PHD IN THERAPEUTICS & PHARMACOLOGY

The discovery, development and translation of therapeutics is crucial for the advancement of clinical practice. Excitingly, innovative therapeutic strategies continue to emerge as the era of precision medicine becomes a clinical reality and we, the Therapeutics and Pharmacology (TAP) Program at the MD Anderson Cancer Center UTHealth Houston Graduate School of Biomedical Sciences, are proud to be at the forefront of expanding the boundaries of therapeutic knowledge.

Our mission is to serve as a network for scientists-in-training that promotes the communication, application and translation of emerging concepts that fall under the broad spectrum of therapeutics. These concepts include (i) exploiting vulnerabilities in cancer biology, (ii) modulating/disrupting genetic & epigenetic mechanisms, (iii) developing immunotherapies, (iv) applying computational and medicinal chemistry strategies for rational drug design, (v) harnessing nuclear medicine for drug development – to name a few. Our program is uniquely designed to potentiate students from a variety of backgrounds with diverse career goals that are interested in translational research. As a result, our students and faculty are particularly focused on taking discoveries across all areas of the basic sciences from "bench-to-bedside." To achieve this, our students receive a solid background in the principles and mechanisms of therapeutics along with hands-on training in the laboratory of their choice. Importantly, TAP is designed to center around the objectives of the trainee by allowing coursework customization and facilitating access to industry internships.

Overall, we are a tight-knit community with student-led initiatives to socialize and collaborate with peers and scholars across a wide variety of disciplines. Furthermore, we provide students valuable resources for professional development and finding careers in their desired fields. With our unique emphasis on translational research, we train students to be prime candidates for positions within academia, government, pharmaceutical industries, and intellectual property protection. The benefits of our training platform are reflected in our proud alumni who have gone on to pursue successful careers in sectors ranging from biotechnology to regulatory affairs.

In addition to the general GSBS course requirements (https://gsbs.uth.edu/academics/phd-course-requirements/), the T&P Program requires the following courses:

Program Course Requirements for PhD students

Code	Title	Hours
GS04 1103	Principles of Therapeutics	3
Six (6) credit hours of electives - recommended electives*		

*Electives

Code	Title	Hours
GS01 1033	Introduction to Biostatistics and Clinical Trials	3
GS01 1143	Introduction to Bioinformatics	3
GS04 1213	Mechanisms Cancer Therapeutics	3
GS06 1013	Fundamental Immunology	3
GS13 1024	Molecular Basis of Cell Signaling	4
GS21 1232	Translational Sciences: Bedside to Bench and Back	2
GS21 1613	Translational Cancer Research	3

Program Course Requirements for MS students

Code	Title	Hours
GS04 1103	Principles of Therapeutics	3
One elective course (approved by the program director)		

Students who declare a Secondary Area of Concentration in Therapeutics and Pharmacology are:

Code	Title	Hours
GS04 1103	Principles of Therapeutics (Required)	3
Six (6) credit hours of electives - recommended electives* (see list above)		

Doctoral Candidacy Exam Requirements

- Students may select either an on-topic or off-topic format for their The TAP PhD Candidacy Exam. At least one member of the TAP program will be a member of the Examination Committee. Also refer to GSBS requirements here (https://gsbs.uth.edu/academics/candidacy-exam/).
- The on-topic proposal should contain original material developed by and written by the student. It will follow the NIH NRSA-F award format of one-page specific aims and a six-page proposal that includes Significance, Innovation and Approach, which will be the focus of the Depth of Knowledge questioning. The Examination Committee will provide the student with three breadth areas not directly related to the student's proposal four weeks in advance of the exam to assess the student's Breadth of Knowledge.
- For the off-topic proposal, the student will provide the Examination Committee a single page of the specific aims of the proposed dissertation project and three abstracts of potential off-topic proposals for the examination. The Examination Committee will recommend which of the three topics they believe will provide a stronger proposal, but the student will make the final choice. The proposal will follow the NIH NRSA-F award format. Depth of Knowledge will be assessed from questions related to the proposal and Breadth of Knowledge may address area of dissertation research.