BIOLOGY, B.S.

Through Saint Louis University's biology major, students gain 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 various disciplines. Five B.S. degree concentrations allow students to focus on specific disciplinary areas. SLU also offers a B.A. in Biology (https://www.slu.edu/arts-and-sciences/academics/degrees/undergraduate/biology-ba.php).

- The program is enriched by interactions with the School of Medicine, Missouri Botanical Garden, Donald Danforth Plant Science Center, Saint Louis Zoo and many St. Louis-based life science companies. Research experiences and internships provide students with opportunities to study biology beyond the classroom.
- SLU's Department of Biology (https://www.slu.edu/arts-and-sciences/biology/) has a field station (https://www.slu.edu/arts-and-sciences/biology/reis-biological-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.
- Students 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 are interested in biology. In addition to courses offered in Macelwane Hall, the department offers courses at the University's Reis Biological Station (https://www.slu.edu/arts-and-sciences/biology/reis-biological-station/), located by the Huzzah Creek in the Ozarks.

B.S. students may choose one of five concentrations:

Biological Science

This concentration provides students with a strong foundation in biology and prepares students for entry-level employment in the life sciences, health professions, K-12 education and graduate school.

Biological Chemistry and Molecular Biology

This concentration focuses on the latest advances in biochemistry, genomics, molecular and cell biology. It is designed for students interested in careers involving biomedical research or biotechnology.

Cell Biology and Physiology

This concentration provides students with a strong foundation in the structure and function of organ systems and the tissues that comprise them. It is a good choice for students planning careers in medicine, pharmacology or health care.

Ecology, Evolution and Conservation

This concentration is designed for students interested in various aspects of organismal biology. It is a good choice for students preparing for graduate study or planning a career as a research biologist or wildlife specialist.

Plant Science

This concentration is designed for students interested in various aspects of plant biology. It prepares students for careers in agricultural industries, botanical research institutes or advanced training in graduate degree programs.

Fieldwork and Research Opportunities

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

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

Careers

The 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 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 and 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 rigors 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 (https://catalog.slu.edu/academic-policies/office-admission/undergraduate/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
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

Tuition

Tuition	Cost Per Year
Undergraduate Tuition	$52,260

Additional charges may apply. Other resources are listed below:

Net Price Calculator (https://www.slu.edu/financial-aid/tuition-and-costs/calculator.php)

Information on Tuition and Fees (https://catalog.slu.edu/academic-policies/student-financial-services/tuition/)

Miscellaneous Fees (https://catalog.slu.edu/academic-policies/student-financial-services/fees/)

Information on Summer Tuition (https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer/)

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 through grants and loans, some of which require repayment.

Saint Louis University makes every effort to keep our education affordable. In fiscal year 2022, 99% of first-time freshmen and 90% of all students received financial aid (https://www.slu.edu/financial-aid/) and students received more than $445 million in aid University-wide.

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

For information on other scholarships and financial aid, visit www.slu.edu/financial-aid (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.
7. Graduates will be able to effectively apply the scientific method to test hypotheses.

Requirements

Biology students must complete a minimum total of **74 credits** for the major.

Code	Title	Credits
University Undergraduate Core (https://catalog.slu.edu/academic-policies/academic-policies-procedures/university-core/)		**32-35**
Major Requirements		
Required Introductory Courses		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory	4
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
BIOL 3010	Evolutionary Biology	3
BIOL 3020	Biochemistry and Molecular Biology	3
BIOL 3030	Principles of Genetics	3
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I	4
Statistics Course		
MATH 1300	Elementary Statistics with Computers	3-4
or BIOL 4790	Biometry	

Additional Science Lab Courses		*16*
Complete four of the following seven combinations:		
CHEM 2410 & CHEM 2415	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	
CHEM 2420 & CHEM 2425	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	
PHYS 1310 & PHYS 1320	Physics I and Physics I Laboratory	
PHYS 1330 & PHYS 1340	Physics II and Physics II Laboratory	
EAS 1420 & EAS 1425	Introduction to Atmospheric Science and Introduction to Atmospheric Science Lab	
EAS 1430 & EAS 1435	Introduction to the Solid Earth and Introduction to the Solid Earth Lab	
EAS 1450 & EAS 1455	Introduction to Oceanography and Intro to Oceanography Lab	
Concentrations		
Select one of the following Concentrations:		
Biological Chemistry and Molecular Biology (p. 3)		
Biological Sciences (p. 3)		
Cell Biology & Physiology (p. 3)		
Ecology, Evolution & Conservation (p. 4)		
Plant Science (p. 4)		
Senior Inquiry		*1*
Select one of following:		
BIOL 4910	Internship in Conservation	
BIOL 4911	Integrated Bioinformatics Internship	
BIOL 4912	Internship in Plant Science	
BIOL 4970	Library Project	
BIOL 4980	Advanced Independent Study	
BIOL 5xxx	BIOL 5000-level elective	
General Electives		**35-39**
Total Credits		**120**

Laboratory Requirement

All B.S. students must either:

1. Complete at least three structured laboratory experiences with at least one from the cellular, molecular and developmental biology category and one from the ecology, evolutionary and organismal biology category of courses (see below).

   OR

2. Complete four structured laboratory experiences without regard to category type.

In addition, B.S. students must complete at least one plant science course and one of several senior inquiry options.

Independent Research

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

Biological Chemistry and Molecular Biology Concentration

Code	Title	Credits
Required Course		
BIOL 3040	Cell Structure & Function	3
Select two courses with a 'Biological Chemistry/Molecular Biology Elective' attribute.		*6*
Select two courses with a 'Biological Chemistry/Molecular Biology Lab' attribute.		*3-6*
Ecology, Evolutionary and Organismal Biology Elective with Lab (p. 5)		**4-5**
Plant Elective (p. 5)		**3-5**
Biology Elective Courses (a minimum of 26 credits is required for the concentration)		1-7
Total Credits		**26**

Code	Title	Credits
'Biological Chemistry/Molecular Biology Elective' Attribute		
BIOL 4700	Molecular Biology	3
BIOL 4070	Advanced Biological Chemistry	3
BIOL 4030	Introduction to Genomics	3
BIOL 4430	Principles of Virology	3
BIOL 4520	Biochemical Pharmacology	3
BIOL 4650	General Microbiology Laboratory	2
BIOL 4720	Cancer Biology	3

Code	Title	Credits
'Biological Chemistry/Molecular Biology Lab' Attribute		
BIOL 3060	Cell Structure & Function Laboratory	1
BIOL 3100	Experiments in Genetics Lab	1
BIOL 4050	Molecular Technique Lab	2
BIOL 4160	Microbial Ecology and Molecular Evolution	4
BIOL 4650	General Microbiology Laboratory	2

Biological Sciences Concentration

Code	Title	Credits
Required Course		
BIOL 3040	Cell Structure & Function	3
Cellular, Molecular & Developmental Biology Elective with Lab		**4-5**
Ecology, Evolutionary and Organismal Biology Elective with Lab (p. 5)		**4-5**
Additional Cellular, Molecular & Developmental Biology or Ecology, Evolutionary and Organismal Biology Lab or BIOL 4790		**1-5**
Plant Elective (p. 5)		**3-5**
Biology Elective Courses (a minimum of 26 credits is required for the concentration)		3-11
Total Credits		**26**

Cell Biology and Physiology Concentration

Code	Title	Credits
Required Courses		
BIOL 3040	Cell Structure & Function	3
BIOL 4540	Human Systemic Physiology	3

Select one course with a 'Cell Biology-Related Lab' attribute	**1-4**
Select one course with a 'Physiology-Related Lab' attribute.	**1-5**
Ecology, Evolutionary and Organismal Biology Elective with Lab (p. 5)	**4-5**
Select two courses with a 'Cell Biology & Physiology Elective' attribute.	**6-9**
Plant Elective (p. 5)	**3-5**
Biology Elective Courses (a minimum of 26 credits is required for the concentration)	0-5
Total Credits	**26-34**

Code	Title	Credits
'Cell Biology/Physiology Elective' Attribute		
BIOL 3400X	Introduction to Neuroscience 1: Cellular, Molecular and Systemic	3
BIOL 3420	Comparative Anatomy of the Vertebrates	0,5
BIOL 3490	Plant Physiology	3
BIOL 4160	Microbial Ecology and Molecular Evolution	4
BIOL 4250	Neurobiology of Disease	3
BIOL 4410	Comparative Animal Physiology	3
BIOL 4430	Principles of Virology	3
BIOL 4440	Vertebrate Histology: Structure and Function of Tissues	4
BIOL 4460	Exercise Physiology	3
BIOL 4510	Behavioral Endocrinology	3
BIOL 4520	Biochemical Pharmacology	3
BIOL 4600	Developmental Biology	3
BIOL 4630	Foundations of Immunobiology	3
BIOL 4640	General Microbiology	3
BIOL 4720	Cancer Biology	3

Code	Title	Credits
'Physiology-Related Lab' Attribute		
BIOL 3420	Comparative Anatomy of the Vertebrates	0,5
BIOL 3470	General Physiology Laboratory	1
BIOL 3550X	Neuroscience Laboratory	1
BIOL 4440	Vertebrate Histology: Structure and Function of Tissues	0,4

Code	Title	Credits
'Cell Biology-Related Lab' Attribute		
BIOL 3060	Cell Structure & Function Laboratory	1
BIOL 3550X	Neuroscience Laboratory	1
BIOL 4160	Microbial Ecology and Molecular Evolution	4
BIOL 4050	Molecular Technique Lab	2
BIOL 4600	Developmental Biology	3
BIOL 4635	Immunobiology Lab	1
BIOL 4650	General Microbiology Laboratory	2

Ecology, Evolution and Conservation Concentration

Code	Title	Credits
Required Course		
BIOL 4750	General Ecology	3
Select one course with an 'Ecology Elective' attribute.		**3-5**
Cellular, Molecular & Developmental Biology Elective with Lab		**4-5**
Select one course with an 'Evolution Elective' attribute.		**3-5**
Select one course with an 'Organismal Elective' attribute.		**3-5**
Select one course with a 'Tools Elective' attribute		**2-4**
Ecology, Evolutionary and Organismal Biology Elective with Lab (p. 5)		**4-5**
Plant Elective (p. 5)		**3-5**
Biology Elective Courses (a minimum of 26 credits is required for the concentration)		0-1
Total Credits		**26-37**

Code	Title	Credits
'Evolution Elective' Attriute		
BIOL 3420	Comparative Anatomy of the Vertebrates	5
BIOL 4010	Sex, Evolution, and Behavior	3
BIOL 4120	Field Botany	5
BIOL 4410	Comparative Animal Physiology	3
BIOL 4580	Applied Population Genetics	3
BIOL 3450	Economic Botany	3

Code	Title	Credits
'Organismal Elective' Attribute		
BIOL 3220	Biology of Invertebrates	4
BIOL 3260	Biology of Plants & Fungi	4
BIOL 3450	Economic Botany	3
BIOL 4100	Natural History of Vertebrates	4
BIOL 4130	Field Mammalogy	5
BIOL 4140	Field Ornithology	5
BIOL 4240	General and Medical Entomology	4
BIOL 4260	Biology of Amphibians and Reptiles	4
BIOL 4280	Biology of Fishes	4
BIOL 4330	Spring Flora of the Ozarks	4
BIOL 4410	Comparative Animal Physiology	3
BIOL 4640	General Microbiology	3

Code	Title	Credits
'Ecology Elective' Attribute		
BIOL 4090	Plant Ecology	3
BIOL 4140	Field Ornithology	5
BIOL 4200	Aquatic Ecology	4
BIOL 4360	Animal Behavior	3
BIOL 4480	Conservation Biology	3
BIOL 4670	Population Biology	3

Plant Science Concentration

Code	Title	Credits
Required Courses		
BIOL 3040	Cell Structure & Function	3
BIOL 3260	Biology of Plants & Fungi	4
BIOL 3490	Plant Physiology	3
BIOL 4090	Plant Ecology	3
Cellular, Molecular & Developmental Biology Elective with Lab		**4-5**

Additional Cellular, Molecular & Developmental Biology or Ecology, Evolutionary and Organismal Biology Lab or BIOL 4790	**1-5**
Biology Elective Courses (a minimum of 26 credits is required for the concentration)	3-8
Total Credits	**26**

Code	Title	Credits
Cellular, Molecular, and Developmental Biology Electives with Lab		
BIOL 3060	Cell Structure & Function Laboratory	1
BIOL 3100	Experiments in Genetics Lab	1
BIOL 3420	Comparative Anatomy of the Vertebrates	5
BIOL 3470	General Physiology Laboratory	1
BIOL 4050	Molecular Technique Lab	2
BIOL 4070	Advanced Biological Chemistry	3
BIOL 4160	Microbial Ecology and Molecular Evolution	4
BIOL 4410	Comparative Animal Physiology	3
BIOL 4440	Vertebrate Histology: Structure and Function of Tissues	4
BIOL 4510	Behavioral Endocrinology	3
BIOL 4600	Developmental Biology	3
BIOL 4640 & BIOL 4650	General Microbiology and General Microbiology Laboratory	5

Program Notes:

Ecology, Evolutionary and Organismal Biology Elective with Lab

Code	Title	Credits
BIOL 3220	Biology of Invertebrates	4
BIOL 3260	Biology of Plants & Fungi	4
BIOL 3420	Comparative Anatomy of the Vertebrates	5
BIOL 4100	Natural History of Vertebrates	4
BIOL 4115	Forest Park Living Lab Field Ecology Techniques	1
BIOL 4120	Field Botany	5
BIOL 4130	Field Mammalogy	5
BIOL 4140	Field Ornithology	5
BIOL 4160	Microbial Ecology and Molecular Evolution	4
BIOL 4200	Aquatic Ecology	4
BIOL 4260	Biology of Amphibians and Reptiles (with Lab)	4
BIOL 4280	Biology of Fishes	4
BIOL 4320	Cave Biology	4
BIOL 4330	Spring Flora of the Ozarks	4
BIOL 4360 & BIOL 4370	Animal Behavior and Animal Behavior Lab	4
BIOL 4750 & BIOL 4760	General Ecology and General Ecology Laboratory	4

Plant Elective*

Code	Title	Credits
BIOL 3260	Biology of Plants & Fungi	4
BIOL 3450	Economic Botany	3
BIOL 3490	Plant Physiology	3
BIOL 4090	Plant Ecology	3
BIOL 4330	Spring Flora of the Ozarks	4
BIOL 4120	Field Botany	5

* Plant electives with labs may also fulfill the Ecology, Evolutionary, and Organismal Biology elective requirement or Cell, Molecular, and Developmental Biology elective requirement.

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.

Graduation Requirements

- Complete a minimum of 120 credits (excluding pre-college level courses numbered below 1000).
- Complete the University Undergraduate Core curriculum requirements.
- Complete major requirements: minimum of 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.
- 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
Biological Chemistry and Molecular Biology

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory (BIOL 1240 satisfies CORE 3800)	4
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4

CORE 1000	Ignite First Year Seminar (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	2-3
CORE 1500	Cura Personalis 1: Self in Community (Must be taken in first 36 credit hours at SLU / Cannot carry attributes / Must be taken at SLU)	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication (Should be taken in first 36 credit hours at SLU / Cannot carry attributes)	3
General Electives		1
	Credits	**15-16**
Spring		
Participation in First-year Mentoring Events		
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I (satisfies CORE 3200)	4
CORE 1600	Ultimate Questions: Theology	3
	Credits	**15**
Year Two		
Fall		
Participation in Second-year Mentoring		
BIOL 3020	Biochemistry and Molecular Biology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 1700	Ultimate Questions: Philosophy	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
General Electives		2
	Credits	**15**
Spring		
BIOL 3040	Cell Structure & Function	3
CHEM, EAS, or PHYS course w/lab		4
Statistics Elective	MATH 1300 or BIOL 4790	3-4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 2800	Eloquentia Perfecta 3: Creative Expression	2-3
General Electives		2
	Credits	**14-16**
Year Three		
Fall		
BIOL 3010	Evolutionary Biology	3
BIOL 3030	Principles of Genetics	3
Course with a 'Biological Chemistry/Molecular Biology Elective' attribute		3
CHEM, EAS, or PHYS course w/lab		4
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
	Credits	**16**
Spring		
Course with a 'Biological Chemistry/Molecular Biology Elective' attribute		1-2
BIOL Elective		3
CHEM, EAS, or PHYS course w/lab		4
CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4000	Collaborative Inquiry	2-3
General Electives		2
	Credits	**15-17**
Year Four		
Fall		
Course with a 'Biological Chemistry/Molecular Biology Elective' attribute		3
Laboratory EEOB Elective		1-5
Plant Elective		3
CORE 3500	Cura Personalis 3: Self in the World	1
General Electives		7-3
	Credits	**15**
Spring		
Biology Elective		3
Course with a 'Biological Chemistry/Molecular Biology Lab' attribute		1-4
Senior Inquiry		1-3
General Electives		10-5
	Credits	**15**
	Total Credits	**120-125**

Biological Sciences

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory (BIOL 1240 satisfies CORE 3800)	4
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
CORE 1000	Ignite First Year Seminar (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	2-3
CORE 1500	Cura Personalis 1: Self in Community (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication (Should be taken in first 36 credit hours at SLU / Cannot carry attributes)	3
General Electives		1
	Credits	**15-16**
Spring		
Participation in First-year Mentoring Events		

BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I (satisfies CORE 3200)	4
CORE 1600	Ultimate Questions: Theology	3
	Credits	**15**

Year Two

Fall

Participation in Second-year Mentoring		
BIOL 3020	Biochemistry and Molecular Biology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 1700	Ultimate Questions: Philosophy	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
General Electives		2
	Credits	**15**

Spring

BIOL 3040	Cell Structure & Function	3
CHEM, EAS, or PHYS course w/lab		4
Statistics Elective	MATH 1300 or BIOL 4790	3-4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 2800	Eloquentia Perfecta 3: Creative Expression	2-3
General Electives		3
	Credits	**15-17**

Year Three

Fall

BIOL 3010	Evolutionary Biology	3
BIOL 3030	Principles of Genetics	3
Biology Elective		3
CHEM, EAS, or PHYS course w/lab		4
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
	Credits	**16**

Spring

Biology Elective		3
Laboratory CMDB Elective		1-2
CHEM, EAS, or PHYS course w/lab		4
CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4000	Collaborative Inquiry	2-3
General Electives		2
	Credits	**15-17**

Year Four

Fall

Biology Elective		3
Laboratory EEOB Elective		1-5
Plant Elective		3
CORE 3500	Cura Personalis 3: Self in the World	1
General Electives		7
	Credits	**15-19**

Spring

Biology Elective		3
Laboratory CMDB or EEOB Elective		1-5
Senior Inquiry		1-3
General Electives		10-4
	Credits	**15**
	Total Credits	**121-130**

Cell Biology & Physiology

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory (BIOL 1240 satisfies CORE 3800)	4
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
CORE 1000	Ignite First Year Seminar (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	2-3
CORE 1500	Cura Personalis 1: Self in Community (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication (Should be taken in first 36 credit hours at SLU / Cannot carry attributes)	3
General Electives		1
	Credits	**15-16**
Spring		
Participation in First-year Mentoring Events		
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I (satisfies CORE 3200)	4
CORE 1600	Ultimate Questions: Theology	3
	Credits	**15**
Year Two		
Fall		
Participation in Second-year Mentoring		
BIOL 3020	Biochemistry and Molecular Biology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 1700	Ultimate Questions: Philosophy	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
General Electives		2
	Credits	**15**
Spring		
BIOL 3040	Cell Structure & Function	3
CHEM, EAS, or PHYS course w/lab		4

Statistics Elective	MATH 1300 or BIOL 4790	3-4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 2800	Eloquentia Perfecta 3: Creative Expression	2-3
General Electives		3
	Credits	**15-17**
Year Three		
Fall		
BIOL 3010	Evolutionary Biology	3
Course with 'Cell Biology/Physiology Elective' attribute		3
BIOL 4540	Human Systemic Physiology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
	Credits	**16**
Spring		
BIOL 3030	Principles of Genetics	3
Course with 'Cell-Related' attribute		1
Course with 'Physiology-Related Lab' attribute		2-5
CHEM, EAS, or PHYS course w/lab		4
CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4000	Collaborative Inquiry	2-3
	Credits	**15-19**
Year Four		
Fall		
Course with 'Cell Biology/Physiology Elective' attribute		3
BIOL Elective		3
Plant Elective		3
CORE 3500	Cura Personalis 3: Self in the World	1
General Electives		5
	Credits	**15**
Spring		
Laboratory EEOB Elective		4-5
Laboratory CMDB or EEOB Elective		1-5
Senior Inquiry		1-3
General Electives		9-2
	Credits	**15**
	Total Credits	**121-128**

Ecology, Evolution & Conservation

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory (BIOL 1240 satisfies CORE 3800)	4
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
CORE 1000	Ignite First Year Seminar (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	2-3
CORE 1500	Cura Personalis 1: Self in Community (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication (Should be taken in first 36 credit hours at SLU / Cannot carry attributes)	3
General Electives		1
	Credits	**15-16**
Spring		
Participation in First-year Mentoring Events		
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I (satisfies core 3200)	4
CORE 1600	Ultimate Questions: Theology	3
	Credits	**15**
Year Two		
Fall		
Participation in Second-year Mentoring		
BIOL 3020	Biochemistry and Molecular Biology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 1700	Ultimate Questions: Philosophy	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
General Electives		2
	Credits	**15**
Spring		
Biology Elective	Many EEC students take BIOL 3040 as an CMDB elective	3-4
CHEM, EAS, or PHYS course w/lab		4
Statistics Elective	MATH 1300 or BIOL 4790	3-4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 2800	Eloquentia Perfecta 3: Creative Expression	2-3
General Electives		3
	Credits	**15-18**
Year Three		
Fall		
BIOL 3010	Evolutionary Biology	3
BIOL 3030	Principles of Genetics	3
BIOL 4750 & BIOL 4760	General Ecology and General Ecology Laboratory	4
CHEM, EAS, or PHYS course w/lab		4
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
	Credits	**17**
Spring		
Course with a 'Evolution Elective' attribute		3-4
Course with a 'Organismal Elective' attribute		3-4
Laboratory CMDB Elective		1-2
CHEM, EAS, or PHYS course w/lab		4

CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4000	Collaborative Inquiry	2-3
	Credits	**16-20**
Year Four		
Fall		
Course with a 'Tools Elective' attribute		2-4
Plant Elective		3
CORE 3500	Cura Personalis 3: Self in the World	1
General Electives		9
	Credits	**15-17**
Spring		
Course with a 'Ecology Elective' attribute		3
Laboratory CMDB or EEOB Elective		1-5
Senior Inquiry		1-3
General Electives		7
	Credits	**12-18**
	Total Credits	**120-136**

Plant Science

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory (BIOL 1240 satisfies CORE 3800)	4
CHEM 1110 & CHEM 1115	General Chemistry 1 and General Chemistry 1 Laboratory	4
CORE 1000	Ignite First Year Seminar (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	2-3
CORE 1500	Cura Personalis 1: Self in Community (Must be taken in first 36 credit hours at SLU / Cannot carry attributes)	1
CORE 1900	Eloquentia Perfecta 1: Written and Visual Communication (Should be taken in first 36 credit hours at SLU / Cannot carry attributes)	3
General Electives		1
	Credits	**15-16**
Spring		
Participation in First-year Mentoring Events		
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
CHEM 1120 & CHEM 1125	General Chemistry 2 and General Chemistry 2 Laboratory	4
MATH 1510	Calculus I (satisfies CORE 3200)	4
CORE 1600	Ultimate Questions: Theology	3
	Credits	**15**
Year Two		
Fall		
Participation in Second-year Mentoring		
BIOL 3020	Biochemistry and Molecular Biology	3
CHEM, EAS, or PHYS course w/lab		4
CORE 1700	Ultimate Questions: Philosophy	3
CORE 1200	Eloquentia Perfecta 2: Oral and Visual Communication	3
General Electives		2
	Credits	**15**
Spring		
BIOL 3040	Cell Structure & Function	3
CHEM, EAS, or PHYS course w/lab		4
Statistics Elective	MATH 1300 or BIOL 4790	3-4
CORE 2500	Cura Personalis 2: Self in Contemplation	0
CORE 2800	Eloquentia Perfecta 3: Creative Expression	2-3
General Electives		3
	Credits	**15-17**
Year Three		
Fall		
BIOL 3010	Evolutionary Biology	3
BIOL 4090	Plant Ecology	3
Laboratory CMDB Elective		1-2
CHEM, EAS, or PHYS course w/lab		4
CORE 3400	Ways of Thinking: Aesthetics, History, and Culture	3
General Electives		1
	Credits	**15-16**
Spring		
BIOL 3490	Plant Physiology	3
BIOL 3030	Principles of Genetics	3
CHEM, EAS, or PHYS course w/lab		4
CORE 3600	Ways of Thinking: Social and Behavioral Sciences	3
CORE 4000	Collaborative Inquiry	2-3
	Credits	**15-16**
Year Four		
Fall		
BIOL Elective	Many Plant Science concentration students chose to take BIOL 3450 as a BIOL elective	3
BIOL Elective		3
Laboratory CMDB or EEOB Elective		1-2
CORE 3500	Cura Personalis 3: Self in the World	1
General Electives		7
	Credits	**15-16**
Spring		
BIOL 3260	Biology of Plants & Fungi	4
BIOL Elective		3
Senior Inquiry		1-3
General Electives		7
	Credits	**15-17**
	Total Credits	**120-128**

2+SLU

2+SLU programs are formal transfer agreements for students seeking an associate degree at a partner institution.

- Biology, B.S. (STLCC 2+SLU) (https://catalog.slu.edu/academic-policies/office-admission/undergraduate/2plusslu/stlcc/biology-bs/)