DEGREES**

**Preliminary examination results must be received by the Office of Graduate and Professional Studies at least 14 WEEKS prior to the final examination date.**

October 11	Friday	Last day for the Office of Graduate and Professional Studies to receive degree plan if graduating in May 2014.
November 27	Wednesday	Electronic Thesis/Dissertation System Re-Opens for May 2014 degree candidates.
January 2	Thursday	First day to apply for degrees to be awarded in May 2014.
January 2	Thursday	First day students are able to clear the Thesis Office for Spring graduation.
January 10	Friday	Last day to register for spring semester classes and pay fees by 5:00 p.m.
January 13	Monday	First day of spring semester classes.
January 17	Friday	Last day to clear Thesis Office by 5:00 p.m. to avoid registration in Spring 2014 semester.
January 17	Friday	Last day for adding/dropping courses for the spring semester by 5:00 p.m.
February 14	Friday	<b>LAST DAY TO APPLY FOR DEGREES TO BE AWARDED IN MAY BY 5:00PM without a late fee. A diploma fee of \$47.50 must be paid either at registration or at the Fiscal Office (GSC). Complete the application for degree form via the Howdy Portal. A LATE CHARGE OF \$50.00 WILL BE ASSESSED TO STUDENTS WHO APPLY FOR GRADUATION AFTER 02-14-14.</b>
February 21	Friday	Last day to submit "Request and Announcement of the Final Examination" <b>or 10 working days prior to the examination, whichever comes first</b> to the Office of Graduate and Professional Studies.
March 7	Friday	Last day to take final exam. (defend dissertation or record of study)
March 21	Friday	Last day to submit a signed approval form and PDF of the dissertation in final form by 5:00 p.m. Signed approval form is submitted to <b>Thesis Office</b> . The PDF file must be submitted via the web to: <a href="http://thesis.tamu.edu">http://thesis.tamu.edu</a> .
April 14	Monday	Last day for <u>a</u> ll students to drop courses with no penalty (Q-drop). Last day to officially withdraw from the University.
April 23	Wednesday	Last day to submit final corrections of dissertation or record of study to the Thesis Office by 5:00 p.m.

\*Note: Meeting Thesis Office deadlines does not guarantee, but merely maintains, eligibility for graduation/clearance in a certain time frame.

**ADDITIONAL DEADLINES FOR DEGREES TO BE CONFERRED IN MAY 2014**

April 4	Friday	Last day to submit petitions to change degree plan coursework for students in master's programs without a final examination requirement: MAB, MBA, MMR, MIA, MID, MPSA, MRE, MS programs in the Lowry Mays College of Business, and MS programs in EHRD – HRD option.
June 6	Friday	Last day to CLEAR for spring 2014 graduation. (Applies <b>ONLY</b> to those students not clearing final audit on degree audit night.)

**CLEARANCE FOR ALL MAY 2014 DEGREE CANDIDATES**

May 8	Thursday	Academic Degree Evaluations conducted <i>after</i> 5:00 p.m.
May 9	Friday	Academic Degree Evaluation results available.

**COMMENCEMENT CEREMONIES**

May 9-10	Friday/Sat	Commencement
----------	------------	--------------

\*Note: Meeting Thesis Office deadlines does not guarantee, but merely maintains, eligibility for graduation/clearance in a certain time frame.

## Steps to Fulfill Master's Degree Requirements

1	Meet with departmental graduate advisor to plan course of study for first semester.	▶	When: Before first semester registration. Approved by: Graduate advisor or chair of the intercollegiate faculty.
2	Establish advisory committee. Submit a degree plan.*	▶	When: Prior to the deadline imposed by the student's college and no later than 90 days prior to final oral or thesis defense. Approved by: Advisory committee, department head or chair of the intercollegiate faculty, and Office of Graduate Studies (OGS).
3	If thesis is required, submit thesis proposal to the Office of Graduate Studies.	▶	When: At least 25 working days prior to the submission of the Request for the Final Examination. Approved by: Advisory committee, department head or chair of the intercollegiate faculty and OGS.
4	Apply for degree**; pay graduation fee.	▶	When: During the first week of the final semester, see OGS calendar.
5	Check to be sure degree program and advisory committee are up to date and all ELPE requirements (if applicable) and coursework are complete.	▶	When: Well before submitting request to schedule final examination.
6	Complete residence requirement.	▶	When: If applicable, before or during final semester. Approved by: OGS.
7	Submit request for permission to schedule final examination.	▶	When: Must be received by OGS at least 10 working days before exam date. See OGS calendar for deadlines. Approved by: Advisory committee, department head or chair of the intercollegiate faculty, and OGS.
8	If required, upload one approved final copy of thesis as a single PDF file ( <a href="https://thesis.tamu.edu">thesis.tamu.edu</a> ) and submit signed approval form to the Thesis Office.	▶	When: See OGS calendar for deadlines. Approved by: Advisory committee, department head or chair of the intercollegiate faculty and OGS.
9	Graduation; arrange for cap and gown.	▶	For more information, contact the University Bookstore.

\* The online Automated Degree Plan Submission System is located on the website [ogsdpss.tamu.edu](https://ogsdpss.tamu.edu).

\*\* Complete the application for degree form via the student's Howdy portal.



## Steps to Fulfill Doctoral Degree Requirements

1	Meet with departmental/intercollegiate graduate advisor to plan course of study for first semester.	➔	<b>When:</b> Before first semester registration. Approved by: Graduate advisor.
2	Establish advisory committee. Submit a degree plan.	➔	<b>When:</b> Prior to the deadline imposed by the student's college or intercollegiate programs, and no later than 90 days prior to preliminary examination. Approved by: Advisory committee, department head or intercollegiate faculty chair, and Office of Graduate Studies (OGS).
3	Complete English Language Proficiency requirements (if applicable), and coursework detailed on degree plan.	➔	<b>When:</b> Before preliminary examination.
4	Complete the preliminary examination.	➔	<b>When:</b> See steps for completing the preliminary examination. The preliminary examination results must have been submitted to OGS 14 weeks prior to the date of the defense. Approved by: Advisory committee, department head or chair of the intercollegiate faculty, and OGS.
5	Submit proposal for dissertation or record of study to the Office of Graduate Studies.	➔	<b>When:</b> No later than 25 working days prior to the submission of the Request for the Final Examination. Approved by: Advisory committee, department head or intercollegiate faculty chair, and OGS.
6	Complete residence requirement.	➔	<b>When:</b> Before submitting request to schedule final oral examination. Approved by: OGS.
7	Apply for degree; pay graduation fee.	➔	<b>When:</b> During the first week of the final semester; see OGS calendar for deadlines.
8	Submit request for permission to hold and announce final oral examination.	➔	<b>When:</b> Must be received by OGS at least 10 working days before requested exam date. See OGS calendar for deadlines. Approved by: Advisory committee, department head or intercollegiate faculty chair, and OGS.
9	Upload one approved final copy of the dissertation or record of study as a single pdf file ( <a href="https://thesis.tamv.edu">thesis.tamv.edu</a> ) and submit a signed approval form to the Thesis Office.	➔	<b>When:</b> See OGS calendar for deadlines. Approved by: Advisory committee, department head or intercollegiate faculty chair, and Thesis Office.
10	Graduation; arrange for cap and gown.	➔	<b>For more information, contact University Bookstore.</b>

Note: Once formal coursework is complete, you must be continuously registered until all degree requirements have been met. (See Continuous Registration Requirements on [page 197](#).)

## Steps for Completing the Preliminary Examination

1	Establish advisory committee. Submit a degree plan.	<p><b>When:</b> Prior to the deadline set by the student's college, and no later than 90 days prior to preliminary examination.</p> <p><b>Approved by:</b> Advisory committee, department or intercollegiate faculty chair, and Office of Graduate Studies (OGS).</p>
2	Complete English language proficiency requirements (if applicable), and coursework detailed on degree plan.	<p><b>When:</b> Before preliminary examination.</p>
3	Student and chair review eligibility requirements for the preliminary exam using the "Preliminary Examination Checklist."	<p><b>When:</b> Several weeks before the proposed date of the preliminary examination. Checklist must be signed by chair and department head, or intercollegiate faculty chair.</p>
4	Student checks the availability of committee members.	<p><b>When:</b> Several weeks before the proposed date of the preliminary examination.</p>
5	Students prepares and submits any petitions found necessary by the review of the eligibility requirements.	<p><b>When:</b> At least three weeks before the proposed date of the preliminary examinations.</p> <p><b>Approved by:</b> Advisory committee, department head or intercollegiate faculty chair, and OGS.</p>
6	When exam date is determined, the department may announce the schedule.	<p><b>Approved by:</b> Committee chair, department head or intercollegiate faculty chair.</p>
7	Chair submits the Report of the Preliminary Examination and the Preliminary Examination Checklist to OGS.	<p><b>When:</b> Within 10 working days of the date of the scheduled oral examination and no later than 14 weeks prior to the final defense date.</p> <p><b>Approved by:</b> Advisory committee.</p>
8	Office of Graduate Studies notifies the student and chair of any actions necessary to rectify any deficiencies.	<p><b>When:</b> Upon receipt of the report of the doctoral Preliminary Examination.</p>



# Student Resources

## Texas A&M University Graduate Student Services

### Center for Teaching Excellence

Office of the Dean of Faculties and Associate Provost



TEXAS A&M  
UNIVERSITY

[Home](#)
[What We Do](#)
[Why It Matters](#)
[Make a Difference](#)
[About Us](#)



## What We Do

<http://cte.tamu.edu>


### Academies & Workshops

#### Academies

Are you looking for a professional development activity related to teaching that is accessible and convenient? The Faculty Teaching Academy (FTA) – in its sixth year at TAMU – allows you to hear from colleagues from a variety of disciplines who have distinguished themselves as teachers. The program encourages you to schedule a classroom visit to see these recognized teachers in action. A certificate of completion is also available for your records. [More information](#)

#### Workshops

CTE offers a variety of workshops to assist you with enhancement of your teaching practice. Topics are based on questions and challenges identified by TAMU faculty and on current information from the literature on learning and teaching. Workshops offer practical ideas that faculty can implement as is or alter to better fit their needs. They also provide peer interaction and perspective. We are committed to offering flexible programming that addresses faculty concerns regarding learning and teaching. [View workshop list](#)

### Consulting on Teaching & Curriculum

#### Teaching

CTE offer one-on-one consulting with faculty on teaching related topics. You can schedule an observation of your classroom teaching and get written feedback for your records. We can also assist with interpreting and responding to student opinionaire feedback. Any topic, from implementing high impact practices in your courses to documenting results of changes made in teaching – we are available to assist. [More information](#)



#### Curriculum

Assessment, accreditation, and expanding knowledge all play a part in motivating departments to realign and redesign curriculum or even develop new curriculum. CTE can assist your group with defining program goals and determining where they are introduced, reinforced and assessed throughout your curriculum. See [success stories](#) and [more information](#)

### Graduate Student Professional Development



#### STEM PhD Learning Community

PhD students who desire a career in academia can benefit greatly from training and experiences in teaching. Many PhD students in the Science, Technology, Engineering and Mathematics (STEM) disciplines, however, may not have an opportunity to learn through teaching as a teaching assistant. Office of Graduate Studies has funded a pilot program in professional development in teaching for these students. It will enable selected PhD students to learn how to teach and design and implement a course module with a faculty mentor, facilitated by teaching and learning consultants from the Center for Teaching Excellence (CTE). The program sessions are offered as SCEN 689 and ENGR 689 in Spring 2012. Lessons learned and feedback from participants will

inform future offerings and potential expansion into additional disciplines.

#### Teaching Assistant Training

This year we will provide the training based on the job responsibilities of the TAs as assigned by the departments. The training will be designed around the following sets of responsibilities:

- Teaching lab(s)
- Leading recitations
- Teaching a lecture course with full responsibility

[More information](#)

#### The Graduate Teaching Academy<sup>#</sup>

The Graduate Teaching Academy (GTA) is a graduate student-led organization supported by the Office of Graduate Studies and the Center for Teaching Excellence. Our mission is to provide professional development opportunities to equip graduate students in the area of college teaching.

[GTA Website<sup>#</sup>](#)

#### Conferences

CTE hosts the annual Wakonse-South – College Teaching Conference and maintains information about other conferences focused on teaching. [More conferences](#)



Graduate Teaching Academy



TEXAS A&M  
UNIVERSITY

Search Site

[About Us](#) [GTA Certificate Program](#) [Fall Schedule](#) [Who We Are](#) [Get Involved!](#) [Resources](#) [News and Announcements](#) [Events](#) [FAQ's](#)

## WELCOME TO THE GRADUATE TEACHING ACADEMY HOME PAGE

The Graduate Teaching Academy (GTA) is a graduate student-led organization supported by the Office of Graduate Studies and the Center for Teaching Excellence. Our mission is to provide professional development opportunities to equip graduate students in the area of college teaching.

All GTA [seminars and workshops](#) are FREE for graduate students enrolled at Texas A&M University. Postdocs, faculty members, and visiting researchers are also welcome to attend GTA events.

Participate in any or all of the GTA programs as your schedule permits. For example, you may choose to attend one or any number of our Fall & Spring Seminar Series presentations. Or, you may choose to enroll in our [GTA Fellows](#) program that can be entered into at the beginning of either the fall or the spring semester. Those who successfully complete the one-year program obtain a Certificate of Completion from the GTA and receive the designation of "Graduate Teaching Academy Fellow." GTA Fellows are eligible to enroll in the GTA II Learning Communities program, become a GTA Steering Committee (GTASC) member, go on to become a GTA Senior Fellow, and apply for travel awards to the [Wakonse South Conference](#) held annually in Burnet, TX and/or national [Wakonse Conference in College Teaching](#) held annually in Stoney Lake, Michigan.

[Click Here to Sign Up!](#)

Send this — Print this —

State of Texas  
Legal Notices  
Accessibility Policy

Compact With Texans  
Statewide Search  
Privacy & Security

Division of Research



Graduate Teaching Academy



TEXAS A&M  
UNIVERSITY

Search Site

[About Us](#) [GTA Certificate Program](#) [Fall Schedule](#) [Who We Are](#) [Get Involved!](#) [Resources](#) [News and Announcements](#) [Events](#) [FAQ's](#)

## ABOUT THE GRADUATE TEACHING ACADEMY (GTA)

The Graduate Teaching Academy (GTA) provides professional development of graduate students in preparation for a career in higher education. We offer a two-semester program anchored by faculty mentorship and featuring weekly seminars and workshops. GTA events are free and open to everyone in the Texas A&M University academic community. Participants may choose to attend a few events to complete requirements for the Graduate Teaching Academy Fellow certificate. New fellows are recognized at our annual banquet in April.

While the GTA serves as a supplement to research-oriented programs by assisting graduate students with the teaching components of their career preparation, it is not teaching assistant training per se. Instead, the GTA provides broader benefits applicable to all graduate students, whether currently teaching or preparing for teaching in the future. These benefits include:

- Opportunity to learn from a diverse pool of professors known for excellence in teaching.
- Mentorship in the area of teaching in higher education environments
- Exploration of career paths.
- Developments of teaching portfolio materials for use in academic job searches.
- Opportunity to earn a certificate of completion with designation as a GTA Fellow
- Advanced professional development opportunities for GTA Fellows, including: opportunity to earn the Senior Fellow Certificate, leadership opportunities, research projects, and participate in forums or learning communities on college teaching.

Send this — Print this —

State of Texas  
Legal Notices  
Accessibility Policy

Compact With Texans  
Statewide Search  
Privacy & Security

Division of Research

# University Writing Center



## Graduate Student Services



The University Writing Center offers graduate students assistance with any writing, including class assignments, CVs, journal articles, theses, or dissertations.

[Which Graduate Writing Service is Right for You?](#)

[Individual Appointments](#) **(Make an appointment here)**

[Dissertation And Thesis Assistance \(DATA\)](#) **(Sign up for DATA here)**

[Graduate Writing Groups](#)

[International Student Workshops](#)

Check out these videos from the Graduate Writing Series...

[Academic Integrity](#)

[Get Lit – The Literature Review](#)

[Writing for Publication](#)

[Thesis Office Presentation](#)

[Science Writing: Practice Makes it \(Almost\) Perfect](#)

[Writing Accessibly About Science](#)

[An Introduction to Writing \(Good\) Abstracts](#)

[The Dissertation Proposal](#)

[The Perfect Defense](#)

[Creative and Effective Conference Presentations](#)

[Searching for Literature Reviews: Before You Write, You Have to Find](#)

For a list of all our handouts, audio, and video tips, click on [Handouts, Videos, and Audio Broadcasts on Writing and Speaking](#)

For detailed information about writing and submitting your thesis or dissertation, visit the [Thesis Office website](#)

Need help with citations and documentation? Learn more about [RefWorks](#), a web-based tool for collecting, accessing, organizing, citing, and sharing citations including articles, books, websites, and more.

For more information about any of our graduate student services, contact [uwc@tam.u.edu](mailto:uwc@tam.u.edu).

## Hours & Locations

The University Writing Center is located in Suite 1.214 of [Sterling C. Evans Library](#), on the second floor. Follow the directional signs.

### Fall and Spring Semester Hours

Sunday	5pm – 10pm
Monday	9am – 10pm
Tuesday	9am – 10pm
Wednesday	9am – 10pm
Thursday	9am – 10pm
Friday	9am – 4pm
Saturday	closed

## Aggies helping Aggies write & speak well

### More In For Students:

[Consultations in Writing & Speaking](#)

[Handouts, Videos, and Audio Broadcasts on Writing and Speaking](#)

[Write Right: A Student Podcast](#)

[W & C Courses](#)

[Graduate Student Services](#)

- [Graduate Writing Groups](#)
- [Dissertation and Thesis Assistance \(DATA\) Program](#)
- [One-to-One Consultation Benefits for Graduate Students](#)
- [UWC Dissertation/Thesis Writing Workshop Information Form](#)

[International Student Workshops](#)

[Freelance Editors](#)

[Android App](#)

### Words of Wisdom

**Listen!**

The most important thing in communication is to hear what isn't being said.

— Peter F. Drucker



[Current Students](#)    [Employers](#)    [Former Students](#)    [Prospective Students](#)    [Aggie Parents](#)    [Faculty / Staff](#)

**CAREER CENTER**

[About Us](#)    [Map & Directions](#)    [Staff Directory](#)    [Contact Us](#)    [Partners](#)

**HireAggies.com**

**TEXAS A&M UNIVERSITY**

Last updated: 09/10/2012  
 © 2008 Texas A&M University Career Center  
[About Us](#) | [Map & Directions](#) | [Staff Directory](#) | [Contact Us](#) | [Partners](#)  
[Accessibility](#) | [Privacy and Security](#)

Phone: (979) 845-5138  
 Koldus 209  
 Career Center  
 Email Webmaster

**CAREER CENTER HireAggies.com**

[Log Off](#)

[Current Students](#) | [Employers](#) | [Former Students](#) | [Prospective Students](#) | [Aggie Parents](#) | [Faculty/Staff](#)

**Current Student Home**

- Find Jobs
- Services for Students »
- Graduate Students »
- Career Advisors
- Events »
- Internship
- Co-op
- AggiExternship
- Work Abroad
- Job Search Prep »
- Career Resources »
- Download Library
- Help

**Current Students**

**LINKS FOR GRADUATE STUDENTS**

- [Academic](#)
- [Non-Academic](#)
- [Graduate Business Career Management](#)
- [Bush School of Government and Public Service](#)
- [International Student Resources](#)
- [Special Interests](#)
- [Resumes and Cover Letters](#)
- [Successful Interviewing](#)
- [Networking](#)
- [Salaries](#)
- [Career Fairs](#)
- [Orientations and Workshops](#)
- [Employer Events](#)
- [AggiExternship](#)
- [How do I research a company?](#)
- [How can HireAggies.com help me?](#)
- [How do I find a full-time job?](#)
- [Self-assessments](#)
- [Special Interests](#)
- [Online Resources](#)

# INTERNATIONAL STUDENT SERVICES

## Directory

International Student Services (979) 845-1824

1st Floor, Bizzell Hall East, 1226 TAMU, College Station, TX 77843-1226,

Fax: (979) 862-4633

<http://international.tamu.edu/ISS/default.asp>

Bill Taylor – Director

## Overview of International Student Services

The Texas A&M University student population is a diverse group numbering more than 48,000 individuals. Nowhere is this diversity more evident than among the international student population. Approximately 4,500 students from 129 nations attend the University. The majority are enrolled at the graduate level. International students begin their studies at Texas A&M needing guidance as they overcome language and cultural barriers and gain an understanding of the requirements under which they are pursuing their educational objectives. The [International Student Services office](#) (ISS) endeavors to provide the support necessary to facilitate their transition to student life in the United States and at Texas A&M. International students have many questions about U.S. customs and values, government and University regulations, registration procedures, campus and community facilities, medical care, banking, shopping, and amusement. ISS responds to these questions while also providing information to students and sponsors of students related to Texas A&M academic programs. ISS is the primary source for information regarding the regulations governing the visas under which students come to study.

More specialized services are provided to international students whose educational programs are sponsored by such external entities as governments, international agencies, and private corporations. These students sign contractual agreements with these agencies to fund a specific program objective. Frequently, these students are obligated to return to their home countries upon completion of this objective. The Sponsored Student Programs (SSP) office oversees the contractual elements of the student's program, providing essential sponsor related services including individualized billing, budgeting, student stipend disbursement, academic program coordination, non-academic program activities, and personal advising.

Reciprocal exchange students, who attend the University for one or two semesters as part of an exchange agreement between Texas A&M and international universities, switch places with a Texas A&M U.S. counterpart who attends classes at their foreign institution. These international students are a unique group who, in addition to services provided to all international students by ISS, receive specialized assistance with such services as on-campus housing, admission, and academic issues from the Study Abroad Programs Office (SAPO).

For international students, the office mission is to facilitate the adjustment of and provide services to international students. There are seven basic areas of service available across the three units that are provided for international students. The office that provides these services is listed after the title.

## **Purpose of International Student Services**

### *Immigration Services and Advising*

- Review a portion of the prospective student applications, evaluate financial resources, and issue Certificates of Eligibility (forms I-20 and DS-2019) to allow students to obtain visas and attend the University.
- Represent the University on immigration-related matters involving non-immigrant students and serve as the liaison between ISS and campus departments and offices, government agencies, businesses, and members of the community on these matters.
- Serve as a resource regarding federal regulations that impact international students.
- Manage information regarding the legal status of Texas A&M international students, as required by federal regulations.
- Provide education and counseling for students regarding federal regulations and assist them with procedures including, but not limited to:
  - Extensions of stay, work authorizations and reinstatements
  - Changes of status and degree level changes
  - Transfers to and from Texas A&M
  - Concurrent enrollment and full course of study waivers
  - Lost document replacements
  - Letters of invitation, certification and expense statements
  - Review and endorsement of immigration documents for travel abroad
- Research and compile reports and census information.
- Assist in developing Texas A&M standards, policies, and procedures for student immigration concerns.
- Provide referrals to immigration attorneys and to consulates and embassies.

### *Mandatory Health Insurance*

The Texas A&M System has mandated health insurance coverage for international students enrolled at any of the system institutions. In addition, federal regulations require all student with J visas, both 1 and 2, to maintain a specified level of health insurance coverage for themselves and their dependents. Failure to comply will jeopardize the student's legal status and academic program. The International Student Services office can provide information regarding these regulations.

At Texas A&M, ISS has the responsibility to monitor international students to ensure compliance with this regulation.

All international students (those students who are not U.S. Citizens or Lawful Permanent Residents) will be automatically enrolled in and charged for the least expensive of the four options available through the System Student Health Insurance Plan (SSHIP). The premium will be included on the tuition and fee bill.



The automatic enrollment in the SSHIP may be waived for international students **only** in the following two instances:

- A sponsored international student whose program is being coordinated through the Sponsored Student Programs (SSP) office and whose sponsor requires a specific type of health insurance coverage. Documentation of this requirement must be presented to the SSP office **prior** to registration for classes each semester.
- The student is enrolled in employer-provided group health insurance coverage which includes medical evacuation and repatriation coverage. This includes Texas A&M employee coverage for graduate students and full-time employees. Documentation of health insurance coverage provided by an employer other than Texas A&M University must be submitted to [healthinsurance@tamu.edu](mailto:healthinsurance@tamu.edu) **no later than** five business days prior to the first day of classes in order to be considered for a waiver.

**Note:** Medical evacuation and repatriation insurance can be purchased from Associated Insurance Plans (AIP) to supplement employer-provided health insurance. Please go to <http://www.TAMUINSURANCE.com> for more information. **Individually-purchased plans from vendors other than the TAMU System provider (Associated Insurance Plans) will not be eligible for a waiver of automatic enrollment in the SSHIP. This includes plans purchased prior to travel to the U.S.**

#### Personal Advising

- Advise students on a broad array of matters which include the following:
  - Cultural adjustment and socialization issues and readjustment to home country;
  - Academic concerns and University policies;
  - Health insurance and health care;
  - Personal and family tragedies;
  - Travel, transportation, banking, and other settling in needs;
  - Personal safety, income taxes and legal issues;
  - Provide assistance in emergencies.

#### Serve as Liaison for International Students

- Represent the interests of international students;
- Provide assistance in accessing and utilizing community and campus resources;
- Encourage leadership opportunities and training for international students;
- Provide links with government, business, University and community officials;
- Facilitate conflict resolution.

## EMERGENCY CONTACT INFORMATION (AREA CODE: 979)

	<b>On Campus Dialing</b>	<b>Off Campus Dialing</b>
<b>Police, Fire, Medical Emergency</b>	<b>9-911</b>	<b>911</b>
Dial-A-Nurse	8-8379	458-8379
Campus Directory Assistance	5-3211	845-3211
Student Health Services - Beutel	8-8316	458-8316
Maintenance Service (Non-bus hrs)	5-4311	845-4311
Telephone or Data Circuit Trouble	5-4357	845-4357
Student Counseling Service (Business Hours)	5-4427	845-4427
Counseling HelpLine (Non Business Hours and Weekends)	5-2700	845-2700
University Police Station	5-2345	845-2345

## Non Emergency Contact Information (Area Code: 979)

### Off Campus Police Services

	<b>On Campus Dialing</b>	<b>Off Campus Dialing</b>
College Station	9-764-3600	764-3600
Bryan	9-361-3888	361-3888
Brazos County Sheriff	9-361-4166	779-1717
Crime Stoppers	9-775-8477	775-8477
Department of Public Safety (State Troopers)	9-776-3101	776-3101
FBI	9-822-6916	822-6916

### Off Campus Fire Services

	<b>On Campus Dialing</b>	<b>Off Campus Dialing</b>
College Station	9-764-3700	764-3700
Bryan	9-361-3888	361-3888
Brazos County (Rural)	9-361-3888	361-3888

### Off Campus Medical Services

	<b>On Campus Dialing</b>	<b>Off Campus Dialing</b>
St. Joseph Regional Health Center	9-776-3777	776-3777
College Station Medical Center	9-764-5100	764-5100
Scott & White Clinic	9-691-3300	691-3300

### Off Campus Ambulance Services

	<b>On Campus Dialing</b>	<b>Off Campus Dialing</b>
College Station	9-764-3700	764-3700
Bryan	9-361-3888	361-3888
Texas A&M EMS	5-1525	845-1525