

Tumor Biology, PHD

In the Ph.D. in Tumor Biology program (<https://tumorbiology.georgetown.edu/phd/>), students learn basic concepts in cancer biology, including in biochemistry, pharmacology, prevention and methodology specific to cancer research. Students are trained in basic laboratory techniques and will complete a research project. Graduates of the program have a comprehensive understanding of the underlying mechanisms of cancer progression and the existing clinical challenges in treating this disease.

Coursework in the first and second year of the Tumor Biology Ph.D. training program provides students with a solid understanding of the cellular, molecular, biochemical and pathobiological basis of cancer, combined with training in research methodology and analytical and statistical techniques. With the program based in the NCI-designated Lombardi Comprehensive Cancer Center, there is a strong emphasis on the clinical-translational aspects of cancer biology, with courses on the basis and application of current and developing therapeutic strategies, participation in clinical conferences, and health disparities.

Students participate in laboratory-based research from the start of the program, with laboratory rotations over the summer and throughout the first and second semester so that they can find a laboratory in which to conduct their thesis work as soon as possible.

- Modality: On Campus
- Academic Policies and Procedures: BGE Handbook (https://docs.google.com/document/d/1rkaOm8U_1eVwabvkl_HFvpfSWrMGnrc6Ex41erxP7g/edit?usp=sharing)
- Contact the Program (<https://tumorbiology.georgetown.edu/contact/#ph-d-in-tumor-biology>)

This program is offered through Biomedical Graduate Education (BGE) (<https://biomedicalprograms.georgetown.edu/>) at Georgetown University School of Medicine.

Requirements

Tumor Biology doctoral students must complete 33 credits (26 credits of required courses and 7 credits of electives, with at least a B average); three different laboratory rotations; a comprehensive examination; a thesis proposal; a written dissertation; and a final oral defense.

Code	Title	Credits
Required Courses		
BCMC 5001	BIOCHEM & CELLULAR SCIENCES	4
BCMC 5390	MOLECULAR CELL BIOLOGY	3
BINF 5990	Next Gen Seq Data Analysis	2
TBIO 6528	CORE METHODS IN MOLECULAR BIO	3
TBIO 6508	Cellular & Molecular Aspects	4
TBIO 6536	Cancer Pharmacology	4
TBIO 6546	Resources for Cancer Research	0
TBIO 6562	Surv Skills & Ethics for Scien	2
TBIO 6588	Preparing A Scientific Paper	2
TBIO 6599	Practical Data Anlys & Exp Des	2

TBIO 7030	Current Topics:Cancer Res	0
or TBIO 7040	Current Topics:Cancer Res	
TBIO 7110	Tumor Biology Student Sem	0
or TBIO 7120	Tumor Biology Student Sem	
TBIO 9999	Thesis Research	0

Laboratory Rotations

TBIO 9985	TBIO Lab Rotation Summer	0
TBIO 9986	TBIO Lab Rotation Fall	0
TBIO 9987	TBIO Lab Rotation Spring	0

Elective Courses		7
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SYSM 5910	Biomedical Informatics
TBIO 6510	Biochem for Cancer Research
TBIO 6511	Lec:Clin & Translational Onclg
TBIO 6513	Clinical Conf On Breast Cancer
TBIO 6520	Cancer Prevent/Control/Epidem
TBIO 6522	Epigenetics:Mech &Env Implctns
TBIO 6523	Cancer Epigenetics
TBIO 6525	Cancer Genetics
TBIO 6530	Systems Biology & Bioinformati
TBIO 6532	Prin/Prac of Behavioral Scienc
TBIO 6543	Clinical Survey of Human Cance
TBIO 6558	Contemp Iss in Genetics/Societ
TBIO 6560	Animal Models
TBIO 6568	Minrty Hlth & Hlth Disparities
TBIO 6572	Pathologic Basis of Cancer
TBIO 6581	Top:Molec Epidem of Cancer Ris
TBIO 6584	Intro to Tumor Biology
TBIO 6585	Transcriptomics: Microarray An
TBIO 6586	Proteomics: Mass Spectrometry
TBIO 6587	Systems Biology: Pathway & Net
TBIO 7050	Cancer Research Techniques
TBIO 7060	Cancer Res Techniques

Total Credits	33
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Related Programs

- Tumor Biology, MS (<http://coursecatalog.georgetown.edu/programs/tumor-biology-ms/>)