

Molecular Biophysics Degree Plan

First year DBS students take 12 credit hours in fall and spring, and 6 credit hours in the summer semesters. In subsequent years they are enrolled in 9 credit hours in fall and spring, and 6 credit hours in the summer. Typically, didactic coursework is completed in the first year. In subsequent years, students are enrolled in dissertation research and a combined work-in-progress seminar (WIP)/journal club totaling full-time enrollment equivalency, and they are encouraged to take additional elective courses that expand their skills in specific areas and/or broaden their knowledge on Molecular Biophysics. Advancement of the student to Ph.D. candidacy is dependent upon successful completion of all mandatory coursework and the qualifying examination, which takes place in the second year.

| Year | Term | Half/ Full | Title | Credit Hour | Total Credit Hrs/Term |
|------------------------------|--------|-----------------------|---|--------------------|--------------------------|
| First Year | Fall | 1 st Half | Core Curriculum - Genes | 2 | |
| | | | Core Curriculum - Proteins | 2 | |
| | | 2 nd Half | Protein Structure and Folding | 2 | |
| | | | Elective Coursework* | 2 | |
| | | Full | Professionalism, Responsible Conduct of Research, and Ethics I | 1 | |
| | Full | Laboratory Rotations | 3 | Semester Total: 12 | |
| | Spring | 1 st Half | Physical Chemistry of Macromolecules | 1.5 | |
| | | | Advanced Elective Coursework** | 1.5 | |
| | | 2 nd Half | Advanced Elective Coursework** | 1.5 | |
| | | | Advanced Elective Coursework** | 1.5 | |
| | | Full | Professionalism, Responsible Conduct of Research, and Ethics II | 1 | |
| | Full | Laboratory Rotations | 5 | Semester Total: 12 | |
| Summer | | Research | 6 | Semester Total: 6 | |
| Second Year | Fall | Full | Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| | Spring | Full | Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| Summer | | Dissertation Research | 6 | Semester Total: 6 | |
| Third Year | Fall | Full | Dissertation Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| | Spring | Full | Dissertation Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| | Summer | | Dissertation Research | 6 | Semester Total: 6 |
| Fourth Year & Beyond | Fall | Full | Dissertation Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| | Spring | Full | Dissertation Research | 7.5 | |
| | | | WIP Seminar / Journal Club | 1.5 | Semester Total: 9 |
| Summer | | Dissertation Research | 6 | Semester Total: 6 | |
| Minimum Credit Hours for PhD | | | | | 102 |

() Students are required to complete a total of 6.5 credit hours of elective and advanced elective coursework with specific requirements for 3.0 of the credit hours that are outlined below. The remaining can be chosen from any course within the Division of Basic Science, although students are strongly encouraged to take the Core Curriculum - Cells course in the second half of the fall.

| * Elective Coursework Recommended Course | Credit Hour | Term Offered | |
|---|--------------------|---------------------|----------------------|
| Core Curriculum - Cells | 2 | Fall | 2 nd half |

| **Advanced Elective Coursework must choose 2 of the following: | Credit Hour | Term Offered | |
|---|--------------------|---------------------|----------------------|
| Quantitative Biology ¹ | 1.5 | Spring | 1 st half |
| Modern Methods in Structural Biology | 1.5 | Spring | 2 nd half |
| Spectroscopy | 1.5 | Spring | 2 nd half |

| Additional Advanced Elective Courses | Credit Hour | Term Offered | |
|--|--------------------|---------------------|----------------------|
| Experimental Biophysics ² | 2.0 | Fall | 1 st half |
| Advanced NMR Spectroscopy ² | 1.5 | Fall | 1 st half |
| Practical X-Ray Crystallography ² | 1.5 | Fall | 2 nd half |

¹ Students are strongly encouraged to complete Mathematical Foundations of Quantitative Biology (Fall, 2nd half, 2.0 credit hours) prior to taking Quantitative Biology.

²Requires a prerequisite of Modern Methods in Structural Biology

For additional listings of elective and advanced elective courses available, see each program's course descriptions webpage.