

The University of Texas Medical Branch at Galveston

Program Review: Pharmacology & Toxicology (PhD) 2006

Program Objective	Strategic Objective	Student Learning Outcomes	Criteria for Measurement	Achievement Measures	Changes Made	Budget Implications	Institutional Implications
<p>Program Objectives: In support of UTMB's mission to enable talented individuals to become outstanding investigators in health care sciences, the PHTO offers a variety of academic and research activities focused upon PHTO Objectives:</p>		<p>To achieve its objectives, the PHTO focuses on the following Student Learning Outcomes:</p>	<p>Success of learning objectives will be measured using the following criteria:</p>	<p>Achievement Measures :</p>	<p>The results of various measurement tools have been used for improvement in the following ways:</p>		
<p>1) Educate students in the fundamental core knowledge essential for understanding and performing state-of-the art research in pharmacology and toxicology.</p>		<p>Students should be able to read and understand primary scientific literature in their field of interest such that they can 1) understand what areas of investigation remained unsolved, 2) design and conduct experiments that will allow a significant advancement in the state of knowledge in the chosen area</p>	<p>1) By the end of the first year, students will successfully complete the BBSC Core Curriculum with a grade of B or better. Those students choosing PHTO will begin lab work with their chosen mentor and also take two general courses in pharmacology and toxicology, plus one course in a single area of specialization. 2) By the end of the second yr, students should be able to pass a qualifying examination demonstrating both mastery of didactic course work material as well as the ability to critically analyze primary research papers.</p>	<p>1) 5 of 5 students (2005 – 2006) successfully completed the BBSC with grades of B or better</p>	<p>1) Changes to core courses & BBSC electives as a result of student grades, course evaluation, and BBSC Curriculum Committee recommendations have been made. Six credit hrs of PHTO basic courses have been streamlined in four credit hrs in order to increase the time available for student research and other forms of informal learning experiences.</p>	<p>1) GSBS pays student stipends, tuition, health insurance for first year. 2) Faculty grants are required to pay student salaries and beginning this year, tuition as well. Tuition costs could have a negative impact on research productivity.</p>	

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2) Expose students to innovative scientific investigation		2) Laboratory rotations expose students to varied research questions and settings and begin providing tools for scientific inquisition.	2) By the end of the first year, students will choose a Supervisory Professor and Dissertation laboratory	2) 4 of 4 students (2004 – 2005) successfully completed research rotation requirements	2) Initiated changes in rotation grades, re recommendations from BBSC Curriculum Committee; Encourage more training grant applications to increase number of faculty eligible for students in their lab.	None.	
3) Provide students with tools needed to choose and succeed in a graduate program		3) Frontiers of Science gives students a wide exposure of faculty laboratories available for students to work in, and research areas that GSBS faculty investigate.	3) By the end of the first year, students will declare a graduate program	3) 5 of 5 of students (2005 – 2006) entered into one of the 8 bench science graduate programs	3) Facilitate entrance to Programs via new forms with specified dates for all students, mentors, and program directors to sign.	3) None	Augment student knowledge of careers outside academia
4) Provide students with an awareness of positive social, ethical and scientific perspectives.		4) Register and complete Ethics of Scientific Research Course (MEHU 6101)	4) By the end of the first year, students will complete Ethics of Scientific Research course (MEHU 6101) & Academic Success Skills & Ethics (BBSC 6101).	4) 3 of 3 of students (2005 – 2006) successfully completed Ethics MEHU 6101		4) GSBS pays for administration and instructional material for both Ethic courses5) GSBS pays teaching fellows to run critical reading course for summer students; for the GSO activities, including the Chinese and International Organizations.	4) None
5) Provide a diverse student body to give students the benefits and appreciation of varied international, regional, and cultural traditions.		5) At the end of the summer, students will demonstrate cultural competence and appreciation of diversity.			The graduate school supports the Chinese student association and the International Student Association, as well as the Graduate Student Organization; all organizations work toward increased understanding and appreciation of various cultural influences.		

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6) Expose students to the basic science underlying our understanding of how small molecules interact with cells and tissues to alter organ function and disease processes. In addition, students will gain an understanding of how cells and organs excrete and metabolize these molecules.		6) Take required coursework in PHTO (Pharmacology & Toxicology) and required courses for subdiscipline.	6) By the end of their third year, the student will complete all course requirements, including both required courses and electives with a grade of B or better.	6) 5 (2005 – 2006) students successfully completed course requirements in PHTO with a grade of B or better	6) Tracking of student progress with degree audits and mentor evaluations.	6) GSBS allocates home department funding to help with salary for Program Coordinator and faculty salaries.	
7) Educate students in a manner to achieve critical thinking skills and ability to analyze scientific literature		7) Ensure that student has achieved a certain ability to handle critical thinking issues	7) By the end of their second year of graduate school, the student will demonstrate the ability to answer comprehensive research questions that require critical thinking and analyses by passing a Comprehensive Examination.	7) 5 of 5 (2005 – 2006) students successfully passed their Comprehensive Qualifying Examination		7) Implemented fall and spring journal clubs to help teach students how to read, analyze, & report scientific papers.	
8) Provide laboratory experiences that will allow students to design and complete a novel, comprehensive research project.		8) Students will write a Dissertation Proposal and defend it before a supervisory committee and a general audience.	8) By the end of their third year, the student will be able to formulate, write and defend a written comprehensive research plan and attain Candidacy.	8) 3 students were admitted to candidacy in 2005-2006.	8) Track students to assure that Proposals are defended within three semesters of completion of the Qualifying examination.		8) Increase additional skills of students, e.g. grant writing.
9) Provide students with an opportunity to learn how to communicate with others about their research and its underlying scientific basis	Presentation of two scientific papers and one research seminar each year.	9) Prepare and submit a research dissertation and/or publication in a peer-review journal	9) By years 4-5, students should be able to write and present their independent research as either a presentation for a national/international meeting; and/or for publication in a peer-reviewed journal.	9) Most of our doctoral candidates (2004-2007) have presented their research at least one national/international meetings and/or submitted their work to at least one journal for peer review.		9) Sufficient resources to track student publications and support travel for presentations are needed.	9) Graduate students are an essential component of the research enterprise of the university, contributing significantly to the research productivity and cross-disciplinary interactions.

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10) Equip students for future careers in Biomedical Sciences.		10) Upon successful completion of their Dissertation Defense, students begin pursuing a career in some aspect of Biomedical Sciences, or further education.	10) By years 4-5, the student will analyze data and write their comprehensive research plan in the format of a Dissertation; orally present this research, and defend it before the faculty.	10) 5 students (2005 – 2006) have successfully completed their Dissertation requirements, including the final Oral examination. 100% are in post-doctoral fellowships; continuing their professional education; or have moved into professional jobs/careers.	10) The graduate school supports certificate programs in business and law for interested graduate students. The graduate school supports the Committee for Career Development that exposes students to a variety of career choices, and the tools important for achieving those careers.	10) Implement tracking of students after they complete their degree requirements. Support of Committee for Career Development (CCD) to expose students to career options and tools for achieving a successful career.	10) Graduate students enter post-doctoral, faculty, and/or physician scientist positions to serve Texas and the nation