

## PhD in Cancer Biology

Core components of the Pathology PhD curriculum include the BSTP curriculum coursework in cell and molecular biology (CBIO 453 and CBIO 455), a minimum of three research rotations and three Pathology core courses (PATH 510 Basic Pathophysiologic Mechanisms, PATH 520 Basic Cancer Biology & Interface with Clinical Oncology, and PATH 416 Fundamental Immunology). CBTP students take at least two CBTP Track Electives:

- PATH 425. Stem Cell Biology and Therapeutics (3)
- PATH 477. Cellular and Molecular Basis of Immune Dysfunction (3)
- PATH 555. Emerging Concepts in Cell Regulation (3)
- BIOC 408. Molecular Biology: Genes and Genetic Engineering (4)
- BIOC 420. Molecular Genetics of Cancer (3)
- BIOC 618. The Biology and Mathematics of Microarray Studies (3)
- BIOC 620. Transcription and Gene Regulation (3)
- EPBI 473. Integrative Cancer Biology (3)
- EVHS 402A. Fundamentals of Environmental Health: Risk Assessment (1.5)
- EVHS 401B. Fundamentals of Environmental Health: Effects of Exposure to Environmental Mutagens (1.5)
- EVHS 502. DNA Damage and Repair (3)**
- GENE 521. Chromatin Structure & Transcription (3)
- MBIO 518. Signaling Via Cell Adhesion (3)
- PHRM 413. Molecular and Genetic Pharmacology (3)**
- PHRM 423. Drug Action and Biodistribution (3)**
- PHRM 434. Mechanisms of Drug Resistance (3)
- PHRM 521. Special Topics in Cancer Biology and Clinical Oncology (1)
- PATH 418. Tumor Immunology (2)