

PHD IN CANCER BIOLOGY

The Cancer Biology Program at The University of Texas MD Anderson Cancer Center UTHealth Houston Graduate School of Biomedical Sciences (GSBS) is dedicated to providing students with the highest quality of training in diverse areas of cancer biology research.

Given the unique environment of the Texas Medical Center, the philosophy of the Cancer Biology Program is to supplement traditional graduate school training with both depth and breadth of knowledge in cancer biology.

Students will follow the standard format of choosing a single mentor who will guide an independent research project. However, our students frequently use the resources and expertise of several laboratories in different departments during the development of their cancer-related dissertation projects. This training provides a rich experience that increases the expertise and competitiveness of our graduates.

Currently, we have about 70 students and 120 faculty affiliated with the program. Our students have been among the most outstanding and productive of the GSBS. They also have been the recipients of many GSBS awards, as well as nationally competitive awards and fellowships. Like the faculty, the students bring wide-ranging perspectives and goals to their research. The program excels in accommodating these interests while fostering interactions among all of our students.

The program faculty are eager to train motivated students and will gladly provide additional information with respect to their research programs and training opportunities in their laboratories.

This is an exciting new era in cancer research. A systematic training in cancer biology should allow our students to meet the challenge of Making Cancer History.

Cancer Biology Program Requirements

In addition to general GSBS course requirements for the PhD degree (<https://catalog.uth.edu/biomedical-sciences/programs/biomedical-sciences-phd/#programrequirementstext>) and MS degree (<https://catalog.uth.edu/biomedical-sciences/programs/biomedical-sciences-ms/#programrequirementstext>), the Cancer Biology (CB) Program requires the following courses:

PhD students who joined the program in or after 2026

Code	Title	Hours
GS04 1235	Basic and Translational Cancer Biology	5

Additionally, students must choose one of the following:

1. Join a program track and complete its course requirements (see below), or
2. Complete one or two elective courses. The courses must be letter graded (not pass/fail) and a minimum of 3 credits total. Students must get approval from program directors if they want to take courses offered by other programs

Code	Title	Hours
Option 1: Cancer Discovery Track		
GS04 1093	The Biology of Cancer Metastasis	3

Option 2: Clinical Translational Oncology Track

GS21 1232	Translational Sciences: Bedside to Bench and Back	2
GS12 1164	Human Pathobiology	3-4
or GS21 1613	Translational Cancer Research	

Option 3: Advanced Electives

1 or 2 Advanced Elective Courses, must be letter graded		at least 3 credits
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PhD Students who joined the program prior to 2026

Code	Title	Hours
GS04 1235	Basic and Translational Cancer Biology	5
GS04 1813	History of Biology and Cancer Science	3

Joining a track is optional.

Code	Title	Hours
Cancer Discovery Track		

GS04 1093	The Biology of Cancer Metastasis	3
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Clinical Translational Oncology Track

GS21 1232	Translational Sciences: Bedside to Bench and Back	2
GS12 1164	Human Pathobiology	4
		or 3

or GS21 1613 Translational Cancer Research

MS students

Code	Title	Hours
GS04 1235	Basic and Translational Cancer Biology	5

Second Area of Research Concentration (ARC2) Requirements:

Code	Title	Hours
GS04 1235	Basic and Translational Cancer Biology	5

Format Presentation Requirement

CB Program students are required to complete two formal poster and/or oral research presentations. These presentations can be fulfilled through CB Program events including the annual Retreat, Symposium, and Student Seminar series, as well as at internal or external conferences or meetings related to their field of study.

Candidacy Exam

CB Program students are required to take an on-topic candidacy exam in which the research proposal is based on the student's intended dissertation project. The CB on-topic format follows the GSBS on-topic (<https://gsbs.uth.edu/academics/candidacy-exam#TID-995aed5-13ab-4fca-b3e7-baa13c6a8bc3-2>) format except for the following features:

- Examining Committee composition:
 - Two members should be selected from the faculty who are part of the Cancer Biology Program
- Breadth of knowledge:

- At least 6 weeks prior to the exam, the student will contact the Exam Committee Chair to discuss and agree on 3 "areas of breadth" that are distinct from their dissertation research
- At least 4 weeks before the exam, the committee will provide the student with a question on each of these 3 areas
- The student will select 1 question and write a 3-page answer that is provided to the committee along with the on-topic proposal 2 weeks prior to the exam date
- During the last third of the oral exam, the committee will query the student regarding his/her knowledge of the breadth area