BIOLOGY (PHD)

Doctor of Philosophy in Biology
Unit: College of Arts and Sciences (http://louisville.edu/artsandsciences/intro) (GA)
Department: Biology (http://louisville.edu/biology/graduate)
Program Website (http://louisville.edu/biology/graduate)
Academic Plan Code(s): BIONPHD

Program Information
A broad range of courses are taught in most biological disciplines, although the department is focused in two major directions. Faculty in the Divisions of Molecular, Cellular, and Developmental Biology (MCD) and Evolution, Ecology and Behavioral Biology (EEB) have research interests in environmental microbiology, population and microbial genetics, developmental biology, plant and animal physiology, metabolism, plant and animal ecology, behavioral ecology, invertebrate zoology, and community and ecosystem ecology.

Students seeking the PhD Degree in Biology traditionally have a master’s degree or its equivalent; however, students may enter the program with only the baccalaureate degree. Generally, the first year or two is spent in coursework; research is begun by the second year, and the thesis/dissertation completed in the final year.

Graduate Assistantships and Other Financial Support
Graduate Teaching Assistantships (GTA) are awarded by the Graduate Committee of the Department of Biology to meet the instructional needs of the Department and enhance and broaden the educational experience of doctoral students. All newly admitted students are automatically considered for this type of annual support, which includes a monthly stipend, tuition remission, and health insurance.

Financial support may also be available from individual faculty members who have research funding that supports graduate students as Graduate Research Assistants (GRA). The faculty members holding this support select students to fill these positions.

A small number of the most highly qualified accepted applicants will be nominated by the Department for University Fellowship awards, which carry a monthly stipend, tuition remission, and health insurance benefits. These students must meet qualifications set by the Graduate School.

Admission Requirements
The following requirements must be met in order to be admitted to the PhD program in the Department of Biology.

1. The applicant must have a baccalaureate degree with a major in biology or an acceptable sub-discipline of biology.
2. The applicant must meet the following admissions standards:
   - Undergraduate GPA of 3.0 or higher
   - While there is no minimum requirement for GRE scores, competitive students usually have scores around the 50th percentile or better on the general GRE test (verbal + quantitative)
   - For foreign students, a TOEFL score of 83 on the internet-based exam or at least 6.5 on the IELTS exam (students holding a baccalaureate or advanced degree from an accredited institution in the United States are exempt from this requirement).
3. All applicants must review the research specialties of the departmental faculty to ensure that an area compatible with the student’s interest is available. Applicants for the PhD program must communicate with a member of the biology faculty prior to admission and receive agreement that the faculty member will serve as the major professor. No formal admission to the program can occur without the preliminary acceptance of a mentor. Faculty contact information is available at louisville.edu/biology.

Your application will be complete when we have all of the following (final action on an application cannot be taken until all items have been received).

Send the following to:
Graduate School
Graduate Admissions
University of Louisville
Louisville, KY 40292

- Completed application form and application fee;
- One official transcript of all previous undergraduate and graduate coursework;
- Official GRE scores;
- Two or more letters of recommendation from persons familiar with your academic performance; and
- Official TOEFL or IELTS scores (international students).

Send to the Director of Graduate Studies, Department of Biology:

- Completed Biology Department Application Form (http://louisville.edu/biology/graduate/graduate-program-application-information) (this is an electronic form sent when completed).

Deadline for completed applications:
- July 15* for Fall admission
- December 1 for Spring admission

*For full consideration for financial support, applications should be completed by January 15 for Fall admission.

Degree Requirements for the PhD in Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 600</td>
<td>Graduate Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 601</td>
<td>Graduate Seminar II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>One course to be selected by the student’s committee from each category:</td>
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<tr>
<td></td>
<td>Biostatistics</td>
<td>4</td>
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<tr>
<td></td>
<td>Evolutionary Biology¹</td>
<td>4</td>
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<tr>
<td></td>
<td>Focus Area</td>
<td></td>
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<tr>
<td></td>
<td>Select two courses from within an Area of Focus:</td>
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<tr>
<td></td>
<td>Ecology, Evolution and Behavioral (EEB) Biology Focus Area:</td>
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<td></td>
<td>Population and Community Ecology</td>
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<td></td>
<td>Ecosystem Ecology or Behavioral Ecology</td>
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<td></td>
<td>Molecular, Cellular and Developmental (MCD) Biology Focus Area:</td>
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<tr>
<td></td>
<td>Genetics/Cellular²</td>
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<td></td>
<td>Physiology³</td>
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<tr>
<td></td>
<td>Advanced Biology Electives</td>
<td>16</td>
</tr>
</tbody>
</table>

1. Students may substitute Evolutionary Biology sections from another biology course with graduate approval.
2. Students may substitute Genetics/Cellular sections from another biology course with graduate approval.
3. Students may substitute Biology Electives courses other than Evolutionary Biology and Genetics/Cellular sections with graduate approval.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 700</td>
<td>Dissertation Research</td>
<td>7</td>
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</tbody>
</table>

**Minimum Total Hours:** 41

1. Courses that cover the evolutionary history and/or phlogenetic relationships of molecules or organisms
2. Courses that discuss the biochemistry and molecular genetics of life or describe the cell as the structural and functional unit of life
3. Courses that discuss life processes at the level of the organism