**BIOLOGY, B.A.**

Biology is a dynamic science aimed at gaining a better understanding of living organisms and how they interact with the environment. Biological research seeks to answer a broad range of questions, from factors that affect human health to ecological issues.

Saint Louis University's biology program offers courses that emphasize concepts over facts and aim to provide a foundation for careers in the life sciences, health professions, K-12 education and advanced post-graduate study in a broad variety of disciplines. The B.A. in biology degree at Saint Louis University provides maximum flexibility in selecting upper-division courses and is favored by students seeking to have double majors.

- SLU's biology program is enriched by interactions with the School of Medicine, Missouri Botanical Garden, Donald Danforth Plant Science Center and Saint Louis Zoo, as well as a growing number of St. Louis-based life science companies. Research experiences and internships provide students with opportunities to study biology beyond the classroom.
- The Department of Biology has a field station that provides unique opportunities for students to explore ecology, conservation and environmental science in an Ozark forest ecosystem. The field station offers students opportunities to take a summer class, conduct undergraduate research and participate in a semester-long program of field biology coursework.
- Biology students at SLU are encouraged to participate in co-curricular activities. Groups such as Beta Beta Beta, the biology honorary society, and Alpha Epsilon Delta, the pre-professional honor society, are social and academic organizations that further students' interest in biology while exposing them to its relationship with other scientific disciplines.

**Curriculum Overview**

The undergraduate curriculum in the Department of Biology is diverse and will meet a variety of interests in the rapidly expanding fields of the biological sciences. It is also designed to provide an intensive educational experience for students in other disciplines who have an interest in biology. In addition to courses offered in Macelwane Hall, the department offers courses at the University's Reis Biological Station located by the Huzzah Creek in the Ozarks.

The Bachelor of Arts degree in biology provides flexibility in selecting upper-level courses and is favored by students interested in double majors.

**Fieldwork and Research Opportunities**

Benefits of the biology program include several internship and career opportunities. Advanced undergraduate students with good academic records are encouraged to apply for positions as teaching or learning assistants. In addition to a stipend, students gain teaching experience and the opportunity to help others become interested in the field of biology.

Biology majors can enroll in courses that provide credit for structured internships through collaborations with a variety of local organizations including the Missouri Botanical Garden, Saint Louis Zoo, Sigma Aldrich, Monsanto and firms in the growing biotechnology field.

**Careers**

SLU's biology major develops strong critical thinking and problem-solving skills that provide excellent preparation for professional schools, such as:

- Medical school
- Veterinary science school
- Dental school
- Optometry school
- Graduate school in a broad range of disciplines

The skills biology majors gain also open the door to a wide variety of career options in areas such as health care, biotechnology, environmental management, conservation, education and the pharmaceutical industry.

Recent biology majors have been awarded grants from Sigma Xi and the National Science Foundation, as well as prestigious fellowships from the NSF, Fulbright Scholar Program, Mayo Clinic, Smithsonian Institution, NeuroSURF and the American Society for Microbiology.

**Admission Requirements**

**Begin Your Application (http://www.slu.edu/apply.php)**

Saint Louis University also accepts the Common Application.

**Freshman**

All applications are thoroughly reviewed with the highest degree of individual care and consideration to all credentials that are submitted. Solid academic performance in college preparatory coursework is a primary concern in reviewing a freshman applicant's file.

To be considered for admission to any Saint Louis University undergraduate program, applicants must be graduating from an accredited high school, have an acceptable HiSET exam score or take the General Education Development (GED) test.

**Transfer**

Applicants must be a graduate of an accredited high school or have an acceptable score on the GED.

Students who have attempted fewer than 24 semester credits (or 30 quarter credits) of college credit must follow the above freshmen admission requirements. Students who have completed 24 or more semester credits (or 30 quarter credits) of college credit must submit transcripts from all previously attended college(s).

In reviewing a transfer applicant’s file, the Office of Admission holistically examines the student’s academic performance in college-level coursework as an indicator of the student’s ability to meet the academic rigorous of Saint Louis University. Where applicable, transfer students will be evaluated on any courses outlined in the continuation standards of their preferred major.

**International Applicants**

All admission policies and requirements for domestic students apply to international students along with the following:

- Demonstrate English Language Proficiency
- Proof of financial support must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University
Scholarships and Financial Aid
There are two principal ways to help finance a Saint Louis University education:

- **Scholarships**: Scholarships are awarded based on academic achievement, service, leadership and financial need.
- **Financial Aid**: Financial aid is provided in the form of grants and loans, some of which require repayment.

For priority consideration for merit-based scholarships, apply for admission by Dec. 1 and complete a Free Application for Federal Student Aid (FAFSA) by March 1.

For information on other scholarships and financial aid, visit the student financial services office online at https://www.slu.edu/financial-aid/.

Learning Outcomes
1. Graduates will be able to effectively apply core biological concepts to solve problems.
2. Graduates will be able to critically evaluate scientific information from multiple sources, including that from the primary literature.
3. Graduates will be able to apply biological principles to global societal issues.
4. Graduates will be able to draw valid conclusions from quantitative data.
5. Graduates will be able to formulate hypotheses that address research questions.
6. Graduates will be able to correctly perform common laboratory and/or field techniques.

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5. Graduates will be able to formulate hypotheses that address research questions.
6. Graduates will be able to correctly perform common laboratory and/or field techniques.

Requirements
Biology students must complete a minimum total of 48 credits for the major.

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<td>BIOL 1260 &amp; BIOL 1265</td>
<td>General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory</td>
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<td>BIOL 3010</td>
<td>Evolutionary Biology</td>
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<td>BIOL 3020</td>
<td>Biochemistry and Molecular Biology</td>
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<td>BIOL 3030</td>
<td>Principles of Genetics</td>
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<td>BIOL 3040</td>
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<td>MATH 1300</td>
<td>Elementary Statistics with Computers or BIOL 4790 Biometry</td>
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Total Credits 120

**Independent Research**
A total of 3 credits of BIOL 4960 Independent Research (1-3 cr), BIOL 4970 Library Project (1-3 cr), and/or BIOL 4980 Advanced Independent Study (1-4 cr) can be counted toward the B.A. degree. These courses do not count as structured lab courses.

**Non-Course Requirements**
All biology majors are required to participate in first and second-year mentoring sessions and meet with their mentor when in residence.

Continuation Standards
Students must have a minimum of a 2.00 GPA in their major courses (BIOL) and required related credits (chemistry, mathematics and statistics, physics etc.) by the conclusion of their freshman year. Students who fall below a 2.00 GPA will be placed on probation. If a student fails to obtain at least a 2.00 GPA in their major courses (BIOL) and required related credits by the conclusion of their sophomore year they will not be allowed to continue in the program.

Bachelor of Arts Core Curriculum Requirements

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<td>World History</td>
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Total Credits 57-66
Graduation Requirements

- Complete a minimum of 120 credits (excluding pre-college level courses numbered below 1000).
- Complete either the College of Arts and Sciences Bachelor of Arts or Bachelor of Science Core Curriculum Requirements
- Complete major requirements: minimum 30 credits required.
- Complete remaining credits with a second major, minor, certificate, and/or electives to reach the minimum of 120 credits required for graduation.
- Courses listed under the intensive English program do not count toward graduation requirements. EAP 1500 College Composition for International Students (3 cr), EAP 1900 Rhetoric & Research Strategies (3 cr) and EAP 2850 Nation, Identity and Literature (3 cr) count toward graduation requirements as equivalents to Department of English courses.

In addition to those courses, six credits from EAP/MLNG courses at the 1000 level or higher may count toward graduation requirements.
- Achieve at least a 2.00 cumulative grade point average, a 2.00 grade point average in the major(s) and a 2.00 grade point average in the minor/certificate, or related elective credits.
- Complete department/program-specific academic and performance requirements.
- Complete at least 50% of the coursework for the major and 75% for the minor/certificate through Saint Louis University or an approved study abroad program.
- Complete 30 of the final 36 credits through Saint Louis University or an approved study abroad program.
- Complete an online degree application by the required University deadline.

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

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1 See information in the program notes.

**Program Notes**

**Statistics Electives**

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**Laboratory Electives**

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<td>BIOL 3100</td>
<td>Experiments in Genetics Lab</td>
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<td>BIOL 3260</td>
<td>Biology of Plants &amp; Fungi</td>
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<td>BIOL 3420</td>
<td>Comparative Anatomy of the Vertebrates</td>
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<td>BIOL 3470</td>
<td>General Physiology Laboratory</td>
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<td>BIOL 4100</td>
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<td>Field Mammalogy</td>
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**Plant Electives**

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<td>Economic Botany</td>
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