M.A. in Biochemistry & Biophysics; Microbiology; or Molecular, Cellular, & Developmental Biology

Molecular Biosciences Graduate Programs

The department offers the Doctor of Philosophy and the Master of Arts in biochemistry and biophysics; microbiology; and molecular, cellular, and developmental biology. Programs in neurobiology and genetics also allow a research focus. Graduate students may pursue degree tracks in the disciplines of their choice but may also be involved in collaborative research. New students should confer with the graduate coordinator to plan a first-semester schedule. Until the student chooses a permanent advisor, the graduate coordinator advises him or her.

The department has established a level of enrollment appropriate for normal progress (course work and research effort) toward an advanced degree. These credit-hour requirements may exceed, but not fall below, minimum Graduate Studies requirements. A student must enroll full-time in residence for at least 2 regular academic-year semesters after the first year of graduate study. 9 credit hours constitute full-time enrollment. If the student holds a half-time research or teaching assistantship, 6 hours constitute full-time enrollment. The department expects graduate students who have not yet passed the comprehensive orals examination (including those with half-time assistantships) to enroll in at least 9 hours each semester and 3 hours each summer session. After passing the comprehensive oral examination, a doctoral candidate must be continuously enrolled, including summer sessions, until all degree requirements are completed. For the first 18 hours of post-comprehensive enrollment, the doctoral candidate must take a minimum of 6 hours a semester and 3 hours a summer session.

Graduate Teaching Assistantships and Graduate Research Assistantships are available. GTAs are appointed on a semester basis. GRAs are appointed on a semester, academic-year, or calendar-year basis.

During the first 2 semesters, a new Ph.D. graduate student follows a rotation schedule through 3 research laboratories. This program acquaints each student with the research conducted by each faculty member. Students then choose a home lab. This decision must be mutually agreed on with the major professor. Each graduate student must teach for at least 2 semesters.

(The B.S. degree in molecular biosciences (http://catalog.ku.edu/liberal-arts-sciences/biology/bs-molecular-biosciences) is offered on the KU Edwards Campus (http://edwardscampus.ku.edu).)

Admission to Graduate Studies

An applicant seeking to pursue graduate study in the College may be admitted as either a degree-seeking or non-degree seeking student. Policies and procedures of Graduate Studies govern the process of Graduate admission. These may be found in the Graduate Studies (http://catalog.ku.edu/graduate-studies) section of the online catalog.

Please consult the Departments & Programs (http://catalog.ku.edu/liberal-arts-sciences) section of the online catalog for information regarding program-specific admissions criteria and requirements. Special admissions requirements pertain to Interdisciplinary Studies degrees, which may be found in the Graduate Studies section of the online catalog.

Graduate Admission

The department adheres to minimum admission requirements. The number of new students accepted each year depends largely on availability of laboratory space, financial resources, grants, and the number of students leaving the program. The department maintains a full enrollment.

The department’s website (http://www.molecularbiosciences.ku.edu) has information about application procedures and a link for applying directly online. A completed application file must include

1. An application form and fee;
2. 1 copy of all academic transcripts (international students must provide 1 copy in English and 1 in the native language);
3. A résumé (1 to 2 pages);
4. General Graduate Record Examination scores (GRE must have been taken within 2 years of the initial semester);
5. Internet-Based Test of English as a Foreign Language (iBT) or IELTS scores for international students;
6. 3 recommendation letters; and
7. A statement of aims (1 to 2 pages) describing the applicant’s interests and professional goals.

All files must be complete and received in the department by December 15 each year. First consideration is given to those who meet this deadline. Applicants are informed of decisions in early March.

All supporting documentation should be uploaded online when you apply. If this is not possible, please send documentation to:

The University of Kansas
Department of Molecular Biosciences
Haworth Hall
1200 Sunnyside Ave., Room 2034
Lawrence, KS 66045-7566

M.A. Degree Requirements:

Biochemistry and Biophysics

General Requirements for All M.A. Students

Refer to each discipline for specific course requirements. General requirements include

1. A minimum of 30 hours of graduate credit;
2. A minimum of 1 laboratory rotation during the first semester of graduate study;
3. Enrollment every semester in BIOL 701 Topics in Molecular Biosciences Seminar;
4. Completion of the following courses: BIOL 807 Graduate Molecular Biosciences and BIOL 818 Techniques in Molecular Biosciences;
5. A graduate committee established by the beginning of the spring semester of the first year;
6. A minimum of 1 annual graduate committee meeting until completion of the degree.

The following thesis options are available:

1. Write a thesis resulting from original research on a laboratory problem.
2. Publish a research paper in a national, refereed journal. Acceptance of the paper for publication constitutes publication for conferral of the degree.
3. Write a library thesis on a topic approved by the student’s graduate committee.

**Specific M.A. Requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 750</td>
<td>Advanced Biochemistry</td>
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<tr>
<td>BIOL 772</td>
<td>Gene Expression</td>
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Electives to satisfy the 30-hour requirement. Electives are determined in consultation with the graduate advisor and graduate committee.

**Microbiology**

**General Requirements for All M.A. Students**

Refer to each discipline for specific course requirements. General requirements include

1. A minimum of 30 hours of graduate credit;
2. A minimum of 1 laboratory rotation during the first semester of graduate study;
3. Enrollment every semester in BIOL 701 Topics in Molecular Biosciences Seminar;
4. Completion of the following courses: BIOL 807 Graduate Molecular Biosciences and BIOL 818 Techniques in Molecular Biosciences;
5. A graduate committee established by the beginning of the spring semester of the first year;
6. A minimum of 1 annual graduate committee meeting until completion of the degree.

The following thesis options are available:

1. Write a thesis resulting from original research on a laboratory problem.
2. Publish a research paper in a national, refereed journal. Acceptance of the paper for publication constitutes publication for conferral of the degree.
3. Write a library thesis on a topic approved by the student’s graduate committee.

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<tr>
<td>BIOL 752</td>
<td>Cell Biology</td>
<td>3</td>
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<tr>
<td>BIOL 755</td>
<td>Mechanisms of Development</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 753</td>
<td>Advanced Genetics</td>
<td>3</td>
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<tr>
<td>or BIOL 772</td>
<td>Gene Expression</td>
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</table>

Electives to satisfy the 30-hour course requirement. Electives are determined in consultation with the graduate advisor and graduate committee.

**Molecular, Cellular, and Developmental Biology**

**General Requirements for All M.A. Students**

Refer to each discipline for specific course requirements. General requirements include

1. A minimum of 30 hours of graduate credit;
2. A minimum of 1 laboratory rotation during the first semester of graduate study;
3. Enrollment every semester in BIOL 701 Topics in Molecular Biosciences Seminar;
4. Completion of the following courses: BIOL 807 Graduate Molecular Biosciences and BIOL 818 Techniques in Molecular Biosciences;
5. A graduate committee established by the beginning of the spring semester of the first year;
6. A minimum of 1 annual graduate committee meeting until completion of the degree.

The following thesis options are available:

1. Write a thesis resulting from original research on a laboratory problem.
2. Publish a research paper in a national, refereed journal. Acceptance of the paper for publication constitutes publication for conferral of the degree.
3. Write a library thesis on a topic approved by the student’s graduate committee.

**Specific M.A. Requirements:**

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<tr>
<td>BIOL 811</td>
<td>Advanced Molecular and Cellular Immunology</td>
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<tr>
<td>BIOL 812</td>
<td>Mechanisms of Host-Parasite Relationships</td>
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<tr>
<td>BIOL 813</td>
<td>Advanced Bacterial Physiology</td>
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<td>BIOL 814</td>
<td>Advanced Molecular Virology</td>
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<tr>
<td>BIOL 815</td>
<td>Advanced Molecular Genetics</td>
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Electives to satisfy the 30-hour course requirement. Electives are determined in consultation with the graduate advisor and graduate committee.