DOCTOR OF PHILOSOPHY IN THE FIELD OF CANCER BIOLOGY

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Graduate Programs (http://bulletin.gwu.edu/arts-sciences/#degreeregulationstext).

The requirements for the Doctor of Philosophy program (http://bulletin.gwu.edu/arts-sciences/#doctoraltext).

72 credits, including required core, dissertation, and elective coursework. Successful completion of a grant-style qualifier examination is required for advancement to candidacy. In addition, students perform full-time research in faculty laboratories for the duration of their program. In GW laboratories, they are hired as paid research assistants/associates in the third year and beyond of the program.

Students are advised to complete up to 48 credits comprising required interdisciplinary core courses, required cancer biology core courses, electives, and advanced readings and research in the first two years of PhD study. Upon successful completion of a grant-style qualifier, students then register for up to 24 credits of dissertation research through completion and successful oral defense of a written dissertation.

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Graduate Programs (http://bulletin.gwu.edu/arts-sciences/#degreeregulationstext).

The requirements for the Doctor of Philosophy program (http://bulletin.gwu.edu/arts-sciences/#doctoraltext).

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<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BMSC 8210</td>
<td>Genes to Cells</td>
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<tr>
<td>BMSC 8212</td>
<td>Systems Physiology</td>
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<td>BMSC 8215</td>
<td>Lab Rotations</td>
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Required interdisciplinary core courses

Required cancer biology core courses

MMED 8214 Molecular Medicine Seminar

MMED 8221 The Basic Science of Oncology

Electives

24 credits elective courses selected in consultation with graduate program advisor:

BIOC 6223 Bioinformatics

BIOC 6236 Medical Genomics

BIOC 6240 Next Generation Sequencing

BIOC 6281 Topics

BMSC 8231 Introduction to Genomics, Proteomics, and Bioinformatics

MICR 8210 Infection and Immunity

MICR 8230 Molecular and Cellular Immunology

MICR 8270 Advanced Topics in Immunology

MMED 8222 Molecular Oncology

MMED 8281 Molecular Pharmacology and Neurobiology of Excitable Tissues

MMED 8998 Advanced Reading and Research

PHAR 6116 Pharmacogenomics and Personalized Medicine

Dissertation Research

MMED 8999 Dissertation Research

Required courses may be waived at the discretion of the graduate program director based on written documentation of prior equivalent coursework. Any waiver increases the number of electives required, by the number of credits waived.