BIOLOGICAL SCIENCES (BS)

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 “Modern Language Option” of the Liberal Studies Program. While Bachelor of Science (BS) students are not required to demonstrate competency in a modern language, the “Modern Language 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 Modern Language 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 or LSP 111 | DISCOVER CHICAGO or EXPLORE CHICAGO
Focal Point
LSP 112 | FOCAL POINT SEMINAR
Writing
WRD 103 | COMPOSITION AND RHETORIC I
WRD 104 | COMPOSITION AND RHETORIC II
Quantitative Reasoning
Not Required
**Sophomore Year**
**Race, Power, and Resistance**
LSP 200 | SEMINAR ON RACE, POWER, AND RESISTANCE
**Junior Year**
**Experiential Learning**
Required
**Senior Year**
Capstone
BIO 395 | BIOLOGY CAPSTONE SEMINAR

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

  • 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 191</td>
<td>GENERAL BIOLOGY I FOR SCIENCE MAJORS</td>
<td>4</td>
</tr>
<tr>
<td>BIO 192</td>
<td>GENERAL BIOLOGY II FOR SCIENCE MAJORS</td>
<td>4</td>
</tr>
<tr>
<td>BIO 193</td>
<td>GENERAL BIOLOGY III FOR SCIENCE MAJORS</td>
<td>4</td>
</tr>
<tr>
<td>BIO 206</td>
<td>BIOSTATISTICS</td>
<td>4</td>
</tr>
<tr>
<td>BIO 260</td>
<td>GENETICS</td>
<td>4</td>
</tr>
<tr>
<td>BIO 395</td>
<td>BIOLOGY CAPSTONE SEMINAR (Liberal Studies Program Capstone)</td>
<td>4</td>
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</tbody>
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### Chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 120 &amp; CHE 131</td>
<td>GENERAL CHEMISTRY IIP and GENERAL CHEMISTRY I LABORATORY</td>
<td>4-6</td>
</tr>
<tr>
<td>CHE 130 &amp; CHE 131</td>
<td>GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY</td>
<td>4</td>
</tr>
</tbody>
</table>

The following courses are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 132 &amp; CHE 133</td>
<td>GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II</td>
<td>4</td>
</tr>
<tr>
<td>CHE 134 &amp; CHE 135</td>
<td>GENERAL CHEMISTRY III and GENERAL CHEMISTRY LABORATORY III</td>
<td>4</td>
</tr>
<tr>
<td>CHE 230 &amp; CHE 231</td>
<td>ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LABORATORY I</td>
<td>4</td>
</tr>
<tr>
<td>CHE 232 &amp; CHE 233</td>
<td>ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY II</td>
<td>4</td>
</tr>
</tbody>
</table>

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

### Physics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 150</td>
<td>GENERAL PHYSICS I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 151</td>
<td>GENERAL PHYSICS II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 152</td>
<td>GENERAL PHYSICS III</td>
<td>4</td>
</tr>
</tbody>
</table>

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

### Mathematics

Choose one of the following Calculus sequences:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 150</td>
<td>CALCULUS I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 151</td>
<td>CALCULUS II</td>
<td>4</td>
</tr>
</tbody>
</table>
### 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) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-cell-molecular-biology-concentration/))
- Ecology and Evolution Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-ecology-evolution-concentration/))
- Integrative Biology Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-integrative-biology-concentration/))
- Medicine and Health Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-medicine-health-concentration/))
- Microbiology and Biotechnology Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-microbiology-biotechnology-concentration/))
- Neuroscience Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-neuroscience-concentration/))
- Physiology Concentration, Biological Sciences (BS) ([link](https://catalog.depaul.edu/programs/biological-sciences-bs/biological-sciences-bs-physiology-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.