BIOCHEMISTRY, STRUCTURAL, & MOLECULAR BIOLOGY (PHD)

Contacts

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Program Website (https://www.jefferson.edu/academics/colleges-schools-institutes/life-sciences/degrees-programs/phd-programs/biochemistry-pharmacology.html)

Program Description

Employs a multidisciplinary approach to train students in the rigors of experimental biomedical sciences & prepare them for independent research careers. The curriculum is designed to convey the fundamentals of biochemistry, structural biology, molecular pharmacology, cell biology and genetics.

Learning Goals & Outcomes

- The education is reinforced at the bench in advanced research laboratories broadly grouped into three research emphases: Molecular & Cellular Pharmacology, Chemical & Structural Biology and Molecular Biology & Gene Regulation.
- In addition to extensive basic equipment found in each laboratory, students have access to numerous specialized resources, including genomic and multiplex sequencing, microarray analysis, flow cytometry and cell sorting, confocal and TiRF microscopy, X-ray crystallography and macromolecular characterization (surface plasmon resonance, calorimetry, circular dichroism and fluorescence spectroscopy).
- Students graduating from this program will have the comprehensive scientific foundation and technical expertise to excel in all areas of biomedical research.

Curriculum: 5.5 Years, 180 Credits

Course	Title	Credits
First Year		
GC 550	Found in Biomedical Sciences	10
GC 760	PhD Laborator Rotation II	3
BSMB 710		1
BSMB 910		3
GC 770	PhD Laboratory Rotation III	3
BSMB 525		3
BSMS 613		3
GC 640	Research Ethics	1
BSMB 720		1
BSMB 725		1
General Elective		3
GC 780	PhD Laboratory Rotation IV	3
NS 740	Applied Statistics in Neurosci	2
BSMB 730		1
BI 920	Research	V
BSMS 930		3
BSMS 940		3
GC 550D	Rudiments/ComputationalBio&Med	1
	Credits	**45**
Second Year		
General Elective		V
GC 730	Planning&Writing ResearchGrant	1
BSMB 710		2
BSMB 715		1
BSMB 910		V
General Elective		V
BSMB 720		2
BSMB 725		1
BSMB 730		2
BSMS 920		1
BSMB 930		V
General Elective		V
	Credits	**10**
	Total Credits	**55**

Course requirements are usually completed by end of second year, and students spend an average of another two to three years to complete thesis projects.