

BIOLOGICAL SCIENCES (BS)

NA

Program Requirements	Quarter Hours
Liberal Studies Requirements	76
Major Requirements	64
Major Concentration Requirements	32
Open Electives	20
Total hours required	192

Learning Outcomes

Students will be able to:

- Distinguish among the diversity of fields and approaches within Biology.
- Describe the relationships among Biology and other scientific and social disciplines.
- Describe how the scientific process is used to identify and resolve testable questions.
- Critically analyze scientific information and design and analyze the results of an experiment.
- Effectively communicate scientific information in both written and oral forms.

College Core Requirements

Modern Language Requirements

Students who intend to graduate with the Bachelor of Arts (BA) degree will be required to demonstrate competence in a modern language equivalent to the proficiency attained from one year of college-level language study. Such competence may be demonstrated in one of several ways:

- completing the last course in the fourth-year high school sequence of any language
- completing the last course in the first-year college sequence of any language
- completing a college course beyond the first-year level in any language
- achieving a satisfactory score on any of the Modern Language placement examinations administered at DePaul
- achieving a satisfactory rating in a proficiency examination accepted by DePaul
- achieving a score of 3 or higher on the Advance Placement (AP) test for any language
- achieving a score of 5 or higher in the Language B assessment from a Standard or Higher Level International Baccalaureate (IB) program
- achieving a satisfactory score on the CLEP examination

Please note: Modern Languages courses with an E-designation are taught in English and may not be applied to the Modern Language Requirement.

For further information regarding satisfactory scores and possible credit from the DePaul placement, AP, CLEP, or IB examinations, please contact Student Records.

Students who complete an Inter-College Transfer (ICT) to the College of Science and Health will abide by the College of Science and Health Modern Language Requirement in place on the effective date of the ICT.

BA students who meet College requirements and wish to pursue further work in the language may elect the Language for Liberal Studies Option (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-program-guidelines/language-for-liberal-studies-option/>) of the Liberal Studies Program. While Bachelor of Science (BS) students are not required to demonstrate competency in a modern language, the Language for Liberal Studies Option is available to them for language study at any level. Modern Languages courses with an E-designation are taught in English and may not be applied to the Language for Liberal Studies Option.

Major Declaration Requirements

All students in the College are required to declare a major field prior to beginning their junior year. After researching College programs, the student should declare a major field by visiting Campus Connection and using the Declarations and Inter-College Transfer tool. The student will then be assigned a faculty advisor or staff advisor in the department or program and should make an appointment to see that advisor at his or her earliest convenience.

To change major fields, or to declare a minor or concentration, the student must use the Declarations and Inter-College Transfer tool described above. However, for the purpose of exploring the possibility of changing a major field, the student should consult an academic advisor in the College or an academic advisor in the Office for Academic Advising Support.

Liberal Studies Requirements

Honors program requirements can be found in the individual Colleges & Schools section of the University Catalog. Select the appropriate college or school, followed by Undergraduate Academics and scroll down.

First Year Program		Hours
Chicago Quarter		
LSP 110	DISCOVER CHICAGO	4
or LSP 111	or EXPLORE CHICAGO	
Focal Point		
LSP 112	FOCAL POINT SEMINAR	4
Writing		
WRD 103	COMPOSITION AND RHETORIC I ¹	4
WRD 104	COMPOSITION AND RHETORIC II ¹	4
Quantitative Reasoning		
Not Required		
Sophomore Year		
Race, Power, and Resistance		
LSP 200	SEMINAR ON RACE, POWER, AND RESISTANCE	4
Junior Year		
Experiential Learning		
Required		4
Senior Year		
Capstone		
BIO 395	BIOLOGY CAPSTONE SEMINAR ^{1,2}	4

¹ Students must earn a C- or better in this course.

² Students with a primary major in Biology are required to complete the Capstone offered by the Biology department. Students double majoring or pursuing dual degrees with the primary major or primary degree in Biology are required to complete the Capstone offered by the Biology department. Biology students in the University Honors Program shall take the University Honors Capstone. They are not expected to take both the Honors Capstone and the primary major or primary degree Capstone.

Learning Domains

Arts and Literature (AL) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/arts-and-literature/>)

- 3 Courses Required

Historical Inquiry (HI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/historical-inquiry/>)

- 2 Courses Required

Math and Computing (MC) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/math-and-computing/>)

- Not Required

Philosophical Inquiry (PI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/philosophical-inquiry/>)

- 2 Courses Required

Religious Dimensions (RD) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/religious-dimensions/>)

- 2 Courses Required

Scientific Inquiry (SI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/scientific-inquiry/>)

- Not Required

Social, Cultural, and Behavioral Inquiry (SCBI) (<https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/social-cultural-and-behavioral-inquiry/>)

- 3 Courses Required

Notes

Courses offered in the student's primary major cannot be taken to fulfill LSP Domain requirements. If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the Experiential Learning requirement.

In meeting learning domain requirements, no more than one course that is outside the student's major and is cross-listed with a course within the student's major, can be applied to count for LSP domain credit. This policy would apply only to those students in pursuit of a BA or BS degree, and not to those who are double majors or earning BFA or BM degrees.

Major Requirements

Course Requirements

Biological Sciences Core

Course	Title	Quarter Hours
BIO 191	GENERAL BIOLOGY I FOR SCIENCE MAJORS	4
BIO 192	GENERAL BIOLOGY II FOR SCIENCE MAJORS	4
BIO 193	GENERAL BIOLOGY III FOR SCIENCE MAJORS	4
BIO 206	BIOSTATISTICS	4
BIO 260	GENETICS	4
BIO 395	BIOLOGY CAPSTONE SEMINAR (Liberal Studies Program Capstone)	4

Chemistry

Course	Title	Quarter Hours
Select one of the following:		4-6
CHE 120 & CHE 131	GENERAL CHEMISTRY IP and GENERAL CHEMISTRY I LABORATORY	
CHE 130 & CHE 131	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	

The following courses are required:

CHE 132 & CHE 133	GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II	4
CHE 134 & CHE 135	GENERAL CHEMISTRY III and GENERAL CHEMISTRY LABORATORY III	4
CHE 230 & CHE 231	ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LABORATORY I	4
CHE 232 & CHE 233	ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY II	4

Students are typically expected to take the first year chemistry courses simultaneously with BIO 191, BIO 192, and BIO 193.

Physics

Course	Title	Quarter Hours
PHY 150	GENERAL PHYSICS I	4
PHY 151	GENERAL PHYSICS II	4
PHY 152	GENERAL PHYSICS III	4

Students may substitute comparable sequences of Physics courses designed for science majors.

Mathematics

Choose one of the following Calculus sequences:

Course	Title	Quarter Hours
Sequence One		
MAT 150	CALCULUS I	4
MAT 151	CALCULUS II	4

Sequence Two

MAT 147	CALCULUS WITH INTEGRATED PRECALCULUS I	6
MAT 148	CALCULUS WITH INTEGRATED PRECALCULUS II	6
MAT 149	CALCULUS WITH INTEGRATED PRECALCULUS III	6

Sequence Three

MAT 155	SUMMER CALCULUS I	6
MAT 156	SUMMER CALCULUS II	6

Students may be advised on the basis of their performance on the Mathematics Diagnostic test to take one or more course before calculus.

Concentration Requirements

Students must also complete the requirements from one of the following concentrations: Integrative Biology; Microbiology and Biotechnology; Medicine and Health; Neuroscience; Ecology and Evolution; Cell & Molecular Biology; or Physiology. Students are limited to only declaring one concentration.

Sequencing

Since programs in the Biological Sciences tend to be structured, it is useful for students to take courses in sequence. Students should begin with the General Biology and General Chemistry sequences. These are prerequisite to higher level requirements such as Ecology, Cell Biology, Genetics, and Organic Chemistry, which should preferably be taken in the sophomore year. Since calculus is required for the degree, students should also begin their study of mathematics as soon as possible, preferably prior to their junior year, so that they can be adequately prepared for the General Physics sequence, best taken in the junior year. Because of this highly structured sequence, students are strongly encouraged to work with their departmental advisor in order to plan their course schedules and plan alternatives if necessary. Such planning is particularly important for transfer students, as the sequence presented above is highly recommended and most likely to be completed in a timely fashion.

The predominance of chemistry and biology course sequences required in the freshman and sophomore years generally dictates that, with the exception of the Liberal Studies Core courses, the majority of the Liberal Studies courses may be postponed until the junior and senior years. Students may therefore be taking fewer Liberal Studies courses in the first two years than many other programs, concentrating instead on major field requirements, which are prerequisites to upper division courses.

Students are advised to talk with their advisor before double majoring, because some major combinations are prohibited. No more than 50% of the credits that apply to one major may be drawn from another major.

Honors in Research for BS students in Biology

The Honors in Research recognizes students who, with a faculty advisor in the Biology department, have developed a high-quality and novel research project that contains publishable data. The student will write a senior thesis and complete an oral presentation to the department. If the thesis is approved by the faculty mentor advisor, faculty reader, and the Honors in Research Program Director, the successful student will be awarded Honors in Research in Biology.

Concentration Requirements

Concentrations, tracks and specializations provide focus to the major. In addition to any college core requirements, liberal studies requirements and major requirements, students are required to choose one of the following:

- Cell & Molecular Biology Concentration, Biological Sciences (BS) (<https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-cell-molecular-biology-concentration/>)
- Ecology and Evolution Concentration, Biological Sciences (BS) (<https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-ecology-evolution-concentration/>)
- Integrative Biology Concentration, Biological Sciences (BS) (<https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-integrative-biology-concentration/>)
- Medicine and Health Concentration, Biological Sciences (BS) (<https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-medicine-health-concentration/>)