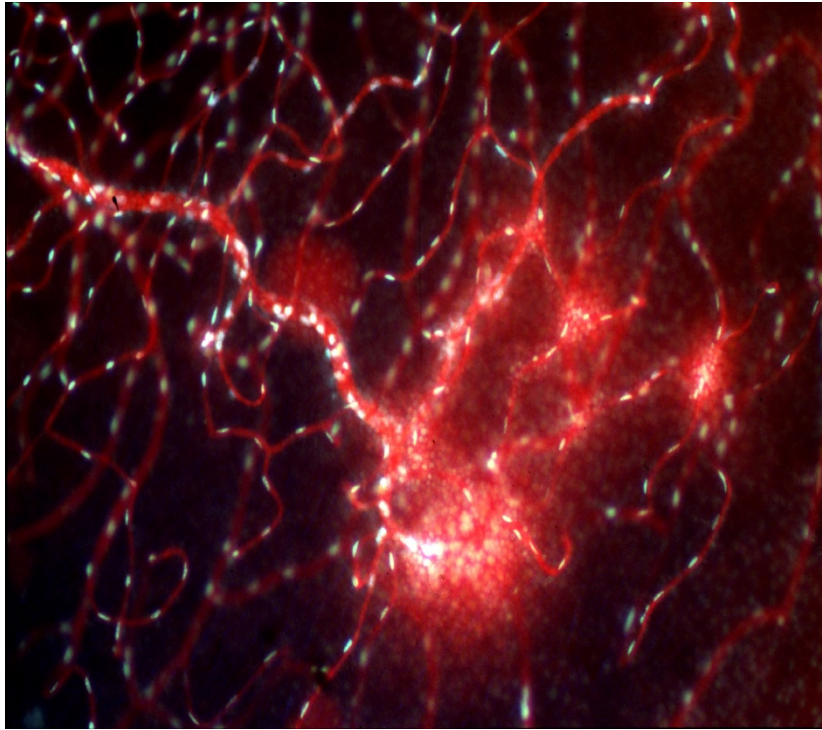


The Experimental Pathology Graduate Program



2011-2012 Student Handbook



FALL TERM 2011

July 18, 2011	Deadline for Returning Leave of Absence (LOA) students to notify GSBS office
August 01, 2011	On-Line Registration Opens for Fall
August 12, 2011	Sponsorship Authorization Forms to GSBS
August 20, 2011	New Student Welcome Orientation [Moody Gardens Convention Center 8:30am-7pm]
August 22-24, 2011	New Student Orientation and Registration at UTMB
August 26, 2011	Last Day to Register without Late Fees
August 29, 2011	First Class Day/Late Fee Assessment Begins
September 05, 2011	Labor Day Holiday – No GSBS Classes
September 06, 2011	Last Day to Add/Drop 1 st Block of 8-Week Courses
September 14, 2011	Last Day to Add/Drop Full-Term Courses
October 24, 2011	2 nd Block of 8-Week Courses Begins
October 31, 2011	Last Day to Add/Drop 2 nd Block of 8-Week Courses
November 11, 2011	Veterans Day Holiday – No GSBS Classes
November 18, 2011	Thesis/Dissertation Submission to GSBS Due for December Graduation
November 24-25, 2011	Thanksgiving Holiday – No GSBS Classes
November 30, 2011	Deadline for submission of all final paperwork to GSBS for December Graduation
December 02, 2011	Deadline for submission of all final paperwork to GSBS for Advancing to Candidacy for next term
December 16, 2011	Last Day of Class, Deadline to remove “Inc” grade for previous term, Fall Degrees Awarded
December 21, 2011	Grades Due

SPRING TERM 2012

Many academic offices will be closed during the Winter holidays (December 26-30) so plan Spring registration and clearing of holds accordingly.

November 21, 2011	Deadline for returning Leave of Absence (LOA) students to notify GSBS office
December 01, 2011	Online Registration Opens for Spring
December 19, 2011	Sponsorship Authorization Forms to GSBS
January 03, 2012	Last Day to Register without Late Fees
January 04, 2012	First Class Day/Late Fee assessment Begins
January 11, 2012	Last Day to Add/Drop 1 st Block 8-Week Courses
January 16, 2012	Martin Luther King Holiday – No GSBS Classes
January 20, 2012	Last Day to Add/Drop Full-Term Courses
February 20, 2012	Presidents Day Holiday – No GSBS Classes
March 05, 2012	2 nd Block of 8-Week Courses Begins
March 12, 2012	Last Day to Add/Drop 2 nd Block of 8-Week Courses
March 18, 2012	Thesis/Dissertation Submission to GSBS Due for May Graduation
April 01, 2012	Deadline for submission of all final paperwork to GSBS for May Graduation
April 06, 2012	Deadline for submission of all final paperwork to GSBS for Advancing to Candidacy for next term
April 20, 2012	Last Day of Class, Deadline to remove “Inc” grade for previous term, Spring Degrees Awarded
April 27, 2012	Grades Due
May 04, 2012	Commencement (4:00pm; Levin Hall – Main Aud)

SUMMER TERM 2012

March 19, 2012	Deadline for returning Leave of Absence (LOA) students to notify GSBS office
March 28, 2012	Online Registration Opens for Summer
April 13, 2012	Sponsorship Authorization Forms to GSBS
April 27, 2012	Last Day to Register Without Last Fees
April 30, 2012	First Class Day/ Late Fee Assessment Begins
May 07, 2012	Last Day to Add/Drop 1 st Block of 8-Week Courses
May 15, 2012	Last Day to Add/Drop Full-Term Courses
May 28, 2012	Memorial Day Holiday – No GSBS Classes
June 25, 2012	2 nd Block of 7-Week Courses Begins
June 29, 2012	Last Day to Add/Drop 2 nd Block of 7-Week Courses
July 04, 2012	Independence Day Holiday – No GSBS Classes
July 10, 2012	Thesis/Dissertation Submission to GSBS Due for August Graduation
July 10, 2012	Deadline for submission of all final paperwork to GSBS for August Graduation
July 27, 2012	Deadline for submission of all final paperwork to GSBS for Advancing to Candidacy for next term
August 10, 2012	Last Day of Class, Deadline to remove “Inc” grade from previous term, Summer Degrees Awarded
August 17, 2012	Grades Due

OBJECTIVE OF THIS BOOKLET

This booklet is designed to provide current information specifically related to the Experimental Pathology Graduate Program within the Graduate School of Biomedical Sciences (GSBS) at The University of Texas Medical Branch (UTMB). This handbook adheres to the rules and regulations put forth by the GSBS and the Basic Biomedical Science Curriculum (BBSC). Please use this booklet in conjunction with the information provided by the GSBS and the BBSC and the UTMB General Catalog. Below are web sites that will provide more information:

Experimental Pathology Graduate Program Web Site:

http://www.utmb.edu/pathology/educationtab/graduate_student/graduate_students_home.htm

GSBS Web Site: <http://gsbs.utmb.edu/>

UTMB Enrollment Services Web Site: <http://www.utmb.edu/enrollmentservices/>.

OBJECTIVES OF THE EXPERIMENTAL PATHOLOGY GRADUATE PROGRAM

Experimental Pathology is a biomedical discipline concerned with the nature of human disease. This discipline examines mechanisms by which molecular, structural and functional aberrations cause disease or are caused by disease. There are five specific objectives of the program:

1. Educate students in the basic biomedical sciences of cell morphology, biochemistry, molecular biology, physiology and their pathologic counterparts in disease processes. Additionally, students are trained in the study of human pathogens and their vectors.
2. Provide interactions between students and clinical scientists to facilitate student development of an appreciation for the problems, issues and technology of diagnosis, management and treatment of human disease.
3. Educate students in research methodology, data analysis and critical thinking while providing exposure to the multiple approaches to research about mechanisms of disease.
4. Provide students with the guidance, training and support needed to complete an original research project in a specialized area of experimental pathology.
5. Prepare students for the diverse careers that are available to Ph.D.'s in biomedical sciences.

ORGANIZATION OF THE EXPERIMENTAL PATHOLOGY GRADUATE PROGRAM

Program Director: Jere W. McBride, Ph.D.
1.136 Keiller Bldg, (409) 747-2498
Fax (409) 747-2455
E-mail: jemcbrid@utmb.edu

Program Coordinator: Paula Gabriles, B.S.
2.138 Keiller, (409) 772-2521
Fax: (409) 747-2437
E-Mail: plgabril@utmb.edu

Graduate Faculty Committees:
Admissions and Recruitment Committee
Student Evaluation and Advisory Committee
Curriculum and Academic Planning Committee
Awards Committee

COURSE OF STUDY FOR THE EXPERIMENTAL PATHOLOGY GRADUATE PROGRAM

The program has three components: courses, seminars, and research training. Course surveys are mandatory as stated in the GSBS Student Handbook and failure to complete the survey will result in a grade of "I". The Program Coordinator will send course surveys at the end of each term.

EXPERIMENTAL PATHOLOGY

<u>Required Courses</u>	<u>Course Director</u>	<u>Course Number</u>	<u>Term/Year</u>
Intro to Competitive Grant Writing	Yu	PATH 6279	I A
Teaching Skills & Course Devel. I	Aronson	PATH 6101	II A
Teaching Skills & Course Devel. II	Aronson	PATH 6102	III A
Basic Human Pathobiology	Hawkins	PATH 6266	III A
Basic Human Pathobiology-Tox or	Boor	PATH 6276	III A
Basic Human Pathobiology-ID	Olano	PATH 6286	III A
ExPath Trainee Work in Progress	McBride	PATH 6115	I,II,III A
Research in Pathology	McBride	PATH 6097	I,II,III A
Thesis	McBride	PATH 6098	I,II,III A
Dissertation	McBride	PATH 6099	I,II,III A

EXPERIMENTAL PATHOLOGY

<u>Elective Courses</u>	<u>Course Director</u>	<u>Course Number</u>	<u>Term/Year</u>
Introduction to Vaccinology	Milligan/Reyes/Myers	PATH 6161	I A
Workshop in Phylogenetics	Weaver	PATH 6211	I B
Principles of Biodefense	Peters	PATH 6310	I A
General Virology	Nichols/Bowick	MICR 6403	I A
Biology of Arthropod Dis Vectors	Thangamani	PATH 6112	II A
Foundations of Virology	Murphy	PATH 6140	II A
Cardiovascular Toxicology	Boor	PATH 6242	II A
Tropical Diseases	Weaver	PATH 6318	II B
Advanced Immunology	Soong/Milligan	MICR 6408	II A
Microorganisms & Infectious Dis	Adams/Dann/Travi	BBSC 6205	II A
Intro to Immune Mechanisms	Sun/Wang	BBSC 6206	II A
Mol Mech. of Host-Bact Infect	Yu	PATH 6289	III A
Advanced Cell Biology	Tang	CELL 6307	III A
Pathogenic Bacteriology	Eaves-Pyles/Endsley	MICR 6315	III A
Fundamentals of Inflammation	Hawkins	BBSC 6210	III A
Vaccine Dev. Pathway	Barrett/Milligan	BBSC 6219	III A
Frontiers of Infectious Diseases	Valbuena	PATH 6245	I,II A
Special Topics	McBride	PATX 6000	I,II,III A
Research Rotations	McBride	PATH 6012	I,II,III A
Seminar in Pathology	McBride	PATH 6195	I,II,III A

Key: I =Fall, II =Spring, III =Summer, A=Annual, B=Biennial

Students are expected to take at least six hours of electives. Electives need to include an advanced course in the student's area of specialization and can include courses offered by other graduate programs at UTMB as deemed appropriate by the student in consultation with his/her advisor and/or the Program Director.

Grades for Required Core Courses: Pathobiology of Human Diseases Parts I & II, Experimental Design and Introduction to Competitive Grant Writing, and Teaching in Pathology

1. Students must obtain a B grade or better in all required courses.
2. Accumulation of two C grades in graduate school constitutes grounds for dismissal from graduate school at UTMB. In addition, a grade of C in the core courses of this program will be deemed a deficiency which will have to be corrected. This will involve repeating all or parts of courses where a grade C or lower was obtained and require a grade B or better when the parts of the course are repeated. Decisions on which parts of courses require repeating will involve discussions of the respective course director with the Student Evaluation and Advisory Committee (SEAC).
3. A grade of F will require the entire course to be retaken and a grade of B or better obtained on repeating the course.

Academic Progress

1. Students must maintain a GPA of 3.0 or better. This includes all courses and rotations.
2. A student will be put on probation if the average GPA falls below 3.0 in any one semester. Students whose average in the subsequent semester does not achieve 3.0 or better are subject to dismissal from graduate school.

M.D. /Ph.D. Curriculum in Experimental Pathology

Experimental Pathology will require a minimum of 9 hours of classes. Coursework must include PATH 6266 entitled Basic Human Pathobiology, PATH 6276 Basic Human Pathobiology-Toxicology or PATH 6286 Basic Human Pathobiology-Infectious Disease, and an elective course appropriate for the student's area of specialization within the Experimental Pathology program. The academic record of each M.D./Ph.D. student will be evaluated by the Program Director and if deficiencies are noted, additional coursework may be required.

STUDENTS MAY BE EXEMPTED FROM EXPERIMENTAL PATHOLOGY AND BBSC REQUIRED CORE COURSES BASED ON THEIR PRIOR ACADEMIC RECORD IN GRADUATE COURSES PREVIOUSLY TAKEN. EXEMPTION FROM BBSC COURSES CAN ALSO BE DETERMINED BY EXAMINATIONS. OTHER EXEMPTIONS MAY BE MADE DEPENDING ON THE BACKGROUND OR QUALIFICATIONS OF THE STUDENT AT THE DISCRETION OF THE STUDENT EVALUATION AND ADVISORY COMMITTEE (SEAC), THE PROGRAM DIRECTOR, AND THE DIRECTOR OF THE BBSC.

List of Conferences and Seminars at UTMB

Attending seminars is a critical part of the training program. Since Pathology is uniquely positioned at the interface between basic sciences and clinical medicine, Experimental Pathology graduate students have an exceptional opportunity to interact with clinicians regarding observations and unknowns in human disease. Departmental seminars provide formats for such interactions on a regular basis.

UTMB offers numerous seminars and conferences sponsored by various departments, programs, centers and interest groups. Information about these seminars is disseminated through a variety of mechanisms including UTMB Daily Announcements, the weekly "UTMB Yellow Sheet", <http://research.utmb.edu/research/yellowsheet/ysonline.htm>, the UTMB web site, posted announcements, and in targeted emails. The number and diversity of seminar opportunities precludes a detailed listing of them. Listed below are several conferences/seminars that directly relate to many of the students in Experimental Pathology.

Experimental Pathology Trainee Work in Progress (PATH 6115) (weekly, year round) – Thursday, 12 Noon, GNL 1.100. Trainees in Pathology, including graduate students and post-doctoral fellows engaged in research, present their current findings to their peers, faculty and staff. Graduate students in their first year in the program present 30-minute talks, while more senior students and post-doctoral fellows present 60-minute talks. This seminar series serves several purposes: 1. to provide trainees the opportunity to develop their verbal presentation skills, 2. to provide a forum for trainees to receive input into their research, and 3. to help develop a cohesive identity among trainees interested in the diverse research topics within the Department of Pathology. **Graduate students are expected to attend all of these seminars; not attending will affect your grade.** Written evaluations are prepared by faculty and students. The results of these evaluations are summarized and provided to the speaker and the speaker's mentor.

Interdepartmental Infectious Disease Work in Progress (weekly, year round) – Tuesday, 8:30 a.m., Marvin Graves Bldg., Room 4.208. Laboratories engaged in infectious disease research at UTMB present their current research in this relatively informal seminar setting designed to provide an interactive exchange of ideas. This series encourages the dissemination of research interest information encouraging the development of collaborative research efforts.

Immunology Research in Progress (once per month, year round) – Wednesday, 12 Noon, Levin Hall 3.320. Laboratories engaged in immunology and infectious diseases research at UTMB present their current research in this relatively informal seminar setting designed to provide an interactive exchange of ideas. This series encourages the dissemination of research interests and reagents and the development of collaborative research efforts.

Immunology Journal Club (three times per month, year round) – Wednesday, 12 Noon, MRB 4.145. Faculty, postdoctoral fellows, and graduate students present recently published papers in high-impact journals. These informal discussion sections allow fellows to strengthen their presentation skills and broaden immunological concepts and research tools.

Environmental Health and Medicine Seminar -The seminar series brings outstanding toxicologists to UTMB for lectures and informal interactions with faculty and trainees. This is typically held in Levin Hall room 3.320 at noon on Mondays in the Fall and Spring semesters.

Grand Rounds (PATH 6195) – (Weekly, Fall and Spring terms) - Monday, 12 Noon, GNL 1.100. This seminar series emphasizes topics of interest to those involved in the clinical activities of the Pathology Department. Faculty and invited guests from other UTMB departments and other educational institutions present current clinical research or other relevant clinical topics of interest.

Colloquium of Frontiers of Infectious Disease and Tropical Medicine (PATH 6245) (weekly, Fall and Spring terms) - Tuesday 12:00 p.m. 2.212 BSB. Local and visiting scientists are invited to present their most recent research in the fields of infectious disease, emerging infectious diseases, biodefense and tropical medicine.

The Biodefense and Emerging Infectious Disease Journal Club provides a forum for PhD students, postdoctoral fellows, faculty, and other interested staff to meet and discuss scientific papers of interest to the field. On a rotating basis, members of the club select papers for discussion and distribute them to the group in advance of the meeting. The topics are wide ranging and have included discussion of the secondary structure of HIV, the discovery of extant viral sequences in human and mammalian DNA, and the immunology of acute vs chronic viral infections. A discussion of the paper is led by the club member who selected the paper, with emphasis on critical evaluations of the experimental approach, methods, results, and interpretation of the data. Higher level discussions of the impact of the work described in the paper, its context vis-a-vis trends in infectious disease research and funding, and how similar approaches could be taken at UTMB are also encouraged. The journal club occurs on the second and fourth Wednesdays of every month at 4pm in GNL1.100.

EXPERIMENTAL PATHOLOGY COURSE DESCRIPTIONS

REQUIRED COURSES

PATH 6097 RESEARCH IN PATHOLOGY - 1-9 cr

This course varies in credit according to the work performed. The student concentrates on a problem of his or her own choosing with faculty advisor. Prerequisite: None; Terms offered: I,II,III; Year offered: Annually; Course Coordinator: McBride

PATH 6098 THESIS – 1-9 cr

Formal research and writing leading to the preparation and completion of the thesis for the Master of Science degree under the direction of the student's supervisory committee. Grading is based on the student's level of performance as reported by the chairperson of the student's supervisory committee and is assigned as satisfactory, needs improvement, or unsatisfactory. Prerequisite: Admission to candidacy for the master's degree; Term offered: I,II,III; Year offered: Annually; Course Coordinator: McBride

PATH 6099 DISSERTATION – 1-9 cr

Formal research and writing leading to the preparation and completion of the dissertation for the Doctor of Philosophy degree under the direction of the student's supervisory committee. Grading is based on the student's level of performance as reported by the chairperson of the student's supervisory committee and is assigned as satisfactory, needs improvement, or unsatisfactory. Prerequisite: Admission to candidacy for the Ph.D. degree; Term offered: I,II,III; Year offered: Annually; Course Coordinator: McBride

PATH 6101 TEACHING SKILLS AND COURSE DEVELOPMENT I – 1 cr

Participation in Teaching Workshops: During these interactive sessions, students will learn about basic principles of course design, teaching strategies (especially small group teaching to foster active student learning and application), public speaking, and types of assessments (evaluations of student performance). In these workshop settings with their peers and the instructors, students will have an opportunity to explore their own ideas and attitudes about teachers and learners, discuss learning style preferences, investigate evidence-based best teaching practices, practice public speaking skills, and learn about selected computer-based educational technologies. Small group teaching in Integrated Medical Curriculum: Student teachers will apply principles of small group teaching in small group sessions for first year medical students in the Integrated Medical Curriculum. Each student will co-teach 4 laboratory exercises with a faculty instructor, on topics that include histopathology and pathobiology of inflammation, immunity, clinical and basic microbiology, neoplasia, and developmental/pediatric diseases. Students will receive feedback on their teaching effectiveness from the faculty instructor with whom they are paired. Students will have an opportunity to evaluate and critique lab exercises in terms of their effectiveness in fostering Significant Learning in students. Grades will be determined based on participation in and preparation for teaching workshop sessions, oral presentation, and written assignments, and faculty evaluations of small group teaching in IMC labs. Prerequisites: PATH 6266, consent of instructor. Term offered: II, Year offered: Annually. Hours per week: 2. Course Coordinator: Aronson

PATH 6102 TEACHING SKILLS AND COURSE DEVELOPMENT II – 1 cr

Participation in Teaching Workshops: Students will receive focused, hands-on instruction in writing course objectives and multiple choice test items. Teaching a module in the Clinical Laboratory Sciences Program: Students will develop a module in a "Case-Studies" course for Clinical Laboratory Sciences Students in the School of Health Professions. Under the guidance of CLS instructors, student teachers will identify a topic or theme for consideration, develop objectives for the module, create lecture and case study material accordingly, and write MCQ style exam questions assessing CLS student acquisition/application of concepts addressed. This component will require that student teachers learn about clinical/diagnostic applications of basic science and demonstrate an ability to foster CLS student integration of laboratory data, basic science information, and clinical information. Student teachers will receive feedback about the effectiveness of their teaching from CLS students at

the end of the module. Student teaching sessions will be video-recorded and reviewed by student and faculty mentor. Grades will be determined based on attendance and participation in teaching workshops, student and faculty evaluations of teaching effectiveness, and module development in CLS course [contribution to module planning; timeliness and appropriateness of objectives, lecture material, and test questions; and performance of test items]. Prerequisites: PATH 6101. Term offered: III, Year offered: Annually. Hours per week: 2. Course Coordinators: Aronson, Freeman, Kanuth

PATH 6115 EXPERIMENTAL PATHOLOGY TRAINEE WORK IN PROGRESS - 1 cr

This course requires mandatory attendance at the weekly Experimental Pathology Trainee Seminars and voluntary attendance at a choice of weekly grand rounds, clinical conferences, Colloquium of Infectious Diseases, interdepartmental infectious disease conferences, immunology seminars, toxicology seminar series and other seminar offerings on campus that are related to the students research interest. Written evaluations for trainee conferences are required only in the second year (first year in the program) unless specific problems indicate that it should continue. This decision is at the discretion of the course director. Second year students are required to attend and provide written evaluations of 90% of the trainee conferences. The written evaluations must be turned in to the Program Coordinator within 1 week of the seminar. Evaluations submitted after 1 week will automatically be reduced by one grade and those submitted 2 weeks late will not be accepted or receive a grade of F. Class grades for students required to submit written evaluations are based on the grades received on these evaluations. Third year students are required to attend at least 80% of the conferences, and those in subsequent years, are required to attend at least 75% of conferences. **However, it is strongly recommended that graduate students attend all trainee seminar series, particularly those of their fellow students.** Grades in the third year and beyond are based on attendance. Attendance records for the trainee workshop are maintained by the Program Coordinator. Prerequisites: Consent of program director; Year offered: Annually; Hours per week: Conference 1; Terms: I,II,III; Course Coordinator: McBride

PATH 6266 BASIC HUMAN PATHOBIOLOGY – 2 cr

The objective of this core course for the Experimental Pathology Program is to present the fundamentals and general mechanisms operating in human disease. This is achieved by presenting specific clinical examples, and elucidating the pathogenic mechanisms underlying these examples. Major topics could include inflammation, tissue repair and maintenance, neural injury, degeneration and repair, and developmental pathology. Grading is based on contributions to class discussion (40%) and a final examination (60%). Grading: A, B, C, F; Term Offered: III; Year Offered: Annually; Hours per week: Lecture 1, Conference 1. Course Coordinator: Hawkins

PATH 6276 BASIC HUMAN PATHOBIOLOGY – TOXICOLOGY – 2 cr

The objective of this course is to introduce the principles of toxicology. This is achieved by presenting specific clinically-relevant examples of toxic injury and exploring the biochemical, cellular and pathogenetic mechanisms that underlie these examples. Mechanisms of toxin-induced cellular injury discussed could include injury by reactive oxygen and nitrogen species, xenobiotic adduction and metabolism, and receptor/signal disruption. Grading is based on contributions to class discussion (40%) and a final examination (60%). Grading: A, B, C, F. Term Offered: III; Year Offered: Annually; Hours per week: Lecture I, Conference I. Course Coordinator: Boor

PATH 6279 INTRODUCTION TO COMPETITIVE GRANT WRITING – 2 cr

This course will provide an introductory and interactive experience to competitive grant writing. Topics to be covered include understanding the review process, and planning, organizing, writing a successful hypothesis driven application. Students will be required to write a two year grant application, provide written critiques, and participate in a final mock study section review. Grading will be based on class participation (30%), written assignments (40%), and quality of the final application (40%). Prerequisites: Consent of Instructor, Term offered: I, Year Offered: Annually, Course Coordinator: Yu

PATH 6286 BASIC HUMAN PATHOBIOLOGY - INFECTIOUS DISEASE – 2 cr

The objective of this course is to introduce basic principles of infectious disease pathogenesis. This is achieved by introducing selected and representative pathogens and exploration of their virulence mechanisms from the biochemical, molecular and pathogenetic point of view. Presentation of clinically-relevant cases will illustrate these principles. Topics that could be included in the course are exotoxin-producing bacteria, obligate intracellular parasitism, bacteria-induced immunopathology, viral persistence and pathogenesis, diseases caused by protozoans and opportunistic infections. Grading is based on contributions to class discussion (40%) and a final examination (60%). Grading: A, B, C, F. Term Offered: III; Year Offered: Annually, Hours per week: Lecture I, Conference I. Course Coordinator: Olano

ELECTIVE COURSES

PATH 6000 SPECIAL TOPICS – 1-3 cr

Study of special topics in Experimental Pathology. Topics are selected and study programs arranged on an individual basis with staff member. Prerequisites: Consent of Instructor; Term offered: I,II,III; Year offered: Annually; Hours per week: Conference or discussion, 2; Course Coordinator: Staff

PATH 6012 RESEARCH ROTATIONS - 1-6 cr

It is the goal of research rotations to provide exposure to the breadth of research opportunities in Experimental Pathology and to ensure that students receive diverse training. Rotation policies are flexible and responsive to students background and interest. The number and types of rotations are determined by the SEAC, which will take the student's experience and interests into consideration. Three rotations in combination of BBSC and Pathology Rotations are recommended for most students. Rotations within an area of interest should be representative of the different types of research within that area and ensure that students are exposed to diversity in approaches, thought and techniques. Students can request a waiver from the required rotations in writing to the SEAC, and the request must include justification for that waiver. The SEAC can grant such waivers based upon the justification and records submitted in support of such a waiver request supplied by the student. The purpose of this course is to provide introductory laboratory experiences that will help students choose their areas of specialization and assist in the selection of a supervisory professor for their subsequent dissertation research. A student works on an individual basis with a member of the faculty for all or part of a term (8 or 16 weeks), either independently performing a short project designed by the faculty member, or jointly working on some facet of ongoing research. Prerequisites: Consent of instructor; Hours per week: Conference 1; Lab, up to 20; Year offered: Annually; Terms: I,II,III; Course Coordinator: McBride

PATH 6112 THE BIOLOGY OF ARTHROPOD DISEASE VECTORS – 1cr

The goal of this course is to introduce students to arthropods that are vectors for a wide variety of infectious agents that cause human diseases. The unique biology of hematophagous arthropods that has evolved to facilitate the coexistence between the vectors, pathogens, and the vertebrate host will be illustrated in both lectures and practical sessions. The curriculum will build upon a general introduction to arthropods. Then, using specific examples, the processes of infection, development, and transmission of pathogens will be discussed. This will include vector behaviors involved in location of the host, physiological adaptations to facilitate blood feeding and digestion, and factors that influence the vector-pathogen relationship. Options for controlling vector-borne diseases will be discussed from a historical perspective, with a consideration of how modern molecular approaches might be used in the future. Evaluations (s/u) based on final examination and laboratory practical. Final examination: Students will be evaluated based on multiple-choice questionnaires, short essays and the demonstration of practical knowledge. Prerequisites: consent of instructor
Year offered: Annually, Terms offered: II, Hours per week: 3, Course Coordinator: Thangamani
Required reading: The Biology of Disease Vectors (Marquardt, W.C., Kondratieff, B., Moore, C.G., Freier, J., Hagedorn, H.H., Black, W. III., James, A.A., Hemingway, J. & Higgs, S. editors). Elsevier Academic Press. 2004.

PATH 6140 FOUNDATIONS OF VIROLOGY– 1 cr

Discoveries and discoverers, inventors and inventions, developers and technologies -- the historic bases for the state of virology research today and the larger context in which laboratory, field, and

public health virology contribute to the prevention and control of viral diseases. I will use the tabular material and the 800 slide Powerpoint slide sets <http://www.utmb.edu/ihii/virusimages/index.shtml> to provide an overview of the history of medical virology, emphasizing as stated, “the discoverers and discoveries, the inventors and inventions, the developers and their technologies.” In producing these materials I have accumulated quite a bit of information, enough to provide in lecture / discussion format a sense of the context of the discoveries, and in key instances lots of detail that everyone is sure to find exciting. 16 lectures will each cover an “era,” starting with key events forming the base for the rise of microbiology in the 19th century, continuing with the discovery of the first viruses and the rise of the science in France, Germany and the United States in the early years of the 20th century, continuing with the discovery of most of the important human pathogens throughout the 20th century (and continuing today), and setting the stage for the molecular virology revolution that also continues. Grading: S/U. Pass/fail will be determined by attendance and participation in class discussions. Course Coordinator: Murphy

PATH 6161 INTRODUCTION TO VACCINOLOGY – 1 cr

Vaccines for the 21st Century is a five-week introductory course designed to provide the basic scientist with an understanding of vaccine development from conceptualization through development, testing and utilization. The course Objectives are to learn:

1. The history of the development of vaccines and their impact on society.
2. The identification of pathogens & diseases for which vaccines are needed.
3. The principles of the development, availability and use of vaccines.
4. The pathophysiologic approach to developing vaccine strategies.
5. The application of traditional and new technologies to vaccine development.
6. The importance of the regulatory process to vaccine development, including “proof of principle”, preclinical and clinical testing.

The course will be taught in lecture format with a small number of expert lecturers. There will be assigned reading in preparation for each session. Reading materials will be provided. Each session will be 1 hour (total 15 contact hours). Course performance will be determined by take home midterm & final examinations (50% each). Prerequisite: Consent of Instructor; Term offered: I; Year offered: Annually; Course Coordinators: Milligan/Reyes/Myers

PATH 6195 – SEMINAR IN PATHOLOGY – 1 cr

This course requires attendance at, and participation in, weekly Pathology Grand Rounds, where the staff and guests from other departments and other educational institutions present current research or relevant topics of interest. Prerequisites: None; Terms offered: I,II,III: Hours per week: Seminar 1; Grades S/U; Year offered: Annually; Course Coordinator: McBride

PATH 6211 WORKSHOP IN PHYLOGENETICS – 2 cr

Phylogenetic methods are becoming increasingly popular for studies of microbial systematics, molecular epidemiology and evolution, pathogen emergence, predicting host and vector relationships, inferring biochemical and drug sensitivity similarities, etc. Although user-friendly algorithms are now widely available, proper analyses require a theoretical understanding of the assumptions underlying the algorithms used, and the statistical methods for determining the stability of phylogenetic trees generated. This course is designed to provide students with a basic practical and theoretical knowledge of phylogenetic methods for analyzing nucleotide and amino acid sequences. Upon completion of the course, the student will be able to make sound decisions on the best methods for analyzing their own sequences, run a variety of algorithms on a UNIX workstation and Macintosh personal computer, and interpret results to reach valid, statistically-supported conclusions. The course will meet for one session of two hours each week. The first hour will be devoted to theoretical discussions of methods, and demonstrations using a laptop computer and projection system. The second hour will be a computer laboratory session where students will be given hands-on training with phylogenetic algorithms. Grading will be Satisfactory/Unsatisfactory and based on a class project involving phylogenetic analysis of the students’ sequences (either their own sequences from a research project or GenBank sequences of interest) as well as completion of a mock research paper suitable for submission to a journal. The results of class projects will also be presented to the class in typical scientific meeting format. Requirements for a passing grade include both publication

quality data and writing, and a presentation of quality suitable for a national meeting. The final grade will be based 75% on the written class project (mock research paper) and 25% on the oral class presentation. Prerequisites: Consent of Instructor; Terms Offered: I, Hours per week: 2; Year Offered: Annually; Course Coordinator: Weaver

PATH 6242 CARDIOVASCULAR TOXICOLOGY – 2 cr

This course addresses the present state of knowledge concerning injury by exogenous chemicals to the heart and blood vessels. Examples of cardiac toxins will include those classified as (1) arrhythmogenic, (2) necrotizing and (3) contractile. Modes of toxin action and secondary phenomena are also discussed. With regard to the vascular system and myocardium, an initial review of the structural components of blood vessels will be made prior to addressing examples of toxins that induce (1) endothelial injury and (2) medial injury. A small-group teaching approach is used, including paper review and literature review, with assigned presentations by individual students. The basis for grading is discussion in class (30%) and written and oral presentations of assigned specific topics (70%). Pre-requisites: None; Terms offered: II; Year offered: Odd Years; Course Coordinator: Boor

PATH 6245 COLLOQUIUM OF FRONTIERS OF INFECTIOUS DISEASE& TROPICAL MEDICINE - 2 cr

The purpose of this weekly seminar course is to present to students the frontiers of infectious diseases and tropical medicine. Local and visiting scientists are invited to present their most recent research in the fields of infectious disease and tropical medicine. All students will be required to attend every colloquium. Students will meet with the visiting speakers after the colloquium to discuss the presentation and address relevant questions to the speaker. Grades (S/U) will be determined by evaluation of the individual student's participation in discussions with the speakers. Terms offered: I,II; Year Offered: Annually; Course Coordinator: Valbuena

PATH 6289 MOLECULAR MECHANISMS OF HOST-BACTERIAL INTERACTIONS – 2 cr

This advanced course provides an in-depth examination of the molecular mechanisms of host-bacterial interactions to understand the bacterial strategies for evading or surviving the host defense systems. All topics are conceptual overviews of the principal mechanisms of bacterial pathogenesis. Topics include molecular mechanisms of bacterial adherence to host cells and bacterial signaling host cells through adhesion molecules, bacterial subversion of endocytic pathways, bacterial manipulation of the host cell cytoskeleton, bacterial secretion systems, immune evasion mechanisms and persistent infection, and bacterial genomes and reductive evolution. Emphasis is given to diseases with prototypic pathogenic mechanisms. Instruction involves lectures, class discussions and readings in contemporary or classic literature. Grading is either pass or failure. It is based on attendance (20%), class discussions and participation (30%), and one final examination (50%). The format of final exam will be for students to choose 5-6 out of 10-12 questions. Grading: A, B, C, F. Term Offered: III; Year Offered: Annually; Hours per week: Lecture 4, Conference 1; Course Coordinator: Yu

PATH 6310 PRINCIPLES OF BIODEFENSE – 3 cr

This course provides an introduction to the principles underlying defense against bioterrorism, It also provides a basic description of the major biothreats, including microbiology, medical protection, epidemiology, and pathogenesis. Term Offered: I; Year Offered: Annually; Hours per week: Lecture 1, Conference 2; Course Coordinator: Peters

PATH 6318 TROPICAL DISEASES – 3 cr

This course is designed to provide graduate students with an overview of tropical diseases and related current research. The course is not designed to be comprehensive, but will sample representatives of major infectious tropical diseases. Emphasis is placed on the ecology, epidemiology and control of tropical diseases. The class meets two (2) times a week for 90 minutes; each session includes a 45 minute lecture by a faculty member, followed by the presentation of a pertinent paper and discussion questions. Students are expected to submit their selected reference and at least 5 discussion questions to the lecturer one week in advance. Prerequisites: Consent of instructor; Hours per week: Lecture 3; Year offered: Annually; Term offered: II; Course Coordinator: Weaver

CELL 6307 ADVANCED CELL BIOLOGY – 3 cr

The objective of this course is to instruct students in advanced concepts and techniques in cell biology. The development of critical thinking skills will be emphasized. Students will be graded on two exams, a midterm (25%) and a comprehensive final examination (25%). The remaining 50% of the score will be based upon presentation of relevant research papers by the students. The final exam will cover both the first (20%) and second (80%) halves. Examinations will use short-answer format. Instructors are requested to generate two short-answer problems for each week. Each week will begin with an introductory lecture by the instructor on Monday. The class on Wednesday will be devoted to techniques in the relevant discipline, and this may be formal classroom discussion or a direct demonstration in a research laboratory. According to the feedback from the last class, students are very engaged by in-lab method classes. Instructors are strongly encouraged to use this format when possible. The class on Friday will be presentation by a student of a relevant paper in the discipline being discussed that week. Each class will be one hour. Year offered: Annually; Term offered: III; Course Coordinator: Tang

MICRO 6315 PATHOGENIC BACTERIOLOGY – 3 cr

The objective of this course is to introduce students to concepts of research on bacterial pathogens. Pathogens infecting man will be studied, with emphasis given to their pathogenic mechanisms, induction of immunity, and physiochemical characteristics. The course will consist of lectures and discussions. Grading based on written examinations. Prerequisites: BBSC First Year Curriculum; Term offered: III; Year offered: Annually; Hours per week: Lecture 2; Conference or discussion 1; Course Coordinators: Eaves-Pyles, Endsley

MICRO 6403 GENERAL VIROLOGY – 4 cr

Principles and concepts of animal virology will be presented, but the majority of the course will be devoted to the study of viruses of medical importance. Emphasis will be placed upon the chemical and physical characteristics of viruses, viral interaction with the immune system, pathogenesis of viral infections, and the mechanisms of replication of viruses. The course consists of lectures and discussion periods. Grades will be based on performance on written examinations. Prerequisites: BBSC First Year Curriculum; Term offered: I; Year offered: Annually; Hours per week: Lecture 3; Conference 1; Course Coordinators: Nichols/Bowick

MICRO 6408 ADVANCED IMMUNOLOGY – 4 cr

An in-depth study of the immune response and related events with emphasis on the mechanism of cellular and humoral immunity. Some of the topics to be covered include antibody structure and function, antigen-antibody reactions, cells involved in the immune response, antibody formation, cellular immunity, mediators, tolerance, and immunogenetics. Material will be presented in lectures and assigned readings of texts, reviews, and research articles. Grading will be based on written examinations and class participation. Prerequisites: BBSC First Year Curriculum; Term offered: I; Year offered: Annually; Hours per week: Lecture 3; Conference or discussion 1; Course Coordinators: Soong/Milligan

BBSC 6205 MICROORGANISMS & INF. DIS. – 2 cr

This eight-week course will explore the importance of microorganisms as both living systems and disease causing agents. Topics will include discussion of selected, bacterial, parasitic, and viral infections, and mechanisms of disease pathogenesis, immunology, and host responses to the infection. It will explore the concepts of endosymbiosis (living entities needing each other) and how the new bioinformatics tools will help us to understand the genomes of disease-causing agents. It will also reveal the dynamics of populations, including spread and distribution of microorganisms, transmission, persistence, natural life cycles and host ranges. Additionally, host-pathogen interactions will be explored including mechanisms used by infectious organisms to gain entry, replicate and disseminate in the host, mechanisms of tissue injury and disease caused by intracellular pathogens, establishment of latent/persistent infections by non-cytopathic viruses and protozoan parasites, and acute inflammation and septic shock associated with bacterial infections. Material will be presented by lecture and group discussion. Grades will be based on performance on two examinations, class attendance, and participation in class discussions. Prerequisites: BBSC 6206, BBSC 6401, BBSC 6402 or consent of instructor Term offered: II Year offered: Annually Hours per week: Lecture 1.5, Conference/Discussion 1.5; Course Coordinators: Adams/Dann/Travi

BBSC 6206 INTRO TO IMMUNE MECHANISMS – 2 cr

This eight-week course will introduce the principles of basic immunology. Course content includes 1) development and function of cellular components (e.g., T and B lymphocytes, dendritic cells, macrophages) of the immune system, 2) innate and adaptive (humoral and cell-mediated) immune responses, 3) structure and function of important membrane (e.g., antigen receptors, cytokine receptors, major histocompatibility molecules), and soluble (e.g., cytokines, chemokines) molecules, 4) mechanism of induction of immune responses (i.e., antibody production, cytotoxic and helper functions) to infectious agents, as well as defective responses (immunodeficiency) and dysregulated responses (autoimmunity). Classes will be in the form of lectures, discussion of primary literature, and brief learning exercises. Grades will be based on participation and preparedness for discussions of primary literature, preparedness for team-based learning exercises, and two examinations. Prerequisites: BBSC 6401, BBSC 6402 or consent of Instructor; Term offered: II; Year offered: Annually; Hours per week: Lecture 2, Conference/Discussion 1; Course Coordinators: Sun/Wang

BBSC 6210 FUNDAMENTALS OF INFLAMMATION – 2 cr

This seven-week course deals with fundamental concepts pertaining to inflammation. Inflammation plays a necessary role in wound healing and tissue surveillance, but can also lead to chronic wounds and pathologic states such as inflammatory bowel disease. By moving fluids and white blood cells from the blood into extravascular tissues the host can eliminate abnormal cells, foreign particles, microorganisms, etc. and initiate repair processes. Topics include inflammatory cells, the role that pathogens (bacterial, viral and parasitic) play in inflammation, the mediators (lipids, cytokines, peptides, and other molecules) and cellular events involved in cell recruitment and movement through the vessel wall into tissue spaces. Common inflammatory processes and wound healing will be discussed. Grades will be determined by performance in the discussion of current literature and on one take-home short-essay exam. Prerequisites: BBSC 6401, BBSC 6402, BBSC 6403 or consent of instructor; Term offered: III; Year offered: Annually; Hours per week: Lecture 3; Conference/Discussion 1; Course Coordinators: Hawkins/Midori-Horiuti/Reyes

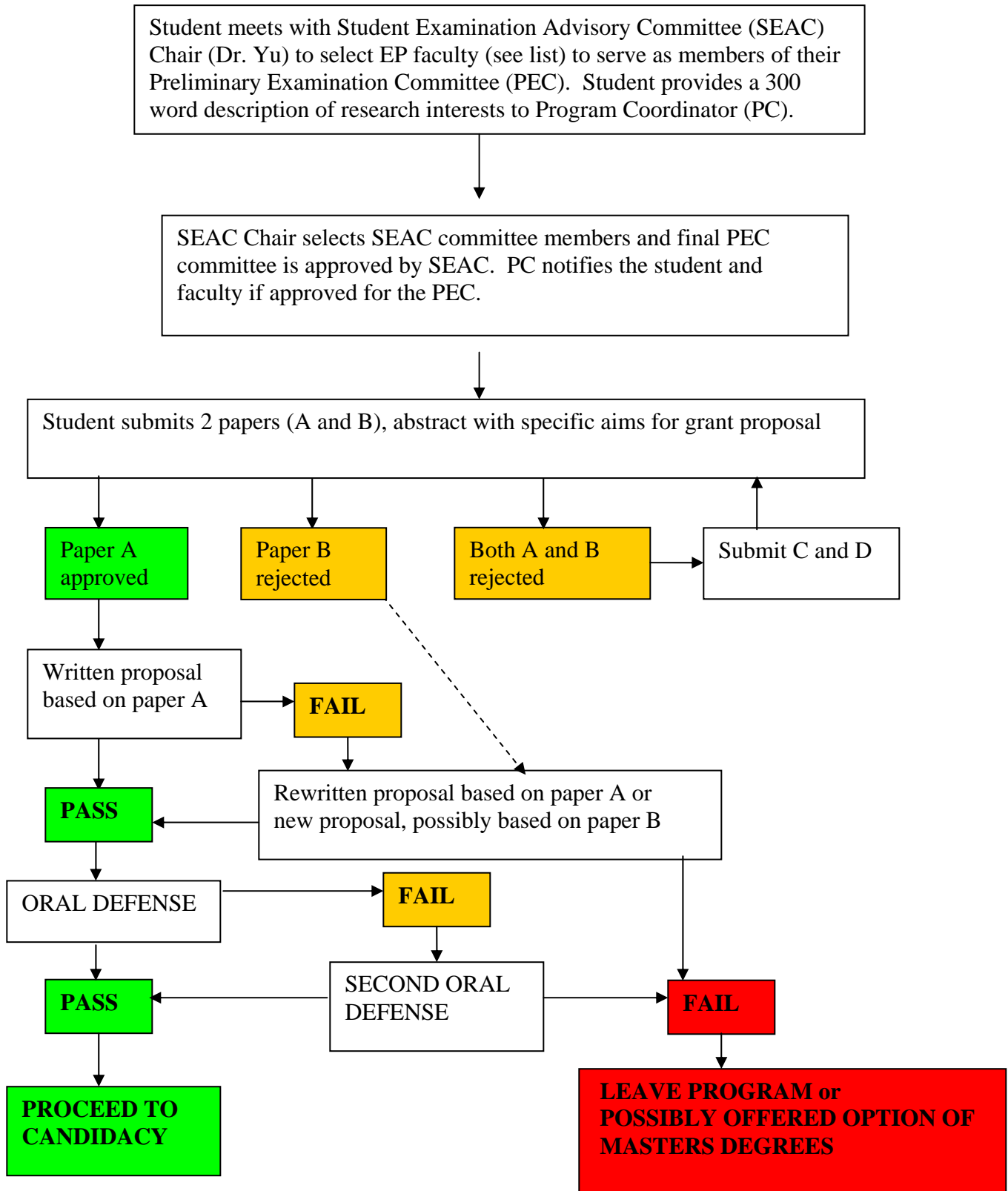
BBSC 6219 VACCINE DEVELOPMENT PATHWAY – 2 cr

This eight-week introductory course will be taught in lecture format with a small number of expert lecturers. The course is designed to provide the basic scientist with an understanding of vaccine development from conceptualization through development, testing, and utilization. This multidisciplinary course was designed to introduce students to all of the aspects of vaccine development and utilization to include aspects of vaccines for infectious diseases and chronic non-infectious diseases (e.g., cancer, neurodegenerative diseases, and addiction). Grades will be based on performance of two examinations and class attendance. Prerequisites: BBSC 6401, BBSC 6402, BBSC 6403, or consent of instructor; Term offered: III; Year offered: Annually; Hours per week: Lecture 2, Conference/Discussion 2; Course Coordinators: Barrett/Milligan

POLICY REGARDING LABORATORY ROTATIONS

In an effort to track the progress and performance of our students throughout their tenure at UTMB, we request that a specific research plan be outlined by the students and the faculty members in whose laboratory they would like to rotate. This plan for the rotation should be agreed upon and outlined on the form provided and submitted at the Pathology Education Office by the second week of the rotation period. At the completion of the rotation, the student will be asked to provide a report as to the results of their rotation. The faculty will be asked to provide a written evaluation of the student within two weeks after the end of the rotation period. These reports and evaluations will become part of the student's permanent file, enabling us to better evaluate and grade our students for each rotation period. It is essential that we generate complete and detailed records of student performance in all phases of the program. Your assistance in these efforts would be greatly appreciated.

FLOWCHART SHOWING PRELIMINARY EXAMINATION PROCESS



Experimental Pathology Program Preliminary (Qualifying) Exam Format 2011-2012

General Information

The graduate student preliminary (qualifying) examination (often referred to as “Prelim’s” or “Qualifiers”) must be successfully completed in order to pursue your graduate research and to advance to candidacy. The purpose of this examination is to test your understanding of the BBSC course work, program-specific course work, general science and critical thinking, the basis of research methods and, to evaluate your aptitude for research. The examination will ordinarily be completed by the end of the second year of study and is a prerequisite for admission to candidacy to the Ph.D. program. Students who fail the examination cannot enter candidacy and are therefore subject to dismissal from graduate school.

Upon approval of your research laboratory, you will select members of your Preliminary Examination Committee (PEC) as described below.

Preliminary Examination Committee Selection

The Preliminary Examination Committee (PEC) will consist of the following Program Faculty (PF): **Pathology research (2), Pathology clinical/education (1), external (UTMB) research (1), and a Student Evaluation and Advisory Committee (SEAC) member (1)**. All committee members **must** be Program faculty members of the Experimental Pathology Graduate Program. Refer to the PF list for faculty available to serve as PEC members. Students will randomly select (by drawing) four committee members from research (2) and research-external (1) (both are discipline specific) and clinical/education (1). The SEAC member will be assigned to a PEC committee by the SEAC chair.

** A faculty member may serve on only **ONE** preliminary examination committee/year unless approved by the SEAC Chair.

Research Description

Students are required to submit a brief (approximately 300 words) description of your actual research project to the Program Coordinator (PC-Paula Gabriles). This will be reviewed by the SEAC to ensure that your preliminary examination does not directly overlap your research project.

The Structure of the Preliminary Examination

The examination begins in the first week of the Spring semester of year 2 and consists of a written grant proposal that you must orally present and defend to your PEC. The examination is administered by your PEC, which is specific for each doctoral student. The Preliminary Examination (written and oral components) generally should be completed in approximately four months. Each part of the examination (written proposal and oral defense) is graded as pass/fail. The student has a maximum of two chances to pass each part of the exam. The time of administration can be changed at the discretion of the SEAC Chair (Dr. Yu) in conjunction with the Program Director (McBride). A schedule detailing when specific tasks must be done (i.e. deadlines) and by whom, will be supplied to each student by the PC.

Help and Feedback

The student **will not** receive any help from fellow students or faculty in the preparation of the Preliminary Examination grant proposal or its defense. You will not receive specific feedback from your PEC prior to your oral defense. In the event of a failing grade, the PEC chair will provide a summary of the committees’ concerns to aid in rewriting the proposal and/or second oral defense.

VIOLATIONS OF THESE TERMS CONSTITUTE ACADEMIC DISHONESTY AND STUDENTS WILL RECEIVE A FAILURE FOR THIS PART OF THE EXAM AND BE SUBJECT TO DISCIPLINARY ACTION AS PER UTMB & GSBS GUIDELINES

Statement of Examination Expectations

Students in Experimental Pathology are expected to demonstrate reasonable competence in subject areas related to the written proposal and BBSC/Program curriculum, and can expect to be probed by the PEC faculty to determine the depth of their scientific knowledge and acumen. Students are expected to demonstrate the ability to defend the hypothesis put forth after careful review and consideration of the scientific literature from which the hypothesis is derived. The student should be prepared to provide a logical rationale for the approach and demonstrate a technical and scientific understanding of all proposed experiments and have considered potential problems and alternative approaches.

The **Experimental Pathology Graduate Program Faculty** members of the student's PEC should fully explore the limits of a student's understanding of general scientific subject areas related to the written proposal and that obtained through the BBSC/Program curriculum in order to provide a challenging and constructive examination experience. Faculty must ensure that the student competently defends the proposed hypothesis, and has fully considered the scientific literature from which the hypothesis is derived. Faculty are responsible for probing the students knowledge related to approach including organization, technical and scientific understanding, and consideration of potential pitfalls and alternative approaches.

Article Selection

The article selected for the written proposal must be recent (within the last three years) and cannot be authored by UTMB investigators (first or last author) and must be published in a journal with an impact factor of 4 or higher. The article can be relevant to the student's general area of interest, but cannot directly overlap current projects in the mentor's laboratory. Student will provide PDF copies of articles and specific aims to the PC for SEAC Chair approval and PEC review.

The PEC has the option to reject either or both papers and/or the associated specific aims for the proposed grant. The committee has the option to provide some feedback and guidance to assist the student in this process. The student will then be required to submit alternative papers and/or specific aims sections within 2 weeks. Once the specific short proposal is selected, the student will write a full research grant based on it within 3 weeks of approval (see calendar), and later defend it orally.

Written Proposal Format

Written proposals will consist of no more than 7 pages (one specific aims page; maximum of two specific aims) and contain a Research Strategy section consistent with the current NIH R21 format. Abstract and Literature Cited are not included in this page limit. If you exceed the 7-page limit, the PEC will not evaluate it, and a fail grade will be issued. Students will have approximately five weeks to prepare and submit their written grant proposal to the Experimental Pathology PC. The PEC will be asked to evaluate and vote on the proposal (pass/fail; note: there is no marginal pass). **All preliminary proposals will be screened for evidence of plagiarism. If plagiarism is detected, the student will fail the written examination and must appeal to the SEAC for consideration of reexamination.** All PEC members evaluate the proposal for **(a)** scientific soundness, **(b)** whether the proposed hypothesis can be tested by the proposed aims, **(c)** the logic and originality of the experimental approach and methodological plan. The committee can opt to reject the written grant proposal as inadequate prior to the defense. A single PEC dissenting vote is allowed (i.e., 4 pass/1 fail). The Committee Chair will communicate the results to the SEAC Chair and PC. The SEAC Chair (through the PC) will notify

students of the committee decision (pass/fail) by email. Students receiving a passing grade will contact their PEC to arrange a meeting to defend their proposal (see below).

In the event of a failing grade, the student will have **one** additional opportunity to rewrite the proposal within one month. Should the second version of the proposal not be found acceptable, then the student will have failed the preliminary examination process. Students that do not successfully complete this part of the preliminary examination cannot enter candidacy and are therefore subject to dismissal from graduate school.

The SEAC member is responsible for helping maintain consistency of Program standards for the written and oral examinations. If a student fails the written or oral examination on the first attempt, the SEAC Chair will also provide guidance on the Program standards for the rewrite or second oral examination.

NIH Format Specifications

Font and type: Use *Arial and a font size of 11 points*. Type density, including characters and spaces, must be no more than 15 characters per inch. Type may be no more than six lines per inch.

Page Margins: Use standard size (8 ½" x 11") sheets of paper. Use one-half inch margins (top, bottom, left, and right) for all pages.

Preparing Your Proposal

Abstract (1/2 page): State the applications long-term objectives and specific aims, making reference to the health relatedness of the project. Describe concisely the research design and methods for achieving these goals. In two or three sentences describe in plain, lay language the relevance of the research to public health.

Specific Aims (1 page): Define the medical importance of your work, provide a long-term objective/goal of your research, and provide two specific knowns that provide a basis for your hypothesis. Define the gap in knowledge that you are attempting to address, and explain why this gap prevents progress. Next, provide a statement outlining the specific objective for this proposal, followed by a strong, focused and specific (not vague) central hypothesis. Finally, provide a rationale for your hypothesis (i.e. what will become possible).

Significance and Innovation (1 page): This section is extremely important. Explain how project addresses an important problem or barrier to progress in the field. What is the positive impact that your research will have? How will the research change concepts, methods, etc. that drive the field?

Are the concepts, approaches and methodologies broadly novel? Does the application challenge and seek to shift current research paradigms?

Research Strategy (5 pages)

- a) Background: only provide background directly relevant to each specific aim
- b) Feasibility studies: Since you will not have your own data, data from the published papers etc may be briefly described in order to indicate why, for example, you are using a particular approach/technique.
- c) Approach: provide your approach and experiments you plan to conduct to complete the specific aim. Provide rationale for use of specific techniques, plans for interpreting anticipated results, identify limitation and alternatives available. Remember to include controls (negative and positive if appropriate) and the appropriate statistical analyses that are required.

Literature Cited (no page limit) Where possible, you should read original papers and keep citations of review articles to a minimum. Remember that if you cite a paper it is assumed that you have actually read it!!

Hint: You should understand every word, experimental approach, technique that is part of your proposal. Have a rationale for everything you propose. Provide an analysis of the limitations and potential pitfalls of each and every approach. Provide alternative approaches whenever possible.

Students should make common sense, realistic assumptions regarding the budget, facilities and equipment needed for your proposed research. Budgets, biographical sketches, detailed resource descriptions are not required. Approvals from institutional committees (IBC, IACUC etc) can be assumed as already given.

Specific Aims Example:

Paper: Garcia, S. *et al.* (2005) Nairovirus RNA sequences expressed by a Semliki Forest virus replicon induce RNA interference in tick cells. *Journal of Virology*. **79(14)**, 8942-8947.

Introduction: Crimean-Congo hemorrhagic fever virus (CCHFV) and Nairobi sheep disease virus (NSDV) are highly pathogenic tick-borne viruses of the family *Bunyaviridae*, genus *Nairovirus*, sporadic outbreaks of which result in severe hemorrhagic disease of humans and sheep/goats with reported mortality rates as high as 80% and 90% respectively (Whitehouse 2004 & www.merckvetmanual.com). Recent observations by Garcia *et al.*, (2005) have incriminated RNA interference (RNAi) as a potential antiviral mechanism to Hazara virus (HAZV) (family *Bunyaviridae*, genus *Nairovirus*, CCHFV serogroup) replication following prophylactic or therapeutic stimulation in *Ixodes scapularis* (ISE6) cells. Concurrently RNAi-mediated gene silencing of tick midgut and salivary gland transcripts has been demonstrated following inoculation of sequence specific double stranded (ds) RNA via injection or capillary feeding (Karim *et al.*, 2005 & Soares *et al.*, 2005). **However, the implications of an activated sequence specific RNAi response on nairovirus replication in the arthropod vector and vertebrate host remain unknown. This gap in the knowledge is an obstacle to understanding conserved anti-nairovirus replication mechanism in the arthropod vector and vertebrate host and as such impedes the development of antiviral strategies toward the abatement of infection and transmission of medically important bunyaviruses.**

The **long-term goal** of this research is to investigate tick-bunyavirus-vertebrate interactions in attempt to develop novel antiviral strategies. The **objective of this proposal** is to examine the effects of prophylactic stimulation of the host RNAi pathway on replication, dissemination, and transmission capability in an arthropod vector as well as on replication in vertebrate cells. **CENTRAL HYPOTHESIS: Stimulation of the conserved antiviral RNA interference response to Nairovirus infection inhibits virus replication in arthropod vectors and vertebrate cells.** The results of the proposed research will provide new insights into arbovirus-host interactions as it relates to the replication, dissemination, and transmission of tick-borne viruses. Vector-borne diseases are emerging/reemerging at an alarming rate and the lack of vaccines, antiviral drugs, and effective vector control necessitates the development of novel anti-arbovirus strategies. An in-depth understanding of the natural molecular responses of the host cell/organism (arthropod and/or vertebrate) to tick-borne viruses will facilitate the development of highly targeted molecular therapeutics and control strategies with the potential to interrupt multiple components of transmission via activation of conserved antiviral molecular machinery.

Specific aim 1: To investigate the effect of stimulation of the midgut RNA interference response on Hazara virus replication, dissemination, and transmission in *Ixodes scapularis* ticks. Hypothesis: Expression/transfection of Hazara virus RNA sequences in *Ixodes scapularis* ticks results in decreased vector competence, i.e. intra-vector replication, dissemination, and transmission capability. Rationale: Silencing of host transcripts via an RNAi mechanism following inoculation of sequence specific dsRNAs has been demonstrated in *Amblyomma americanum* tick midguts and

salivary glands (Karim *et al.*, 2005). Furthermore arbovirus resistance in mosquitoes via RNAi, stimulated using double subgenomic Sindbis viruses (SINV) expressing flavivirus specific RNAs, has been successfully demonstrated to result in decreased and/or loss of transmission capability for yellow fever and dengue (Higgs *et al.*, 1998 & Olson *et al.*, 1996).

Specific aim 2: To determine the effect of stimulation of the mammalian RNA interference pathway on Hazara virus replication in vertebrate (BHK-21) cells. *Hypothesis: Prophylactic stimulation of the RNAi pathway in BHK-21 cells results in significantly decreased Hazara virus replication.* **Rationale:** Significant decreases in picornavirus replication, foot-and-mouth disease virus (FMDV), has been demonstrated to occur in BHK-21 cells subsequent to treatment with sequence specific small interfering (si) RNAs via an RNA interference mechanism (Kahana *et al.*, 2004 & Caplen *et al.*, 2002) similar to the observations of Garcia *et al.*, (2005) following RNAi stimulation against Hazara virus replication in ISE6 cells.

Expected Results and Importance: This research is the first *in vivo* investigation of the effects of a virus specific RNAi response on replication, dissemination, and transmission of a tick-borne virus. In addition it will add to a growing body of literature supporting the idea that arbovirus control can be achieved through developing arbovirus resistance in the vector via molecular manipulation of the RNAi pathway resulting in the silencing of virus replication thereby severing transmission cycles. In Specific Aim 1 we expect to observe significantly decreased HAZV replication in the midgut subsequent to expression/ transfection of S segment sequence RNA resulting in decreased dissemination to secondary tissues including the salivary glands thereby compromising transmission capability. This finding is important because molecular induced decreases in vector competence may represent a strategy whereby natural antiviral machinery can be exploited toward the control of medically important tick-borne viruses. In Specific Aim 2 we expect to observe significantly decreased HAZV replication in BHK-21 cells following transfection of S segment sequence siRNAs. This finding is important because it will indicate that conserved sequence specific targets can be utilized to stimulate the anti-nairovirus RNAi response in arthropods and vertebrates. Tick-borne pathogens are responsible for significant human morbidity and mortality as well as significant economic agricultural expense; we believe that characterization of the effects of RNAi responses to virus replication may facilitate development of molecular antiviral strategies capable of interrupting replication in the vector and vertebrate hosts.

Suggestions for preparing your written proposal

We strongly recommend the following book for assistance in preparing your grant proposal: <http://www.grantcentral.com/workbooks.html>. This workbook is a very practical, step by step guide to the philosophy and proven techniques for the writing of successful grant proposals. You can order it online and use it to assist you in the preparation of your preliminary examination grant proposal. The guy who wrote it is really good; take his lessons to heart! Read it and use it!

Oral Defense

Preparation

In addition to reading the primary literature related to the proposal, students must read at least two relevant reviews/book chapters and identify three articles cited in the written proposal of particular interest and write a brief sentence explaining why the reference is considered to be of interest/importance. References (PDF) and annotations must be provided to the PC.

Oral Examination Format

The oral examination will be conducted in a similar manner for all students. The oral presentation will consist of no more than 35 slides and should represent the following sections of the proposal:

Specific Aims, Significance and Innovation, Research Strategy (background, feasibility studies, approach), and Key References. The presentation must be submitted to the PC two days prior to examination for PEC preview. Changes are allowed prior to the examination. The oral examination will last no more than 3 hours.

The student defends the proposal during an oral and PowerPoint presentation to the PEC. Remember that the presentation is based directly on your written proposal, so stay focused and do not introduce new specific aims, etc., that the committee has not evaluated. Students are responsible for contacting all members of their committee and coordinating the time and location of their examination (typically in Mary Moody Northern Pavilion, 5.224 conference room reserved through PC) within the time period specified by the SEAC, and are encouraged to do as soon as it is possible. Meetings, vacations, and external commitments by faculty can make this scheduling difficult (it has been described as “nightmarish”!!), so be proactive and do not leave it to the last minute. The PEC chair will confirm the time and date for the oral presentation. The total presentation/examination should last no more than three hours. The format is variable and should be discussed with the PEC chairman. It can, for example, be a 1 hour presentation followed by questions, or can be a longer presentation with PEC members asking questions during the presentation. Questions that will be asked will focus on your proposal/presentation but can take many forms. Be prepared to explain methodologies (formulae, what specific reagents do, etc.), experimental plans (use of controls etc), data analysis (statistics) etc., etc. Remember, **that questions are not limited to your proposal but can also include knowledge that can reasonably be expected based upon the students research interest and academic background.** The PEC chair will inform the entire PEC of the defense format prior to the event. The defense of the proposal will be evaluated and one PEC dissenting vote is allowed (i.e., 4 pass/1 fail). If the oral defense is failed, the student must re-define the same proposal. In very exceptional circumstances, the student may be required to submit a proposal based on an alternative paper, approved by the PEC and SEAC. Two failed defenses of a proposal will result in failure of the preliminary examination process. Students that do not successfully complete this part of the preliminary examination cannot enter candidacy and are therefore subject to dismissal from graduate school.

Evaluation Criteria for Oral Examination

- a) **General Scientific Knowledge**
 - Competence in the scientific fields under investigation and BBSC/Program curriculum
- b) **Research Strategy** (Student provides adequate rationale and understands approach and technical aspects of conducting the proposed research)
 - Specific Aims: Tests the hypothesis and are logical and focused
 - Feasibility Studies: Relevant and supports the proposed hypothesis (*from the selected paper*)
 - Approach: Overall strategy, methodology, and analyses are well reasoned and appropriate to accomplish specific aims, potential problems, alternative strategies, and benchmarks for success.
- c) **Literature Review:** Demonstrates a comprehensive review and understanding of relevant literature
- d) **Organization:** Organizes thoughts and provides well coordinated visual presentation.
- e) **Response to Examiner’s Questions:** Independently responds with accurate and relevant information.
- f) **Overall Evaluation:** Overall assessment of student’s strengths and weaknesses.

**Eligible Faculty for
Preliminary Exam Committee Appointments**

Pathology Research (Select 2)

Adams	<i>Viol</i>
Aguilar	<i>Viol</i>
Ansari	<i>Environ Tox/Path</i>
Barrett	<i>Viol/Path/Vacc</i>
Boor	<i>Path/Tox</i>
Bouyer	<i>Bact/Path</i>
Bukreyev	<i>Viol</i>
Freiberg	<i>Viol/Path</i>
Fulhorst	<i>Vector/Ecol/Viol</i>
Gelman	<i>Viol/Path/Immunopath</i>
Ikegami	<i>Viol/Immuno/Vacc</i>
Khan	<i>Environ Tox/Immun/Path</i>
McBride	<i>Bact/Immunol/Path-Host</i>
Motin	<i>Bact/Path-Host</i>
Paessler	<i>Viol/Path/Diag</i>
Rockx	<i>Viol</i>
Sahni	<i>Bact/Cell Biol</i>
Tesh	<i>Viol/Vector/Epi</i>
Thangamani	<i>Vector/Immunol</i>
Valbuena	<i>Bact/Immunol</i>
Vanlandingham	<i>Vector/Viol</i>
Vasilakis	<i>Viol/Vector</i>
Walker	<i>Bact/Immunol/Vector</i>
Weaver	<i>Viol/Epi/Evol</i>
Yu	<i>Bact/Path/Cell Biol</i>

External Research (Select 1)

Beasley	<i>Viol/Path</i>
Bourne	<i>Viol/Path</i>
Cloyd	<i>Viol/Path</i>
Ferguson	<i>Viol/Path</i>
Garg	<i>Parasit/Immunol</i>
Kramer	<i>Path/Physiol</i>
Ksiazek	<i>Viol/Epi/Path</i>
Makino	<i>Viol</i>
Milligan	<i>Immunol/Viol</i>
Peters	<i>Epi/Path/Viol</i>
Peterson	<i>Bact/Immunol</i>
Pyles	<i>Viol/Immunol/Path</i>
Soong	<i>Immunol/Parasit</i>
Torres	<i>Bact/Path</i>
Traber	<i>Path/Cell Biol</i>
Wang	<i>Immunol/Viol</i>

Pathology Clinical/Education (Select 1)

Aronson	<i>Path/Viol</i>
Boor	<i>Path/Inflammation</i>
Brocard	<i>Lab Safety/Viol</i>
Campbell	<i>Path/Physiol/CNS</i>
Dong	<i>Path/Viol/Diagnostics</i>
Gelman	<i>Path/Viol/Immunopath</i>
Hawkins	<i>Path</i>
Herzog	<i>Cell Biol/Viol</i>
Murphy	<i>Viol</i>
Okorodudu	<i>Cell Biol/Path</i>
Olano	<i>Path/Bact</i>
Vaidya	<i>Immunogenetics/Path</i>
Walker	<i>Path/Bact/Vector</i>

SEAC (Assigned by SEAC Chair)

Boor	<i>Path</i>
Paessler	<i>Path</i>
Pyles	<i>Peds</i>
Rockx	<i>Path</i>
Valbuena	<i>Path</i>
Vasilakis	<i>Path</i>
Yu (Chair)	<i>Path</i>

Experimental Pathology Preliminary Examination Written Proposal Assessment

Student: _____ Date: _____

Proposal Title: _____

Faculty: _____

PASS

FAIL

	Excellent	Good (Average)	Fair* (Below Average)	Poor** (Unacceptable)
Abstract: Student provides a concise description including objective, hypothesis, aims, research design and methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hypothesis and Specific Aims: Student identifies an important gap in the knowledge and explains why the gap is a problem. States long and short term objectives, develops a focused hypothesis and appropriate specific aims that test the hypothesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Background and Significance: Student is able to convey the significance and benefits of the proposed research and provides evidence in literature review (background) of a full understanding and appreciation important peer-reviewed literature that is specifically relevant to their proposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preliminary Data: Student understands data from published papers and provides rationale for including a particular experiment/approach/technique to support proposals hypothesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research Design and Methods: Student provides adequate detail, well organized research design and methods, and provides substantial evidence of ability conduct to independent research and interpret results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments: 				

*Two fair scores = rewrite

** One poor score = rewrite

Experimental Pathology Preliminary Examination Oral Defense

Student: _____ Date: _____

Proposal Title: _____

Faculty: _____ Affiliation: _____

PASS

FAIL

	Excellent	Good (Average)	Fair* (Below average)	Poor* (Unacceptable)
General Scientific Knowledge: Demonstrates reasonable competence in the scientific fields under investigation and BBSC/Program curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research Strategy: Student provides adequate rationale and justifies approach and technical aspects of conducting the proposed research; demonstrates reasonable understanding of pitfalls and is knowledgeable on alternative strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Literature Review: Demonstrates a comprehensive review and understanding of relevant literature				
Organization: Organizes thoughts and provides well coordinated visual presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Response to Examiners' Questions: Independently responds with accurate and relevant information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Evaluation: Overall assessment of the student's performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				

*Student fails examination if any one area is judged poor or two as fair.

Preliminary Exam Schedule 2011-2012

DATE	ACTION
November 18, 2011	Program Coordinator (PC) sends email to faculty to confirm they'll serve as Preliminary Exam Committee (PEC) members.
December 12, 2011	PC sends email to students; re: Research Description due on January 12, 2012.
December 14, 2011	Students meet with Dr. Yu (SEAC Chair) to select PEC Members.
December 15, 2011	SEAC Chair assigns SEAC Members and PEC Chair for each student; notifies PC.
December 16, 2011	PC notifies students of their PEC Chair and Members.
January 12, 2012	Students send 2 papers (pdf), R21 Specific Aims (as outlined in the handbook), and personal research description to PC.
January 13, 2012	PC sends student's materials (mentioned above) to the SEAC Chair and the student's PEC Chair and Members.
January 26, 2012	PEC Chair will notify student, the student's PEC Members, the SEAC Chair, and the PC of the decision on which paper was chosen for the student's grant proposal. NOTE: If neither paper is acceptable, student sends two alternate papers, R21 Specific Aims, and personal research description to PC by Feb. 9 th .
February 2, 2012	Student sends two alternate papers, R21 Specific Aims, and personal research description to PC; PC forwards to SEAC Chair, PEC Chair and Members.
February 9, 2012	PEC Chair will notify student, PEC Members, SEAC Chair, and PC of the decision on which alternate paper is chosen for grant proposal.
March 9, 2012	PROPOSAL DUE! Student sends proposal to PC; PC forwards to SEAC Chair and PEC Chair and Members.
March 22, 2012	PEC Chair sends pass/fail decision to student, PEC Members, SEAC Chair, and PC.
March 23, 2012	Student contacts PEC Chair, PEC Members, and PC to arrange the date for the oral defense. The oral defense needs to be scheduled no later than April 30, 2012.
April 20, 2012	ALTERNATE PROPOSAL DUE! Student sends to PC by noon; PC forwards to SEAC Chair, PEC Chair and PEC Members.
April 27, 2012	PEC Chair sends pass/fail decision of the rewritten proposal to student, the student's PEC Members, the SEAC Chair, and the PC.
April 28, 2012	If rewritten proposal is passed, student contacts PEC Chair, PEC Members, SEAC Chair, and PC to arrange the date for the oral defense. The oral defense needs to be scheduled no later than May 31, 2012.
April 30, 2012	Last day for oral defense of original proposals!
May 31, 2012	Last day for oral defense of rewritten proposals!

SUPERVISORY PROFESSOR

A Supervisory Professor is selected by the student during their first year (Term III) or, under special circumstances in the second year (Term IV). The Supervisory Professor must be a member of the Experimental Pathology Graduate Faculty, must inform the Program Director (in writing) of his/her willingness to serve in this role and provide financial support (account numbers to be provided to the Experimental Pathology Graduate Program Office) for the student while they are enrolled, and must be approved by the Student Evaluation and Advisory Committee and the Graduate School Dean. Mentors are expected to provide a stipend that equals or exceeds the BBSC stipend level in any given year. The mentors are strongly encouraged to pay for student tuition and fees for all students. These costs are allowable on NIH grants and should be budgeted on each NIH proposal submitted. A letter or email stating the willingness to serve as mentor and an account number that will be used to support the student must be provided to the Program Director. The Supervisory Professor will be in charge of the student's dissertation research project and is expected to provide financial support for the student's full salary and tuition and fees during their entire tenure at UTMB and to provide research resources to allow the student to perform the research required for the completion of the Ph.D. A student may change his/her Supervisory Professor without prejudice to his/her standing in the Program.

SUPERVISORY COMMITTEE SELECTION

Prior to admission to candidacy, the student shall select a Supervisory Professor who, with the approval of the Dean and the SEAC, will be in charge of the candidate's doctoral dissertation. The student, in consultation with the selected Supervisory Professor, will recommend the other members of a supervisory committee. The selected Supervisory Professor and the recommended other members of the supervisory committee are appointed by the Dean. The Supervisory Professor will serve as chair of the supervisory committee. The supervisory committee will normally consist of five graduate faculty members, associate members or special members:

Mentor (Supervisory Professor)

Two faculty members with Pathology department

One special member or appointee from another institution

One UTMB faculty member outside of Pathology department

Students should consult with the Dean regarding appointment of the member from another program.

Annual Meetings of the Student Supervisory Committee

Each student is required to meet with his or her dissertation committee twice a year. **The form (Biannual Supervisory Committee Meeting Report) must be submitted by each committee member (including their off campus member). Return the completed assessment to Paula Gabriles in Pathology Education office within 1 week following the meeting.** The reports will be placed in the student's file after Dr. McBride has reviewed them. Students who do not observe this requirement are at risk of receiving an unsatisfactory in research or dissertation and will be placed on academic probation.

ADMISSION TO CANDIDACY

Students seeking the degree of Doctor of Philosophy must submit an application for admission to candidacy and an approved research proposal. Each student must have an overall 3.0 grade point average or better at the time of admission to candidacy. Admission to candidacy requires the fulfillment of all program requirements, including passing the qualifying examination, and must be approved by the Dean of the graduate school. The qualifying examination will ordinarily be completed by the end of the second year of study and is prerequisite to admission to candidacy.

Experimental Pathology graduate students are expected to complete a 10 – 13 page dissertation proposal (in the same general format as the preliminary examination proposal) and submit it to their dissertation committee within 6 months following the successful completion of the preliminary examinations.

The dissertation committee faculty must complete their evaluation of the Ph.D. research proposal within 1 month of its submission. The student will be asked to present and defend this proposal before that committee within 2 weeks following the faculty evaluation period. Should the proposal require significant alterations, the student will be given a maximum of 2 months to rewrite and re-submit their proposal to the committee. The committee will complete their evaluation within 1 month.

Proposal defense (and annual meetings) Students are responsible for contacting all members of their committee and coordinating the time and location of their proposal defense (typically in Mary Moody Northern Pavilion Pathology Education Conference room reserved through Paula Gabriles). Meetings, vacations and external commitments by faculty can make this scheduling difficult, so be proactive and do not leave it to the last minute. The defense and annual meetings should last no more than three hours. The format is variable and should be discussed with the mentor. It can, for example, be a 1 hour presentation followed by questions, or can be a longer presentation with committee members asking questions during the presentation. Be prepared to explain methodologies (formulae, what specific reagents do etc), experimental plans (use of controls etc), data analysis (statistics) etc, etc.

GSBS rules state that all students are required to be admitted to candidacy within 12 months following the completion of their preliminary examinations or be subject to dismissal from graduate school. Students and mentors are strongly encouraged to expedite the completion of this process.

Dissertation Progress and Final Defense in Experimental Pathology

Concern has been expressed that there is a lack of understanding and standardization in what is expected and required for our students to be awarded a Doctor of Philosophy degree. The SEAC has therefore formulated the following list of criteria that must be met by all students (and their mentors) prior to an award being made.

1. Students will meet with their dissertation committee (external member may be absent) biannually to discuss their project. A written report of that meeting must be provided to the Program Director in Experimental Pathology and to each member of the dissertation committee within one week following the committee meeting. Failure to have a meeting and/or to file the report of the meeting will result in a grade of “Unsatisfactory” in research or dissertation and immediately place the student on academic probation. Students cannot graduate while on academic probation.
2. The student will prepare a one page single-spaced “annual progress report and research plan” that must be presented to the SEAC on September 30th each year. This report must be cosigned by the mentor as being an accurate and satisfactory assessment of the students work. Students will be required to list publications, abstracts, awards, grants, and presentations. Based upon the information provided, student progress will be evaluated by the SEAC annually in October.
3. During the duration of the dissertation research period, a student must have presented their work (poster or oral) in at least one National Meeting. Mentors are encouraged to support student’s attendance at other meetings as part of their general training. A published abstract of their presentation should be provided to the SEAC.
4. At the time of the dissertation defense, the student should be an author (first author or second if the journal states that the first and second authors are considered as equal contributors) on at least one peer-reviewed paper that has been accepted for publication.
5. **It is the responsibility of the student and mentor to ensure that the version of the dissertation that is sent by the student to all committee members is complete and in the final and presentable form that is required by the GSBS.** The dissertation format is not fixed and can be, for example, a sequential report of the study with introduction, methods, data, discussion and bibliography sections, or as a package of published papers linked with a general introduction and discussion. **A defense cannot be scheduled unless a complete dissertation has been submitted at least 4 weeks prior to the scheduled defense (2 weeks prior to committee approval of “Request for Final Oral Defense”).** A bound file consisting of published papers alone is not considered to be an adequate dissertation. All dissertations must follow the GSBS guidelines and be approved by the GSBS. **All dissertation committee members should read the dissertation prior to the defense and be prepared to ask questions that adequately test the student’s knowledge and understanding of their research.**
6. Students will present their dissertation in a private dissertation committee-only defense. If the dissertation is defended successfully, and once the dissertation has been accepted as satisfactory and all committee members have signed (following, for example, completion of changes requested by committee members), a public defense as required by the UTMB Graduate School will be organized. This will be in the form of a one-hour public seminar followed by an open session for questions.

**GRADUATE FACULTY COMMITTEE MEMBERS
EXPERIMENTAL PATHOLOGY GRADUATE PROGRAM
2011-2012**

ADMISSIONS AND RECRUITMENT COMMITTEE (ARC):

Nigel Bourne, Ph.D. – Chair

Paige Adams, DVM, Ph.D.
Paul Boor, Ph.D.
Norbert Herzog, Ph.D.
Saravanan Thangamani, Ph.D.
Tina Wang, Ph.D.
Ex-officio: Jere W. McBride, Ph.D.

CURRICULUM AND ACADEMIC PLANNING COMMITTEE (CAPC):

Shakeel Ansari, Ph.D. – Chair

Judith F. Aronson, M.D.
Alan Barrett, Ph.D.
Gerald A. Campbell, M.D., Ph.D.
Hal K. Hawkins, M.D., Ph.D.
Sanjeev Sahni, Ph.D.

STUDENT EVALUATION AND ADVISORY COMMITTEE (SEAC):

Xue-Jie Yu, Ph.D. - Chair

Paul Boor, M.D.
Slobodan Paessler, Ph.D.
Richard Pyles, Ph.D.
Barry Rockx, Ph.D.
Gustavo Valbuena, M.D., Ph.D.
Nikos Vasilakis, Ph.D.

AWARDS COMMITTEE:

Nigel Bourne, Ph.D.
Charles Fulhorst, D.V.M., Dr. P.H.

EXPERIMENTAL PATHOLOGY GRADUATE STUDENT ORGANIZATION:

Ashley Grant/Frances Valencia Co-Presidents

EXPERIMENTAL PATHOLOGY GRADUATE FACULTY COMMITTEES

1. Executive Committee

- a. The committee is composed of the program director and chairs of the other four standing committees.
- b. The committee appoints and replaces the members and chairs of the other committees. Goals for committee composition are that each committee is representative of program strengths and blends enthusiasm with experience.
- c. At least twice per year, schedule meetings of the entire graduate program faculty.
- d. Appoint ad hoc committees to address problems or concerns.
- e. Annually review contributions of all graduate program faculty to graduate and interdisciplinary courses, laboratory rotations, program committees, and student committees.

2. Admissions and Recruitment Committee

- a. The committee is composed of eight members representing different areas of program strength.
- b. The committee advertises the program and, when necessary, appoints an ad hoc committee to update/revise the program brochure and/or web site as well as other recruitment materials.
- c. Recruit applicants and coordinate program recruiting efforts with Graduate School recruiting efforts.
- d. Screen applicants and make recommendations for admission or rejection of applicants.
- e. Make recommendations concerning exceptions to the admission or rejection of applicants.
- f. Make recommendations concerning initial stipend awards.
- g. Actively recruit all outstanding candidates before and after their admission.
- h. The chair of this committee is asked to serve on the Graduate School/BBSC Recruitment Committee.
- i. The committee will meet at least once per semester. The committee chairman will ensure the preparation and distribution of the minutes of each meeting within 30 days of the meeting.
- j. Members of this committee shall be appointed by the program director and the chair of the Admissions & Recruitment committee to serve on the GSBS/BBSC Admissions Committee.

3. Curriculum and Academic Planning Committee

- a. The committee consists of five members with relevant experience in graduate student education. In addition, the students in the Experimental Pathology Program elects two student members. One is a "junior" student and the other a "senior" student.
- b. Annually monitor and evaluate all program core courses using student and faculty feedback. Make recommendations for course improvements.
- c. Make recommendations concerning development and approval of new courses.
- d. Examine credentials of faculty wishing to become members of the Experimental Pathology Graduate Faculty and make recommendations concerning such faculty appointments.
- e. The chairman of this committee serves on the Graduate School Curriculum Committee.
- f. The committee meets at least once per semester. The committee chairman ensures the preparation and distribution of the minutes of each meeting within 30 days of the meeting.

4. Student Evaluation and Advisory Committee

- a. The committee consists of seven members representing different areas of program strength.
- b. Advise students concerning laboratory rotations.
- c. Review student and faculty reports of laboratory rotations.
- d. Monitor the course grades, rotation and research reports, and progress of each student at least twice per year to ensure early detection of problems.
- e. Help students choose a Preliminary Examination Committee.
- f. Oversee the Preliminary Examination process and make recommendations for modification when or where needed.
- g. Help students select a dissertation supervisory professor and supervisory committee. Faculty who wish to be considered as a dissertation supervisor must submit a financial plan for the student's stipend and laboratory expenses.
- h. The committee meets at least once per semester. The committee chairman ensures the preparation and distribution of the minutes of each meeting within 30 days of the meeting.

5. Awards Committee

- a. The committee consists of at least three members representing different areas of program strength.
- b. To promote, encourage and support applications by Experimental Pathology student applications for awards, scholarships and fellowships from both intramural and extramural sources.
- c. Review student accomplishments for awards nominations.
- d. Help students to become aware of available awards.
- e. The committee meets at least once per semester. The committee chairman ensures the preparation and distribution of the minutes of each meeting within 30 days of the meeting.

EXPERIMENTAL PATHOLOGY GRADUATE FACULTY

PRIMARY APPOINTMENTS IN PATHOLOGY

Alison Paige Adams, DVM, Ph.D.

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Director of HIV Pathogenesis Laboratory

Department of Internal Medicine

Division of Infectious Diseases

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Departments of Microbiology & Immunology and Pathology

3.142C Medical Research Building (office) Ext. 76865 /Fax: 76869

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Shinji Makino, Ph.D.

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Gregg Milligan, Ph.D.

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Sealy Center for Vaccine Development

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David Niesel, Ph.D.

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3.114 Medical Research Building (Lab) Ext. 23409

email: jpeterso@utmb.edu

Richard Pyles, Ph.D.

Associate Professor

Sealy Center for Vaccine Development

3.206 Mary Moody Northern (office) Ext. 78142

3.304 Mary Moody Northern (lab) Ext. 78149

email: rbpyles@utmb.edu

Lynn Soong, M.D., Ph.D.

Professor

Department of Microbiology & Immunology

3.142 Medical Research Building (office) Ext. 28149

3.132 Medical Research Building (lab) Ext. 28163

email: lsoong@utmb.edu

Alfredo G. Torres, Ph.D.

Associate Professor

Departments of Microbiology & Immunology and Pathology

3.142E Medical Research Building (office) Ext.70189/Fax 76869

3.134, 3.142, 3.146 Medical Research Building (lab) Ext. 22424

email: altorres@utmb.edu

Daniel L. Traber, Ph.D.

Professor

Department of Anesthesiology & Physiology & Biophysics

610 Texas Avenue (office) Ext.26405/Fax: 26409

email: dtraber@utmb.edu

Tian Wang, Ph.D.

Associate Professor

3.118 B Keiller Building (office) Ext. 23146/Fax: 23338

3.102 Keiller Building (lab) Ext. 23147

email: ti1wang@utmb.edu

**1991- 2010
EXPERIMENTAL PATHOLOGY
GRADUATE STUDENTS**

STARTED SEPTEMBER 1991

Davis Daiker - Dallas, Texas

Education: Texas A&M University, College Station
Degree: B.S.
Research Interest: Genetic Toxicology
Mentor: Jonathan Ward, Ph.D.
Mary Treinen-Moslen, Ph.D.



Ph.D. Graduated 1999

Leonard Wayne Velsor - Colorado Springs, Colorado

Education: University of Colorado
Degree: B.A.
Research Interest: Pulmonary Toxicology
Mentor: Edward M. Postlethwait, Ph.D.



Ph.D. Graduated 1998

Liqiang Wang – PRC

Education: Taishan Medical College
Degree: B.S. (Medical)
Research Interest: HIV
Mentor: Miles W. Cloyd, Ph.D.



Ph.D. Graduated 1996

STARTED JANUARY 1992

Suzanne Hall-Woodard – St. Louis, Missouri

Education: St. Louis University
Degree: M.S.
Research Interest: Toxicology
Mentor: Mary Moslen, Ph.D.



Ph.D. Graduated 1996

Suimin Qiu – PRC

Education: Xin Medical University
Degree: M.D.
Research Interest: AIDS and Flow Cytometry
Mentor: James E. Leary, Ph.D.



Ph.D. Graduated 1998

STARTED JUNE 1992

Roger Vertrees - Pontiac, Illinois

Education: Southern Illinois University
Degree: B.A.
Research Interest: Perfusion Hyperthermia
Mentors: Paul J. Boor, M.D./Scot D. Pencil, M.D., Ph.D.



Ph.D. Graduated 1999

STARTED SEPTEMBER 1993

Adrian Billings - Del Rio, Texas

Education: Texas A & M University, College Station
Degree: B.S.
Research Interest: Immunopathology & Infectious Disease
Mentor: David H. Walker, M.D.



Ph.D. Graduated 1998

Shannon Langford - Mesquite, Texas

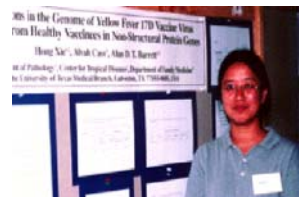
Education: Texas A & M University, Galveston
Degree: B.S.
Research Interest: Cardiovascular Toxicology
Mentor: Paul J. Boor, M.D.



Ph.D. Graduated 1999

Hong Xie – PRC

Education: Beijing Medical University
Degree: B.S. (Medical)
Research Interest: Virology
Mentor: Alan D.T. Barrett, Ph.D.



Ph.D. Graduated 1998

STARTED JANUARY 1994

Arun Balakumaran - India

Education: Chingleput Medical College
Degree: M.B.B.S.
Research Interest: Toxicology, Apoptosis
Mentor: Mary Treinen Moslen, Ph.D.



Ph.D. Graduated 1998

STARTED SEPTEMBER 1994

Chih-Sheng " Jason" Huang - Taiwan

Education: National Yang-Ming Medical College
Degree: B.S.
Research Interest: Retrovirology/AIDS
Mentor: Miles Cloyd, Ph.D.



Ph.D. Graduated 2000

Kristin Heather (Kain) Kuzniewski - Conroe, Texas

Education: Vanderbilt University
Degree: B.S.
Research Interest: Cellular Signal Transduction
Mentor: Norbert K. Herzog, Ph.D.



Ph.D. Graduated 1999

Kathleen Moore Marriott - Middleton, Ohio

Education: Ohio University
Degree: B.S.
Research Interest: Virology
Mentor: Judith F. Aronson, M.D.



Ph.D. Graduated 2001

Beth Susan Turnbull - Holts Summit, Missouri

Education: University of Missouri
Degree: D.V.M.
Research Interest: Marine Mammal Pathology and Toxicology
Mentor: Daniel F. Cowan, M.D.



Ph.D. Graduated 1998

STARTED MAY 1995

Chessley R. Atchison, Major, U.S. Army - Gorman, Texas

Education: Texas A & M University, College Station
Degree: D.V.M.
Research: Toxicology
Mentor: Mary T. Moslen, Ph.D.

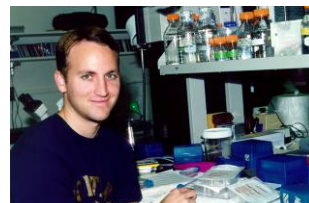


Ph.D. Graduated 1999

STARTED SEPTEMBER 1995

Aaron Brault - Houston, Texas

Education: Texas A & M University, College Station
Degree: B.S.
Research Interest: Virology
Mentor: Scott C. Weaver, Ph.D.



Ph.D. Graduated-2001

Neil Haycocks - Blacksburg, Virginia

Education: Mary Washington University
Degree: B.S.
Research Interest: Mycology
Mentors: Chester R. Cooper, Ph.D.
Michael R. McGinnis, Ph.D.



Ph.D. Graduated 2001

Erle (Ed) Murphey - Leesburg, Virginia

Education: Ohio State University
Degree: M.S., D.V.M.
Research Interest: Septic Shock
Mentor: Daniel Traber, M.D.



Ph.D. Graduated 2000

Vicente Santa Cruz - El Paso, Texas

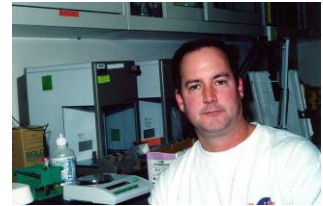
Education: University of Texas, El Paso
Degree: B.S.
Research Interest: Toxicology
Mentor: Mary F. Kanz, Ph.D.



Ph.D. Graduated 2001

Raymond Stowe - Houston, Texas

Education: Texas A & M University, College Station
Degree: B.S.
Research Interest: Virology
Mentor: Alan D.T. Barrett, Ph.D.



Ph.D. Graduated 1999

STARTED JANUARY 1996

Elsa Haubold - League City, Texas

Education: Texas A & M University, College Station
Degree: M.S.
Research Interest: Marine Mammal Pathology & Microbiology
Mentors: Chester R. Cooper, Jr., Ph.D., Dan Cowan, M.D.



Ph.D. Graduated 2000

Jian-ying Chen - PRC

Education: Beijing Capital Institute of Medicine
Degree: M.D.
Research Interest: HIV, Virology
Mentor: Miles Cloyd, Ph.D.



Ph.D. Graduated-1999

STARTED SEPTEMBER 1996

Amy Shurtleff - Austin, Texas

Education: University of Texas-Austin
Degree: B.S.
Research Interest: Virology
Mentor: Judith Aronson, M.D.



Ph.D. Graduated 2002

STARTED MAY 1997

Claudia Marcela (Diaz) Montero - Kingsville, Texas

Education: Texas A&M Kingsville
Degree: M.S.
Research Interest: Intracellular Bacteria
Mentor: David H. Walker, M.D.

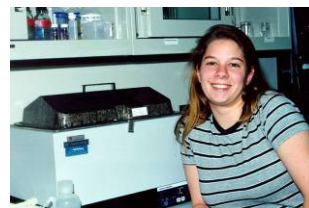


Ph.D. Graduated 2001

STARTED AUGUST 1997

Kelly Mericle - Nacogdoches, Texas

Education: Stephen F. Austin
Degree: B.S.
Research Interest: Toxicology
Mentor: G.A.S. Ansari, Ph.D.



Ph.D. Graduated 2003

Rania (Milleron) Cruz - Boston, Massachusetts

Education: Harvard University
Degree: M.S.
Research Interest: Vector Biology
Mentor: Greg Lanzaro, Ph.D.



Ph.D. Graduated 2002

Bi-Hung Peng - Taiwan

Education: National Taiwan University
Degree: M.S.
Research Interest: CMV and Neuropathology
Mentor: Gerald Campbell, M.D., Ph.D.



Ph.D. Graduated 2003

Hai Qi - Beijing, PRC

Education: Beijing Medical University
Degree: B.M.
Research Interest: Leishmania Pathogenesis
Mentor: Lynn Soong, M.D., Ph.D.



Ph.D. Graduated 2003

Shannon (Schmura) Martin - Hagerstown, Maryland

Education: Hood College/USAMRIID
Degree: M.S.
Research Interest: Developmental Neuropathology
Mentor: Marjorie Grafe, M.D., Ph.D.



Ph.D. Graduated 2002

Gustavo Valbuena – Bogota, Columbia

Education: University College of Javenana, Columbia
Degree: M.D.
Research Interest: Rickettsiae Pathogenesis
Mentor: David Walker, M.D.



Ph.D. Graduated 2003

Barry Elsom - Pampa, Texas

Education: Texas Womens University
Degree: B.S.
Research Interest: Cellular Signal Transduction
Mentor: Norbert Herzog, Ph.D.



M.S Graduated 2003

STARTED SEPTEMBER 1998

Ivorlyne Greene – Houston, Texas

Education: University of St. Thomas
Degree: B.S.
Research Interest: Arbovirology
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2004

Michele Zacks – Brighton, Massachusetts

Education: Harvard University
Degree: M.S.
Research Interest: Host Parasite Relationships
Mentor: Nisha Garg, Ph.D.



Ph.D. Graduated 2007

STARTED SEPTEMBER 1999

Juliet Bryant – New Haven, Connecticut

Education: Columbia University
Degree: M.S.
Research Interest: Virology
Mentor: Alan D.T. Barrett, Ph.D.



Ph.D. Graduated 2003

Danyel (Tacker) Hermes – Hondo, Texas

Education: Texas A&M, Corpus Christi
Degree: B.S.
Research: Forensic Pathology
Mentor: A. Okorodudu, Ph.D.



Ph.D. Graduated 2005

Tarl Prow – Huntsville, Texas

Education: Sam Houston State University
Degree: M.S.
Research: Molecular Cytometry
Mentor: James Leary, Ph.D.



Ph.D. Graduated 2004

Erin (Webb) Scott – Lawrence, Kansas

Education: University of Kansas
Degree: B.S.
Research: Arenavirology
Mentor: Judith Aronson, M.D.



Ph.D. Graduated 2005

STARTED SEPTEMBER 2001

Lark Coffey – Boulder, Colorado

Education: University of the South
Degree: B.S.
Research: Arbovirology
Mentor: Scott Weaver, Ph.D./Robert Tesh, M.D.



Ph.D. Graduated 2005

Scott “Wesley” Long – Dallas, Texas

Education: University of Texas-Austin
Degree: B.S.
Research: Ehrlichia
Mentor: David H. Walker, M.D.



Ph.D. Graduated 2005

Ted Whitworth – San Antonio, Texas

Education: University of Texas – San Antonio
Degree: B.S.
Research: Rickettsiology
Mentor: David H. Walker, M.D.



Ph.D. Graduated 2009

STARTED SEPTEMBER 2002

Jason Comer – Pittsburgh, Pennsylvania

Education: Duquesne University
Degree: M.S.
Research: Anthrax
Mentor: Johnny W. Petersen, Ph.D.



Ph.D. Graduated 2005

Charles Todd Davis – Birmingham, Alabama

Education: Tulane University
Degree: M.S.
Research: West Nile Virus
Mentor: Alan Barrett, Ph.D.



Ph.D. Graduated 2005

Melanie Dobbs – Manhattan, Kansas

Education: Kansas State University
Degree: B.S.
Research: Viral Immunology
Mentor: Gregg Milligan, Ph.D.



Ph.D. Graduated 2006

Amber Engel – Durham, North Carolina

Education: University of North Carolina –Wilmington
Degree: B.S.
Research: Flavivirus
Mentor: Alan Barrett, Ph.D.



Ph.D. Graduated 2006

Melissa Herbst-Kralovetz – Cleveland, Ohio

Education: Mesa State College
Degree: B.S.
Research: Herpes Virus Pathogenesis
Mentor: Richard Pyles, Ph.D.



Ph.D. Graduated 2006

Kate McElroy – Austin, Texas

Education: University of Texas – Austin
Degree: B.A.
Research: Flavivirus – Yellow Fever
Mentor: Stephen Higgs, Ph.D.



Ph.D. Graduated 2006

Lucy Perrone – East Elmhurst, New York

Education: Tulane University
Degree: M.S.
Research: Phlebovirus
Mentor: C. J. Peters, M.D.



Ph.D. Graduated 2006

Jessica Tonry – Long Island, New York

Education: Colorado State University
Degree: B.A.
Research: Arboviruses
Mentor: Robert Tesh, M.D.



M.S. Graduated 2004

STARTED SEPTEMBER 2003

Felicia Gilfoy – Springfield, Missouri

Education: University of Missouri
Degree: B.A.
Research: Arboviruses
Mentor: Peter Mason, Ph.D.



Ph.D. Graduated 2008

Yvette Girard – Oakland, California

Education: Oberlin College
Degree: B.A.
Research: Vector Biology/West Nile Virus
Mentor: Stephen Higgs, Ph.D.



Ph.D. Graduated 2007

Jeffrey Jordan – Portland, Oregon

Education: Washington State University
Degree: B.S.
Research: Immunopathology
Mentor: David H. Walker, M.D.



M.D./Ph.D. Graduated 2009

Kimberly Nethery – Amarillo, Texas

Education: Texas A&M University
Degree: B.S.
Research: Tick Borne Bacteria
Mentor: Jere McBride, Ph.D.



M.S. Graduated 2006

Heather McSharry-Lander – Ellenburg, Washington

Education: California State University
Degree: B.S.
Research: Hemorrhagic Fever Viruses
Mentor: C.J. Peters, M.D.



Slobodan Paessler – Osijek, Croatia

Education: University of Munich
Degree: D.V.M.
Research: Viral Pathogenesis & Vaccine Development
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2007

Shannan Rossi – Nyack, New York

Education: Cornell University
Degree: B.S.
Research: Arboviruses
Mentor: Peter Mason, Ph.D.



Ph.D. Graduated 2008

Elena Sbrana – Pisa, Italy

Education: University of Pisa
Degree: M.S.
Research: Antivirals
Mentor: Robert Tesh, M.D.



Ph.D. Graduated 2006

Bradley Schneider – Newport Beach, California

Education: University of Colorado at Boulder
Degree: B.S.
Research: Arbovirology, Immunology, Pathogenesis
Vector-host-virus interactions
Mentor: Stephen Higgs, Ph.D.



Ph.D. Graduated 2007

Darci Smith – Amarillo, Texas

Education: Colorado State University
Degree: B.S.
Research: Arbovirology
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2006

Heather Stevenson – Chula Vista, California

Education: Colorado State University
Degree: B.S.
Research: Ehrlichia Intracellular Bacteria
Mentor: David H. Walker, M.D.



M.D/Ph.D. Graduated 2009

Nikolaos Vasilakis – Nürnberg, Germany

Education: Hofstra University
Degree: B.A.
Research: Molecular Epidemiology of Flaviviruses
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2008

Michael Woods – Bryan, Texas

Education: Texas A&M – College Station
Degree: B.S.
Research: Rickettsial Pathogenesis
Mentor: Juan Olano, M.D.



Ph.D. Graduated 2008

STARTED SEPTEMBER 2004

Eleanor Deardorff – Santa Fe, New Mexico

Education: Reed College
Degree: B.A.
Research: Viral Outbreaks
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2009

Gregory Gromowski – Sheboygan, Wisconsin

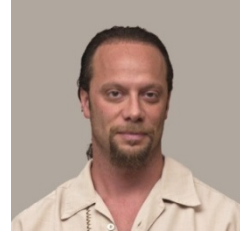
Education: University of Wisconsin
Degree: B.S.
Research: Virology
Mentor: Alan Barrett, Ph.D.



Ph.D. Graduated 2008

Dan Hochman – Springfield, Virginia

Education: James Madison University
Degree: B.S.
Research: Toxicology
Mentor: Edward Brooks, Ph.D.



STARTED SEPTEMBER 2005

Nicole Arrigo – Los Angeles, California

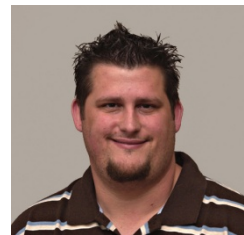
Education: Brandeis University/Univ. of Hawaii-Manoa
Degree: B.S. /MPH
Research: Transmission of North and South American Eastern Equine Encephalitis Virus (EEEV)
Mentor: Scott Weaver, Ph.D./Douglas Watts, Ph.D.



Ph.D. Graduated 2010

Brian Friedrich – Kingwood, Texas

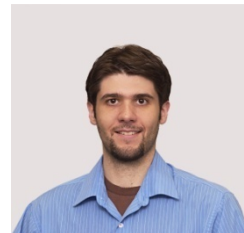
Education: Baylor University
Degree: B.S.
Research: HIV pathogenesis and virus-host interactions
Mentor: William O'Brien, M.D.



Ph.D. Graduated 2010

Charles McGee – Bridgeport, Connecticut

Education: Sacred Heart University
Degree: B.S.
Research: Arbovirus transmission dynamics
Mentor: Stephen Higgs, Ph.D.



Ph.D. Graduated 2010

Chris McGowin – Dallas, Texas

Education: Southwest Texas State University
Degree: B.S.
Research: Development of novel microbicides for sexually-transmitted pathogens
Mentor: Richard Pyles, Ph.D.



Ph.D. Graduated 2009

Konstantin Tsetsarkin – Krasnoyarsk, Russia

Education: Novosibirsk State University
Degree: M.S.
Research: Identification of molecular determinants of vector infectivity for alpha and flaviviruses
Mentor: Stephen Higgs, Ph.D.



Ph.D. Graduated 2010

STARTED SEPTEMBER 2006

Joan Kenney – Leawood, KS

Education: Tulane University/Yale University
Degree: B.S. /MPH
Research: Arbovirology
Mentor: Scott Weaver, Ph.D.



Ph.D. Graduated 2011

Jeeba Kuriakose – Sugarland, Texas

Education: University of Houston
Degree: B.S.
Research: Ehrlichia
Mentor: Jere McBride, Ph.D.



Ph.D. Graduated 2011

Sara Woodson – Eagle Rock, VA

Education: Salem College
Degree: B.S.
Research: Pathogenesis
Mentor: Michael Holbrook, Ph.D.



Ph.D. Graduated 2011

STARTED SEPTEMBER 2007

Justin Darwin – San Antonio, TX

Education: Angelo State University
Degree: B.S.
Research: Alphaviruses
Mentor: Scott Weaver, Ph.D.



M.S. Graduated 2011

Tiffany Ethridge – Lubbock, TX

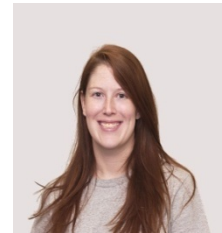
Education: Texas A&M University College Station
Degree: B.S.
Research: HIV
Mentor: Miles Cloyd, Ph.D.



M.S. Graduated 2009

Allison Mayo – Atlanta, GA

Education: Tulane University/Georgia State Univ.
Degree: B.S./M.S.
Research: Flavivirology
Mentor: Alan Barrett, Ph.D.



Trevor Pitcher – Porterville, CA

Education: Point Loma Nazarene University
Degree: B.S.
Research: Virology
Mentor: Alan Barrett, Ph.D.



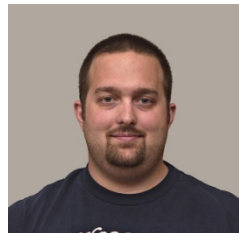
Amy Schuh – Hayesville, NC

Education: Univ. NC Chapel Hill/ Univ. of Alabama
Degree: B.S. /MPH
Research: Flavivirology
Mentor: Alan Barrett, Ph.D.



Thomas Shelite – Andover, KS

Education: Wichita State University
Degree: B.S. /M.S.
Research: Rickettsiology
Mentor: David Walker, Ph.D.



Linda Sousse – Corpus Christi, TX

Education: Texas A&M – Corpus Christi
Degree: B.S. /MBA
Research: Pulmonary Pathophysiology
Mentor: Daniel Traber, Ph.D.



Ph.D. Graduated 2011

Sarah Ziegler – Las Vegas, NV

Education: University of Nevada Las Vegas
Degree: B.S. /M.S.
Research: Chikungunya virus
Mentor: Robert Tesh, Ph.D.



Ph.D. Graduated 2011

STARTED SEPTEMBER 2008

Ashley Grant – Arroyo, CA

Education: California Institute of Technology
Degree: B.S.
Research: Viral Hemorrhagic Fevers
Mentor: C.J. Peters, Ph.D.



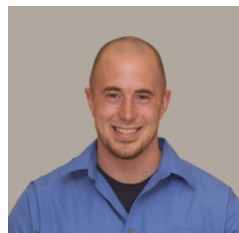
Jessica Lewis – Livermore, CA

Education: University of California – Davis
Degree: B.S.
Research: Flavivirus
Mentor: David Beasley, Ph.D.



Kenneth Plante – Chelmsford, MA

Education: University of Massachusetts
Degree: B.S.
Research: Vaccine development/alphavirology
Mentor: Scott Weaver, Ph.D.



Katie Taylor – College Station, TX

Education: Texas A&M University
Degree: B.S.
Research: Immunopathology of VEEV
Mentor: Mark Estes, Ph.D.



Frances Valencia – San Antonio, TX

Education: St. Mary's University
Degree: B.S.
Research: Herpes Simplex Virus I/II
Mentor: Nigel Bourne, Ph.D.



STARTED SEPTEMBER 2009

Veronica Calderon – El Paso, TX

Education: University of Texas – El Paso
Degree: B.S.
Research: HIV/M.tb Co-infection
Mentor: Mark Estes, Ph.D.



Erika Caro Gomez – Medellin, Colombia

Education: Universidad de Antioquia
Degree: B.S. / M.S.
Research: Identify cross-protective rickettsial antigens recognized by T lymphocytes
Mentor: Gustavo Valbuena, M.D., Ph.D.



Dar Heinze – Houston, TX

Education: Wheaton College
Degree: B.M.
Research: Host immune response to tick feeding
Mentor: Stephen Wikel, Ph.D.



Farooq Nasar – Albany, NY

Education: State University of New York at Albany
Degree: B.S. / M.P.H.
Research: Characterizing new alphaviruses viruses
Mentor: Scott Weaver, Ph.D.



John Nuckols – Corpus Christi, TX

Education: Texas A&M – Corpus Christi
Degree: B.S. / M.S.
Research: Molecular Arbovirology
Mentor: Stephen Higgs, Ph.D.



Michael Patterson – Rocklin, CA

Education: Whitman College
Degree: B.A.
Research: Arenavirus and Alphavirus neuroinvasion, and pathogenesis
Mentor: Slobodan Paessler, D.V.M., Ph.D.



STARTED JANUARY 2010

Sandra Mayer – Santa Maria, Brazil

Education: Fed U Santa Maria
Degree: D.V.M. / M.S.
Research: Immunology work with bovine, and Dengue and the humanized mouse model
Mentor: Mark Estes, Ph.D.



Evandro Winkelmann – Santa Maria, Brazil

Education: Fed U Santa Maria
Degree: D.V.M. / M.S.
Research: Viral Immunology
Mentor: Gregg Milligan, Ph.D.



STARTED MAY 2010

Alexy Seregin – Omsk, Russia

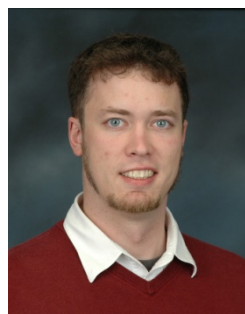
Education: Novosibirsk State University
Degree: B.S. / M.S.
Research: Molecular characterization of the mechanisms of pathogenesis during arenavirus infection
Mentor: Slobodan Paessler, D.V.M., Ph.D.



STARTED AUGUST 2010

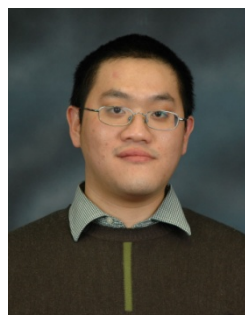
Andrew Beck – Baltimore, Maryland

Education: Loyola College, Maryland
Degree: B.S.
Research: Virulence determinants of the yellow fever virus
Mentor: Alan Barrett, Ph.D.



Yan-Jang Huang – Tainan, Taiwan

Education: National Taiwan University
Degree: B.Sc.
Research: Flavivirus-vector interactions
Mentor: Stephen Higgs, Ph.D./
Dana Vanlandingham, Ph.D.



Olga Kolokoltsova – Berdsk, Novosibirsk, Russian Federation

Education: Novosibirsk State University
Degree: M.S.
Research: Induction of apoptosis in response to Junin Virus and its significance for virus attenuation
Mentor: Slobodan Paessler, DVM, Ph.D.



Sydney (Chun) Ramirez – Sacramento, California

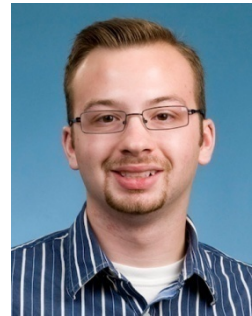
Education: California State University-Sacramento
Degree: B.S.
Research: Rift Valley Fever Virus
Mentor: Shinji Makino, DVM, Ph.D.



STARTED SEPTEMBER 2011

Nicholas Bergren – Sunnyvale, Texas

Education: LeTourneau University
Degree: B.S.
Research: Vaccine Development
Mentor: Scott Weaver, Ph.D.



Brian Mann – Swanton, Ohio

Education: Wittenberg University, Springfield, OH
Degree: B.S.
Research: Viral pathogenesis with a focus on West Nile Virus
Mentor: Alan Barrett, Ph.D.



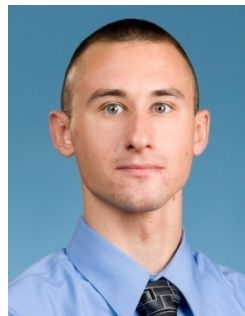
Inaia Phoenix – Albuquerque, New Mexico

Education: Southeastern Oklahoma State Univ.
Degree: B.S.
Research: Rift Valley Fever Virus Vaccine Development
Mentor: Tetsuro Ikegami, D.V.M., Ph.D.



Stephan Willias – Corpus Christi, Texas

Education: Texas A&M Univ. Corpus Christi
Degree: B.S.
Research: Assessing Metabolic Virulence Factors
of Plague
Mentor: Vladimir Motin, Ph.D.



Guang Xu – Shanghai, China

Education: Shanghai Jiao Tong Univ.
Degree: M.S.
Research: Infectious Disease
Mentor: David H. Walker, M.D.



FINANCIAL POLICIES AND BENEFITS

Effective 2011-2012, students selected for graduate assistantships receive an initial stipend of \$27,000 plus paid tuition and fees and health insurance coverage. Graduate assistantships are only available to U.S. citizens and permanent residents (green card holders). Dental insurance is available for a small charge. An assistantship permits out-of-state students to pay in-state tuition.

Pursuing a Ph.D. degree is considered a full-time endeavor. Students who receive an assistantship are not eligible to work in other units at UTMB. Employment outside UTMB is strongly discouraged.

Additional Benefit of Holding a Research Assistantship

If you are a non-resident for tuition purposes and appointed to a Research Assistantship at least half-time which relates to your degree program, under the rules and regulations established by UTMB, you are eligible for a waiver of non-resident fees. You are permitted to pay resident fees.

This benefit extends to your spouse and your children if they enroll in any state institution of higher education.

This waiver of non-resident fees is in statute in the Texas Education Code Section 54.063. Other exemptions and waivers can be reviewed at <http://www.collegefortexans.com/residency/>

GENERAL INFORMATION

1. For e-mail set-up or problems see The Pathology Department Administrator, Keiller Building, Room 1.116; ext. 70606 or call IS Help Desk at ext. 25200.
2. Student Room: Keiller Building, Room 4.104; Student Room Phone Number: 72436.
3. Campus Security: Phone Number: 22691. (We do not want you to walk alone if you are here after dark). **Escort services are available, please call: ext. 22691.** Campus Security is located in the Administration Building, 1st Floor.
4. Bookstore: Phone Number: 21939 Located in the Moody Medical Library, 1st Floor.
5. Field House: Phone Number: 21304 Located at 4th & Mechanic. Some of the amenities available at the Field House are a swimming pool, tennis courts, large workout room as well as organized activities such as yoga and aerobics.
6. Student Counseling Service: 79508. Located in Rebecca Sealy, Room 2.814
7. Please keep your UTMB identification with you at all times.

Class Attendance/Illness

As a general policy, Experimental Pathology graduate students are expected to attend all scheduled classes and seminars. Attendance is of particular importance since class discussions are an important part of every graduate course taught within the Experimental Pathology program and most other courses developed for graduate students at UTMB.

Students are expected to arrive on time to all classes, seminars, etc.) and to be prepared. Attendance and late arrival can affect the final grades in any course.

Messages and Mail

Mail slots are assigned to each graduate student for messages and mail in the Pathology Education Office (5.220 Mary Moody Northern Pavilion). Students will be provided with e-mail. To activate an e-mail account, please make arrangements with the Department of Pathology Administrator, Room 1.116 in the Keiller Building. E-mail is the standard mode of communication used to make announcements and disseminate information. **Please check your e-mail at least once a week.**

Exp Path Student Room

Room 4.114 in the Keiller Building is for graduate students to use for breaks and for individual or group study. There are a total of 3 Dell Pentium IV computers and 2 printers for your use as well as 2 scanners. The printers are a Laser Jet 5N and an Epson Color Printer. Some of the software programs are Microsoft Office XP; Sigmaplot; Netscape; Corel Draw8; Adobe Photoshop; e-mail and others. Please store all personal files on diskettes; the hard disk will be periodically purged of personal files. You will each be assigned a log on for these computers. **Please keep your password secure.** Please report any computer, printer or scanner problems to Paula Gabriles in Pathology Education @ ext. 22521 **immediately.**

The refrigerator can be used for lunches and refreshments. This room is available for students at all times with the rare exception of a scheduled class. To obtain a key, please see Becky Soliz in the Administration office (Room 1.116). **THE DOOR TO THE STUDENT ROOM MUST REMAIN LOCKED AT ALL TIMES.** For entrance to the Keiller Building, see the University Police Office, in the Administration Building, Room 1.10 (be sure to take your badge). Coats, umbrellas, cups and other items may be kept in the study room, but do not leave any valuables.

Access to Keiller Building

Access to the Keiller Building is restricted to authorized personnel only. You must carry your UTMB ID Card at all times and you will not be permitted to enter the Keiller Building should you leave it at home, in the car or even if the dog ate it. You must either retrieve your ID card or purchase a new one prior to entry. All guests to Keiller must have a UTMB ID or driver's license and must register with the security personnel upon entry. They must be escorted throughout the building during their visit (you do not have to follow them into the bathroom) and when leaving Keiller. You are responsible for any guests admitted to Keiller.

Foreign Language

No language other than English will be required. The Program reserves the right to require students to take courses or tutoring in English, writing and grammar should deficiencies become apparent.

Stipends/Paychecks

A limited number of stipends will be awarded at the time of admission based on the priority recommendations of the Admissions and Recruitment Committee. Decisions about continuation of stipends will be made by the Student Evaluation and Advisory Committee.

Students receiving stipends will be paid every two weeks under the job classification of **graduate assistant**. This job title does not allow students to accrue vacation or holiday but does allow 4 hours per month sick leave to be accrued. When time off is used, either for sick leave, meetings, holidays, etc, a leave request form must be filled out, signed by the mentor and turned into the

Experimental Pathology program office (5.220 Mary Moody Northern Pavilion) beforehand, if at all possible.

Paychecks for the stipends are generated every other Friday and are generally made by direct deposit. Under certain circumstances, paper checks can be issued. Please see Felicia Hernandez in the Pathology Administration Office, Keiller Building 1.116.

Part-time/Full-time Status

The program will not normally allow students to apply for admission part-time. Exceptions will be made only in exceptional circumstances and at the discretion of the Admissions and Recruitment Committee in conjunction with the Program Director. Students wishing to change their status from full-time to part-time must have the approval of the Experimental Pathology Graduate Program Executive Committee, the Program Director and their mentor (if applicable). Any student who is approved to undertake his/her studies part-time will have a work plan, including milestones, approved by the Student Evaluation and Advisory Committee. Failure to comply with the work plan and meet milestones each semester will result in dismissal from the program.

Federal Income Tax

Graduate assistantships are considered taxable income for purposes of the Internal Revenue Service. It is referred to as OASDI on the paycheck. A W-4 form must be on file. Tax information can be found at <http://www.irs.gov/plain>.

Parking

All full-time UTMB students may purchase a Student Parking permit for \$70, which is valid from September 1 through August 31 of each year. These permits may be purchased Monday through Friday, 8 a.m. – 5 p. m., from the Parking Office located in room 2.756 in the Rebecca Sealy Building (Phone 409-772-1581).

Pre-tax parking can be deducted from employees' paychecks. This deduction will not be subjected to Federal Withholding or Social Security/Medicare taxes. If interested in signing up for payroll-parking deduction, the form is located on-line at

http://www.utmb.edu/cms_world/groups/external/@external/@026auxenterprise/documents/web_asset/auxenterprise_068011.pdf Complete it and mail to the Parking Office, Route 0118, or walk it to their office. The original must be submitted, as faxes are not acceptable. Payment of registration and badge fees is required before students can make any parking arrangements.

Funding Opportunities/Scholarships

There are a variety of scholarships available to graduate students, both competitive and restricted. The following website provides detailed information about these scholarships:

<http://www.gsbs.utmb.edu/current/awards/default.html>. Another excellent source of funding opportunities can be located at:

As part of the Office of Research Education, the Research Development office provides help in identifying funding sources and other information useful in the grant development process and distributes this information to the UTMB community through workshops, listserv alerts, and the weekly Yellow Sheet among other means. The Research Development is located on the fourth floor of the Rebecca Sealy Hospital, suite 4.500. Library hours are: 8:00 am to 5:00 pm Monday - Friday. (Phone: x69432) Students should request to be placed on their UTMB Yellow Sheet mailing list.

Bookstore Purchases

The UTMB bookstore is located in the Moody Medical Library, phone number: (409) 772-1939. Each year, the bookstore issues rebates for items marked Books, Merchandise, and Scrubs on the cash register receipt, but must be \$1.00 or more excluding tax. The rebate percentage varies from year to year; for the 2009-2010 year it was a 20% rebate. (not guaranteed)

Keep your receipts whenever items are purchased from our bookstore. The bookstore will send out an email message to all students with directions for turning them in for a rebate check.

Badges

Students who receive a graduate assistantship are also considered employees of UTMB with the employment title of Graduate Assistant. Although one badge is issued, the "Smart Card" recognizes student and employee status. This badge will be needed to access buildings located on campus, checking out books from the library, parking, field-house privileges, and other identification purposes. All badges must be returned when a student departs from the university. Your employee badge can also be used around the island. Ask about discounts for UTMB employees. It can be used for free transportation for the island bus and trolley system any day or time of the week.

Building Access

Security measures are taken on campus limiting access certain buildings. Numerous buildings on campus are locked after certain hours, and some remain locked (e.g., the Keiller Building, Medical Research Building, etc.) with monitored entrance. The security entrance system requires encoded employee badges for entry.

The building access locking system for these buildings is activated as follows: Monday through Friday, the building is automatically unlocked at 6:00 a.m. and automatically locked at 6:00 p.m.; the building remains locked on Saturday and Sunday. Badge readers are installed on the first floor.

Weather Emergency Policy

Galveston Island is a geographical area subject to hurricane threats. UTMB has developed Disaster Plans to implement appropriate procedures in the event of a hurricane. **If the need for emergency transportation occurs, it is the student's obligation to obtain such transportation.** UTMB is unable to provide shelter for students as all non-hospital buildings are closed in the hurricane preparation phase. The Academic Executive Council will formally dismiss students from all schools in the event of a hurricane threat – normally when a hurricane "warning" is announced. Please refer to the information posted on the web at www.2.utmb.edu/storm. Students are appointed with an employee title of Graduate Assistant which is classified as a non-essential employee. This is defined as "employees whose presence is not essential during a declared emergency status, but cannot leave until released by supervisor and must return to work as usual under routine operations after emergency status has ended." In the event of an evacuation, students are responsible for making transportation arrangements off the island. Decal re-entry stickers are issued to residents of Galveston only, which can be picked up from the BBSC office. These stickers are to be placed in the upper left-hand corner of the driver's side windshield. Weather-related services are available by dialing 409-74STORM (409-747-8676) or tuning campus television to channel 37. Reports are also provided on radio stations, KGBC 1504 AM and KTRH 740 AM, and on area television stations.

Grades

For continuation in good standing from one semester to the next, the standards imposed by Experimental Pathology must be met. These are as follows: 1) achieving in each term a 3.0 average or above for all letter-graded courses and 2) satisfactory performance in all other courses each term. If these conditions are not met, students are placed on probation for the next semester.

Probation

If during the term in which the student is on probation he/she achieves a 3.0 average or above for all letter-graded courses and satisfactory performance in all other courses, the dean will remove the student from academic probation. Only with permission of the dean will a student be permitted to drop a course during any term that he/she is on probation.

Dismissal

Conditions for academic dismissal from the graduate school exist when a student (a) on probation fails to achieve a 3.0 GPA or above for all letter-graded courses and satisfactory performance in research, thesis and dissertation courses; (b) receives a second F, WF, or U grade; (c) receives a second grading symbol of "W" for the same course or more than two grades of "W" overall; or (d) fails

to meet all requirements for admission to candidacy for a degree in a timely fashion as specified in Section 4.731 of the GSBS Academic Policies. The dean informs students in writing when they are dismissed from the graduate school. Students dismissed from the graduate school are not eligible for readmission. However, a student may formally appeal the dismissal decision.

ByLaws of the Graduate School of Biomedical Sciences

4.6113 Time Limits

There are three time limits for the doctor of philosophy degree:

1. After successful completion of the written portion of the Qualifying Examination (Section 4.732) students will be allowed to register for Research (6097) a maximum of three (3) terms. Failure to be admitted to candidacy by the end of the third term after successfully completing the Qualifying Examination is grounds for dismissal from the graduate school (Section 4.5713, Academic Policies);
2. A final, approved copy of the dissertation and all related forms must be submitted to the graduate dean within 90 days of successful completion to the defense of the dissertation; and
3. All requirements for the doctoral degree must be completed within five years after admission to candidacy. Any student who fails to complete the requirements within this specified time must reapply for admission to candidacy.

4.6133 Ph.D. Supervisory Committee Selection

Prior to admission to candidacy, the student shall select a supervisory professor who, with the approval of the dean, will be in charge of the candidate's doctoral dissertation. The student, in consultation with the selected supervisory professor, will recommend to the dean the other members of the supervisory committee. The selected supervisory professor and the recommended other members of the supervisory committee are appointed by the dean. The chair of the supervisory committee will be appointed by the dean on recommendation of the program director in consultation with the supervisory professor. The dissertation supervisory committee will normally consist of at least five members including four UTMB graduate faculty members, associate members or special members, and one special member or appointee (see Section 2.3) from another institution. Of the UTMB members, at least three will be from the student's program (one being the supervisory professor), and one whose primary area of scientific expertise is different from that of the supervisory professor. In general, this person will be from a graduate program other than that of the student, but in some cases a faculty member who holds an appointment within the student's program may qualify. Approval by the Program Director and the GSBS Dean is required to ensure the appropriate scientific qualifications and diversity of the committee.

The supervisory committees for MD-PhD Combined Degree students have additional specifications. The committee must include a) an MD-degreed faculty member with a primary appointment in a clinical department and b) a member of the MD-PhD Combined Degree Program Advisory Committee. These specifications may be satisfied by the appointees to the 5 positions required by the graduate school for a Doctor of Philosophy supervisory committee or by the appointment of additional members. The Director of the MD-PhD Combined Degree Program must approve these supervisory committees before the dean considers the proposed members.

The dean will write the members of the approved committee and ask if they agree to serve. An affirmative response from a full committee as defined in this section is a prerequisite to admission to candidacy.

4.6134 Requirements for Admission to Candidacy

Admission to candidacy for the degree of Doctor of Philosophy requires:

1. A report from the program director that the student has passed the qualifying examination;
2. submission of an application for candidacy and an approved research proposal;
3. conversion of all incomplete (I) or not reported (NR) grades to regular grades,

4. resolving any failing grades (F, WF or U) on the transcript as prescribed in 4.5711 Academic Performance;
5. an overall grade point average of 3.0 or better;
6. good academic standing; except that a student on continuing probation as defined in Section 4.5712 may advance to candidacy if all other provisions of this section (4.6134) are fulfilled;
7. written agreement to serve from a full supervisory committee as defined in 4.6133;
8. fulfillment of all program requirements; and
9. approval by the dean of the graduate school.

After successful completion of the written portion of the Qualifying Examination (Section 4.732) students will be allowed to register for Research (6097) a maximum of three (3) terms. Failure to be admitted to candidacy by the end of the third term after successfully completing the Qualifying Examination is grounds for dismissal from the graduate school (Section 4.5713, Academic Policies).

4.6232 Masters Supervisory Committee Selection

Prior to admission to candidacy, the student shall nominate a supervisory professor who, with the approval of the dean, will be in charge of the candidate's master's thesis. The student, in consultation with the nominated supervisory professor, will recommend the other members of a supervisory committee to be appointed by the dean. The supervisory professor will serve as chair of the supervisory committee unless the program director recommends to the dean that someone other than the supervisory professor serve as the chair. The supervisory committee shall ensure that the student satisfies all the requirements of the master's degree and must recommend that the graduate faculty certify the student has fulfilled all the requirements for the Master of Arts, Master of Public Health, Master of Science or Master of Medical Science degree before the graduate faculty may grant the certification.

The supervisory committee for Master of Arts, Master of Public Health and Master of Science students will normally consist of at least three regular, associate or special members of the graduate faculty, two of whom are from the student's program (one being the supervisory professor), and one whose primary area of scientific expertise is different from that of the supervisory professor. In general, this person will be from a graduate program other than that of the student, but in some cases a faculty member who holds an appointment within the student's program may qualify. Approval by the Program Director and the GSBS Dean is required to ensure the appropriate scientific qualifications and diversity of the committee.

For the Master of Medical Science degree, the supervisory committee is composed of five members, one of whom is the supervisory professor. At least two members of the committee shall be from basic sciences departments and two shall be from clinical departments. Not more than two members shall be from the department of the student. The dean will write the members of the approved committee and ask if they agree to serve. An affirmative response from a full committee as defined in this section 4.6232 is a prerequisite to admission to candidacy.

POLICY: Extensions

To receive an extension on the three term limit a student must submit in a timely fashion:

- 1) A (scientific) justification for the request;
- 2) A letter from the mentor endorsing the request; and
- 3) Endorsement of the Program Director.

Remember that a student does not advance to candidacy until all NINE requirements have been fulfilled. That means turning in papers to the GSBS on the deadline means you are already late, since written agreement from committee members is needed.