The following courses are required for successful completion of the Doctor of Philosophy Program

**Required courses for all PhD students**

Macromolecular Structure and Analysis (ME.100.709)  
Biochemical and Biophysical Principles (ME.100.710)  
Genetics (ME.260.708)  
Molecular Biology and Genomics (ME.260.709)  
Computational Biology and Bioinformatics (ME.800.707)  
Organic Mechanisms in Biology (ME.330.709)  
Cell Structure and Dynamics (ME.110.728)  
Pathways and Regulation (ME.360.728)  
Genome Integrity and Cancer (PH.120.624)  
Current Topics in Biochemistry and Molecular Biology (PH.120.872)  
Current Research Literature (PH.120.852)  
Biochemical Techniques (PH.120.850)  
Public Health Perspectives in Research (PH.550.865)  
Responsible Conduct of Research (PH.550.600)  
Academic and Research Ethics (PH.550.860)

**Second-year elective courses** – PhD students are required to take at least two of the following:

Stem Cells and the Biology of Aging and Disease (PH.120.627)  
Molecular Endocrinology (PH.120.621)  
Nucleic Acid Chemistry (PH.120.613)  
Molecular and Cellular Mechanisms of Reproduction (PH.120.622)  
Molecular Biology of Cellular Stress and Quality Control

Other elective courses-PhD students are required to meet a school requirement of taking nine credits of coursework of their choice within the Bloomberg School of Public Health outside of their department.

**Required courses for students supported by the NCI training grant**

Fundamentals in Cancer: Cause to Cure (ME.510.706)  
Stem Cells and the Biology of Aging and Disease (PH.120.627)