BIOLOGY, PH.D.

Advanced study leading to the Ph.D. in biology is offered in ecology, evolution, and organismal (EEO) biology and in cellular, molecular, health, and disease (CMHD) biology. A B.S. or B.A. degree in biology or appropriately related discipline is required for admission to graduate study in this program. Applicants may also submit official scores from the Graduate Record Examination (GRE) General Test, taken within the last five years, but it is not required for admission. Students entering the program with graduate-level course work may petition to apply up to twenty-four semester hours of approved courses toward the Ph.D. Additional hours beyond twenty-four may be considered on a course-by-course basis by the Graduate Committee. Thesis hours are not transferable toward doctoral requirements. All graduate students in Biology are expected to maintain a minimum GPA of 3.0 throughout their program. In accordance with Graduate School policy, any student whose Baylor graduate GPA falls below 3.0 will be placed on probation. The student must restore their GPA to 3.0 by the end of the next nine credit hours of coursework in order to remain in the graduate program.

Requirements for a PhD in Biology

A total of 60 credit hours is required. A total of 30 hours of coursework (exclusive of 6V10 and 6V99) is required prior to admission to candidacy.

Code	Title	Hours
Required Core Courses		
BIO 5201	Research Methods in Biology	2
BIO 5324	Quantitative Biology	3
BIO 5325	Advanced Topics in Evolutionary Biology	3
BIO 5349	Research Proposal Writing and Development	3
CHE 5101	Responsible Conduct of Research	1
Elective Core Courses		**6**
BIO 5303	Ecological Applications in Modern Biology	
BIO 5307	Advanced Cell and Molecular Biology	
BIO 5310	Advanced Microbiology	
BIO 5312	Introduction to Multiomics Experimentation and Analysis	
Additional Elective Coursework [1]		**12**
Subtotal		**30**
BIO 6V99	Dissertation (at least 12 hours)	12
Additional Hours [2]		**18**
Total Hours		**60**

1. No more than 12 hrs. of Graduate Catalog-lists 4000-level courses may be applied. No more than 9 hrs. of BIO 5V90 Special Problems may be applied. May not include BIO 6V10 or BIO 6V99.
2. May include BIO graduate coursework, up to four hours of BIO 6V10, or BIO 6V99.

Judicious selection of courses, assisted by the faculty mentor, facilitates specialization in ecology, evolution, and organismal (EEO) biology or in cellular, molecular, health, and disease (CMHD) biology. The committee will consist of at least five graduate faculty, including the student's major professor, three graduate faculty members from the Department of Biology, and a Baylor University graduate faculty member from outside the Department of Biology. Additional members from appropriately related disciplines may also serve on dissertation committees. The committee will be chosen by the major professor and student in consultation with the Graduate Program Director in Biology.

A written Ph.D. comprehensive examination will be prepared by the student's preliminary examination committee. This will be administered during the 4th semester following the student's entry into the program. The Biology written exam will cover basic concepts in areas appropriate to the student's background as determined by the preliminary examination committee and will determine the student's readiness to begin dissertation research. The oral portion of the examination will encompass a defense of the student's dissertation proposal presented and evaluated by the student's committee. Doctoral students must demonstrate familiarity with the scientific literature, and expertise in experimental design, in collection and analysis of data, and in interpretation of results in subject areas pertinent to the student's dissertation research. After completion of a doctoral dissertation, that includes a mandatory publication in a rigorous peer-reviewed academic journal, the candidate has a final oral examination involving defense of the dissertation. Doctoral students present a public exit seminar based on the dissertation.

Doctoral degree program students must fulfill a one-year teaching requirement under the mentorship of a faculty member. This usually involves assisting in undergraduate laboratory course instruction as a graduate teaching assistant or serving as instructor-of-record in a lecture course.

There is no foreign language requirement for the Ph.D. degree in Biology. However, individual advisors and committees may require students to satisfy a language requirement or demonstrate special research skills through formal course work at the graduate level.